

EFFECT OF SOCIOECONOMIC FACTORS ON THE RENTAL VALUES OF ACCOMMODATION IN LAGOS METROPOLIS

ODUBOLA, ISRAEL OLUWADAMILOLA¹; ADEYEMI, WILLIAMS²;

¹Department of Economics, Lagos State University, israelodubola@gmail.com

²Distance Learning Center, Department of Economics, University of Ibadan, ask4williams1@yahoo.com

ABSTRACT

Many studies have been carried out to identify the factors affecting the rental values of accommodation in Nigeria. This study built on past studies, to investigate the effect of socioeconomic factors on the rental values of accommodation in Lagos Metropolis (Lagos Mainland and Island). Precisely, the study empirically explored the influence socioeconomic factors such as income, household size, accommodation, transportation network, distance between house residence and work place, location and locality on the rental value of accommodation in Lagos metropolis. Data were sourced through a well-developed questionnaire, which was administered to 200 real estate professionals in Lagos Metropolis (Only 82 and 80 were collected from Lagos Mainland and Island respectively). Two models were developed for Lagos Mainland and Island. Results of the multivariate regression analysis of the Lagos Mainland model showed that income ($p < 0.05$) is the only significant factor affecting the rental value of accommodation. Also, results of the Lagos Island model indicated that income ($p < 0.05$) and location ($p < 0.05$) were found to significantly affect the rental value of accommodation in Lagos Island. The study suggests that government, real estate planners, property owners and stakeholders should take these socioeconomic factors into consideration before determining and reviewing the rental value of properties.

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1.1 Introduction

Shelter is one of the basic necessities of man, which is ranked after food and clothing. Access to accommodation has been a major challenge, mostly in developing countries, of which Nigeria is a significant example. Provision of affordable accommodation for the citizens is a social function of

government, which has received little or no attention since Nigeria's return to Democracy in May 29, 1999. Persistent rural-urban drift, disequilibrium in housing demand and supply, improper planning and uneven development of urban centres, neglect of rural development and lack of incentives for agricultural development are few of the numerous factors that led to over-

crowding of urban centres, with attendant effects in many forms, including, shortage of housing, over-usage of infrastructures, traffic congestion and associated social vices (Ingiabuna and Uzobo, 2017; Ifeanyichukwu, 2017; Karimo and Major, 2017; Aniefiok and Udensi, 2016).

Lagos Metropolis, like many other commercial cities in developing countries has had its share of house rent and estate value differentials, with often amazing disparities. House rent and property values in places like Lagos Island, Ikoyi, Victoria Island and Apapa have extremely wide divergence from same on the Mainland of Lagos Metropolis, among which are: Ikeja, Agege, Ketu-Ojota, Shomolu, Mushin and Magodo, to mention a few.

Differentials in house rent and estate values are common phenomenon both in developed and developing countries of the world. Land use theories have also given spatial reasons for land rent and values differentials. Concentric Zone Theory of Ernest Burgess (1925), Homer Hoyt's Sector Theory (1939), and Harris and Ullman's Multiple Nuclei Theory (1945) all pointed to the existence of Central Business District, which is the core of an urban centre with the highest house rent and commercial property values.

Other land uses considered by land use theories that also have bearings on house rent and estate values differentials are residential, industrial, agricultural, recreational, institutional and mixed uses. Residential land use, among the various competing urban land uses, is the largest

consumer of land in urban areas (Olayiwola, et al (2005).

The importance of urban centres and the study of its phenomenon is a key to further understanding of social problems and finding lasting solutions through continuous research efforts. This is one of the focal points of this research work as it bothers on examining house rent and estate value differentials in different locations of Lagos metropolis, Nigeria.

1.2 The Problem

Lagos State is the centre of social life in Nigeria. It is the centre of excellence and like people always say; the land of opportunities. This is why the state is of primary interest to most Nigerians. Regardless of ethnic or religious affiliations, level of education, socio-economic status, most Nigerians are connected to the State as a desired place of abode, work and relaxation. With continual influx of migrants into the state and with the state's inelastic supply of physical land, there is an untold but obvious pressure on land occupation. In addition to this challenge, there is federal and state governments' neglect of social engineering, especially in the areas of housing and infrastructural provisions. Professional organisations, finance houses and commercial funds providers, land developers, and all stakeholders in the real estate industry have been hampered in the performance of their roles as the mediators and service providers in housing sector due to many problems, major among which is lack of databank for proper forecasting and planning. As a consequence, there is an imbalance in

the housing demand and supply. Most properties developed and passed to market do not readily find buyers or occupiers due to another chain of problems, including: exorbitant cost, development of unwanted accommodations, targeting few rich people and neglecting numerous low income earners, among others.

1.3 Research Objectives

The main objective of the study is to examine the effects of some selected socioeconomic factors on the rental values of accommodation in Lagos metropolis.

2 Literature Review

2.1 Factors Affecting Rental Values of Accommodation

There is a thin line of difference between factors that are responsible for value differentials in a geographically defined neighbourhood and same between one neighbourhood and the others. Rental and Capital Values of properties vary from property to property and also from one neighbourhood to another neighbourhood. While most Nigerian and other African researchers saw uneven infrastructural provisions as one of the reasons for value differentials in different areas of an urban community, Gabriel et al (1999) did not hold the view, as they assumed that amenities are equally provided throughout Los Angeles and San Francisco Metropolitan areas under their study (and as is the case in most advanced countries). This is a gap in African and advanced countries' development activities.

According Gabriel et al, (1999), migration between metropolitan areas, household mobility and high wage levels are factors that explain overall house price dynamics for a given metropolitan area. Ajibola et al, (2012) lent their research voice by describing real property as heterogeneous good that is comprised of a bundle of unique characteristics reflecting not only its location, but equally affected by other amenities such as the quality of neighbourhood and infrastructure.

Major Factors Affecting Property Value Differentials

Major factors are the factors that are of paramount importance in determining the value or value differentials in an urban market. Notable subsets of this factor are:

- location of the property under consideration;
- availability, adequacy and maintenance of infrastructures; and
- proximity to the Central Business District (CBD).

Macro Factors Affecting Property Value Differentials

Macro factors are the factors that are of natural influence on property values. Subsets under this factor are:

- demand for and supply of accommodations.
- Disequilibrium between market demand for accommodation and supply of accommodation by property developers is a reason for value differentials.

Micro Factors Affecting Property Value Differentials

Factors in this category are those that bother on motivation or lack of interest in property development. They are mostly economic factors. Notable factors in this category are:

- interest rate on commercial loan (which is currently and always around 25%),
- returns on investment,
- population distribution,
- cost of building materials and
- inflation.

2.2 Theoretical Review

The concept of rent has been theorized by many authors and researchers who have viewed it from different operational perspectives. From the days of Classical Economists up to the present day, numerous theories on rent have been formulated to explain spatial phenomenon in relation to economic activities.

Rent could be traced back to the days of the Physiocrats and the classical economists, who tied rent to net agricultural produce on land. Manoj (2015), rephrased David Ricardo's definition of rent "as the portion of the produce of the earth which is paid to the landlord for the use of the original and indestructible powers of the soil." Csaba (1985), in his enquiry into the spatial organization in the modern urban agglomeration, opined that 'location' and 'space' acquire a meaning only as a support for economic activities. He further noted that, the economic laws governing production and consumption become incomplete

unless they account from their very inception for the territorial dimension of the economy.

The opinion of Csaba (1985) examined above, established a connection between location, space and economic activities. By bringing economic activities to the fore, the economic concepts of utility, scarcity, and forces of demand and supply are integrated with spatial distribution of land for production and consumption of values. In determining the rental and capital values payable for a piece of real estate, Kauko (2003) listed a set of attributes that are commonly used in property valuation research including: accessibility factors, neighbourhood level factors, specific negative externalities, public services, taxes and density factors. In further examination of rent theories and housing price dynamics, Gabriel et al, (1999) opined that the basic theory of housing prices distinguishes between the rental value of housing services and the value of the house as a capital asset. They drew a conclusion that individual household demand will be in equilibrium only if housing prices imply that the user cost of owner-occupied housing equals the marginal value of the housing service that can be purchased through the home rental market. In the analysis of the evolution of urban structure by Economists and Town Planners, both group of professionals agree to an extent on the relationship between spatial distribution and land values. Some economists, agreed with the view of Burgess (1925) about the concentric zone theory, in agreement to which they also offered monocentric city model. In this model, all employment was assumed to be at the city centre,

and land supply was assumed to be perfectly inelastic at the centre but close to perfectly elastic at the fringe centre. (Gabriel, et al. 1999). In relation to value and in accordance with Burgess (1925)'s position on the concentric zone theory, workers were posited to be willing to absorb the added costs of commuting greater distances, only if they were compensated by lower housing costs. One of the limitations of these models, as examined by other researchers is that, they are not true for all central cities and large metropolitan areas. In the typical urban structure of Lagos metropolis, settlements closer to the Central Business District (Lagos Island CBD) are of very rental and could not be afforded by the lower income earners as posited by the concentric zone theory and monocentric city model.

2.3 Empirical Review

Various statistical techniques of analysis from simple descriptive to quantitative and inferential techniques have been adopted by researchers to analyze and compare house prices and house rent dynamics within a community and between communities. Oduwale, et al (2013) adopted the hedonic pricing model in analyzing the factors that influence residential apartment rent in Abuja Satellite Towns. They concluded that structural, neighbourhood and locational attributes have strong influence on the rent apartment prices at Bwari, Karshi, and Kuje, the study areas. McCluskey et al (2000) in measuring the effect of location on residential house prices adopted Ordinance Survey of Ireland data and concluded that

location and structural characteristics are the key determinants of residential property values. Iroham et al, (2013) adopted simple linear regression and Analysis of Variance (ANOVA) in analyzing the trend in rental values of commercial properties in commercial hub of Akure, Nigeria. The study revealed that there is a statistically significant difference in the rental values amongst the three types of commercial properties in the study area as determined by one-way ANOVA. In the works of Alimi et al, (2014), simple descriptive and analytical statistics was adopted in appraising the relationship between road improvements and immediate neighborhood residential properties values in metropolitan Lagos. It was deduced from their study that majority of the respondents living in the study areas agreed that road improvements do lead to an increase in rental and capital values. Oloke (2015) in their study "Factors affecting house rents in Lagos Mainland" identified six (6) factors namely structural factors (number of bedrooms, bathrooms, fire places, garages), neighbourhood factors (quality of neighboring towns, ethnic mix), community factors (number of institutions, tax districts), locational factors (access to infrastructures, shopping centers, public transportation), environmental factors (noise level, pollution, flood, drainage) and time factors (month and years of sales). In another related study, Agbaje (2013) maintains that the high rental values of accommodation and properties in Lagos Island block are justified by the presence and efficiency of basic social amenities, security, closeness to urban centers, good topographic location and absence of

controversy on the ownership of the property.

3 Research Methodology

Research methodology according to Osuala (2005) is the systematic and analytical approach of providing satisfactory answers to research problems.

3.1 Research Design

The descriptive survey design was used in this study. This was so because this kind of design enables a researcher to identify the peculiar characteristics of a given population and helps him or her describe them in a logical and systematic way. Osuala (2005) notes that descriptive survey design is efficacious simply it allows for collection of data from respondents with various attitudes, opinions, beliefs and norms about the subject matter.

3.2 Area of Study

The study was carried within the environs of Lagos Metropolis. The Lagos Metropolis was dissected into Lagos Island Region and Lagos Mainland Region.

3.3 Population of the Study

The population of the study consisted of all real estate professionals working or residing in Lagos Metropolis.

3.4 Sample and Sampling Technique

The purposive sampling technique was adopted to select 200 real estate professionals in Lagos Metropolis. In order to avoid biasedness in results, 100 real estate professionals were

selected in the two regions (Lagos Island and Mainland).

3.5 Research Instrument

A well-structured questionnaire was developed by the researchers to elicit information on the socioeconomic factors affecting the rental values of accommodation in Lagos Metropolis. The questionnaire was sectionalized into two parts, the first part focused on the personal profile of the respondent while the second part focused on the socioeconomic factors affecting the rental values of accommodation in Lagos Metropolis.

3.6 Method of Analysis

Data collected from the respondents were subjected to the statistical approach of descriptive statistics. The multivariate regression analysis was employed to empirically estimate the influence of socioeconomic factors on the rental values of accommodation in Nigeria.

3.7 Model Specification

In the quest to determine the principal factors affecting rental values of accommodation in Lagos metropolis, the study deviates from the factors reviewed in past studies by prioritizing on the socio-economic characteristics of individuals and households which include, income, size of household, type of accommodation, means of transportation, distance between individuals' house and work place, location and locality.

The mathematical model can be expressed as

$$ART=f (AI, SZ, AC, TM, DI, LC, LT).....(1)$$

Where:

ART =Rental Value of Accommodation (N) per annum (dependent variable).

Independent variables are:

AI =Family Income (N) per annum.

SZ=Size of Household.

AC =Type of Accommodation.

TM=Transportation means

DI =Distance between Individual's house and work place.

LC =Location.

LT=Locality.

Expressing the mathematical model into a standard econometric model, it becomes

$$ART= b_0 + b_1AI + b_2SZ + b_3AC + b_4TM + b_5DI + b_6LC+ b_7LT + u.....(2)$$

Where:

b_0 = Constant Term of the Model.

$b_1 - b_7$ = Coefficient of Parameter Estimates of the Independent Variables.

u =Stochastic Term.

The regression model is being replicated for both Lagos Mainland and Lagos Island. The study took the average values of the intervals of annual house rents (ART) and family income (AI) specified in the questionnaires for the analysis. Also, size of household (SZ), type of accommodation (AC), transportation means (TM), distance between house and work place (DI), location (LC) and locality (LT) were taken a dummy variables in which option (a) in the questionnaires is coded as 0 and option (b) is coded as 1. It should be noted that this model were replicated for Lagos mainland and island regions.

4 Presentation of Results and Discussions

Out of the 200 questionnaires administered to the respondents in Lagos Mainland and Island, only 162 questionnaires were duly returned (with 82 from Mainland and 80 from Island). The results are presented as follows:

Table 1: Personal Profile of Respondents

Factors	Response	Frequency	
		Lagos Mainland(N=82)	Lagos Island(N=80)
Gender	Male	67(81.7%)	74(92.5%)
	Female	15(18.3%)	6(7.5%)
Educational Qualification	HND/B.Sc	44(53.7%)	41(51.2%)
	M.Sc	36(43.9%)	33(41.3%)
	PhD	2(2.4%)	6(7.5%)
Status of Membership with NIESV	a. Yes	82(100.0%)	80(100.0%)
	b. No	-	-
Level of Membership with NIESV	Student	4(4.9%)	7(8.7%)
	Probationer	37(45.1%)	32(40.0%)
	Associate	34(41.4%)	40(50.0%)
	Partner	6(7.3%)	1(1.3%)
Years of Experience in Real Estate Practice	0-5years	39(47.6%)	23(28.8%)
	6-10years	24(29.3%)	42(52.5%)
	11-15years	12(14.6%)	12(15.0%)
	16 years and above	7(8.5%)	3(3.7%)
Current Position in your Firm	Non-professional Staff	3(3.7%)	6(7.5%)
	Junior Surveyor	34(41.5%)	43(53.8%)
	Senior Surveyor	33(40.2%)	22(27.5%)
	Partner	12(14.6%)	9(11.2%)

Authors' Computation from Field Survey

The results showed that 67(81.7%) and 74(92.5%) in Lagos mainland and island, which constituted the majority, are male respondents.

Based on educational qualifications, majority of the respondents in both regions are HND/B.Sc holders. All of the respondents indicated that they are

members of the National Institute of Surveyors and Estate Valuers. Majority of the respondents in both regions are probationers and associate of NIESV. 39(47.6%) of the respondents in Lagos mainland have less than 5years

experience in real estate practice while 42(52.5%) in Lagos island have between 6-10 years' experience. Majority of respondents in both regions are junior and senior surveyors in their respective firms.

Table 2: Results Overview on the Factors Affecting Rental Values of Accommodation in Lagos Metropolis

Factors	Response	Frequency	
		Lagos Mainland(N=82)	Lagos Island (N=80)
Rent per annum	N200,000-N1.5million	74(90.2%)	2(2.5%)
	N1.5million – N4.5million	8(9.8%)	58(72.5%)
	Above N4.5million	0(0.0%)	20(25.0%)
Annual Income	N500,000 – N2million	59(72.0%)	1(1.3%)
	N2.5million – N5million	23(28.0%)	48(60.0%)
	Above 5million	0(0.0%)	31(38.7%)
Size of Household	Between 1-5 people	40(48.8%)	27(33.7%)
	Above 5 people	42(51.2%)	53(66.3%)
Type of Accommodation	1-3 Bedroom Apartment	51(62.2%)	27(33.7%)
	Duplex	31(37.8%)	53(66.3%)
Transportation Network	Public/Commercial Bus	29(35.4%)	35(43.7%)
	Company Staff Bus/Personal Vehicle	53(64.6%)	45(56.3%)
Distance	Short Distance	28(34.1%)	35(43.7%)
	Medium/Long Distance	54(65.9%)	45(56.3%)
Location	Sub-Urban/Urban Area	56(68.3%)	34(42.5%)
	Central Business District	26(31.7%)	46(57.5%)
Locality	Public Area	67 (81.7%)	36(45%)
	Private Estate/Government Estate	15(18.3%)	44(55%)

Authors' Computation from Field Survey

From the table, it is evident that majority of respondents in Lagos mainland pay between N200, 000 – N1.5 million for house rent annually. Also, majority of them earn an annual income between N500,000 – N2million, have a household size above 5 person, lives in 1-3 bedroom apartment, use their company staff bus/personal vehicle bus to get to their work place, have a medium/long distance between their work place and house, live in the Suburban/urban areas located in a

public environment. On the other hand, large proportion of the respondents in Lagos Island pay between N1.5 million – N4.5 million for house rents per annum, earn between N2.5 million - N5million per annum, have a household size greater than 5, use company staff/personal vehicle to get to their work place, have a medium/long distance between their house and work place, live in a central business district situated in a private estate/government estate.

Table 3: Regression Results of Lagos Mainland

Dependent Variable: ART

Method: Least Squares

Date: 08/22/16 Time: 19:34

Sample: 1 82

Included observations: 82

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AI	0.683446	0.046957	14.55463	0.0000
SZ	82518.93	79763.39	1.034546	0.3042
AC	-204093.9	151742.9	-1.344998	0.1827
TM	101424.3	85260.27	1.189585	0.2380
DI	-70420.26	78345.46	-0.898843	0.3717
LC	49167.98	221039.4	0.222440	0.8246
LT	28512.49	91394.54	0.311971	0.7559
C	2688.522	97179.98	0.027665	0.9780
R-squared	0.799329	Mean dependent var		1059756.
Adjusted R-squared	0.780347	S.D. dependent var		641874.1
S.E. of regression	300828.1	Akaike info criterion		28.15893
Sum squared resid	6.70E+12	Schwarz criterion		28.39374
Log likelihood	-1146.516	Hannan-Quinn criter.		28.25320
F-statistic	42.10906	Durbin-Watson stat		1.187550
Prob(F-statistic)	0.000000			

The constant term of the multiple regression model is 2688.52, this indicates that the average rental value of accommodation in Lagos Mainland for 1-3bedroom flat is N32, 262.24

(2688.52 x12 months) All the independent variables proved to influence positively on the rental values of accommodation except distance and type of accommodation. The factor that

significantly affects the rental values of accommodation in Lagos mainland is annual income. This is so because annual income is the only independent variable whose probability value of 0.00 is less than 0.05 at 5 percent level of significance. This is evident in reality as the size of an individual's income critically determines the kind of house he lives in or wants to live in.

The coefficient of multiple determination is 0.80; this indicates that the independent variables stated in the model explain about 80 percent of the total variation in the rental values of accommodation in Lagos mainland. The remaining 20 percent unexplained variation is due to other factors affecting the rental value of

accommodation in Lagos mainland which was not captured in the model but taken care of by the error term. Thus, the predictive power of the independent variables incorporated in the model such as income, size of household, type of accommodation, transportation means, distance, location and locality on the rental values of accommodation is very strong. The adjusted r-squared of 78 percent attests that the model is a good fit. The Durbin -Watson Statistics of 1.19 indicates the existence of positive autocorrelation in the model as the DW statistics is relatively far from 2. Overall, the model proved to be significant at 5 percent as the probability value of the F-statistics of 0.00000 is less than the standard 0.05.

Table 4: Regression Results of Lagos Island

Dependent Variable: ART
 Method: Least Squares
 Date: 08/22/16 Time: 19:55
 Sample: 1 80
 Included observations: 80

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AI	0.913411	0.065510	13.94303	0.0000
SZ	51396.59	112816.6	0.455577	0.6501
AC	65062.61	140184.7	0.464121	0.6440
TM	-111837.2	155266.0	-0.720294	0.4737
DI	-29174.15	106540.1	-0.273832	0.7850
LC	360845.5	110975.5	3.251578	0.0017
LT	-34279.03	100002.0	-0.342783	0.7328
C	-607903.0	291154.6	-2.087904	0.0403
R-squared	0.765762	Mean dependent var		3348125.
Adjusted R-squared	0.742989	S.D. dependent var		710920.4
S.E. of regression	360410.1	Akaike info criterion		28.52251
Sum squared resid	9.35E+12	Schwarz criterion		28.76072
Log likelihood	-1132.900	Hannan-Quinn criter.		28.61801
F-statistic	33.62566	Durbin-Watson stat		1.666460
Prob(F-statistic)	0.000000			

The intercept of the multiple regression model is 608903.0 (ignoring the negative sign), this connotes that the average annual rental values of accommodation for a duplex in Lagos Island is about N7.3million (N608903.0 x 12 months). Transportation means, distance and locality were found to be negatively related to the average rental value of accommodation while annual income, location, size of household and type of accommodation positively affect the rental values of accommodation in the region. The major factors that significantly affect the average rental values of accommodation in Lagos Island are annual income and location as their probabilities value of 0.000 and 0.002 is less than the standard 0.05 at 5 percent. This is true in human life, because the size of ones income and the location where the accommodation is situated determines the rental values of properties there.

The coefficient of multiple determination, which is 77 percent, indicates that the independent variables explained 77 percent variation in the rental values of accommodation leaving the remaining 23 percent to be taken care of by the stochastic variable. This mean that the linear judgmental power of the explanatory variables on the average rental values of accommodation is powerful; hence the model forms a good line of fit. The Durbin Watson statistics of 1.67 denotes that autocorrelation is not a problem in the model as the figure is relatively close to 2. The model is very significant at 5 percent as the probability value of the f-statistics which is 0.00 is less than the standard 0.05 at 5 percent.

Conclusion and Recommendations

The conclusions of the research study include:

1. People living in Lagos mainland pay between N200, 000 – N1.5 million for house rent annually. Also, majority of them earn an annual income between N500,000 – N2million, have a household size above 5 person, lives in 1-3 bedroom apartment, use their company staff bus/personal vehicle bus to get to their work place, have a medium/long distance between their work place and house, live in the Suburban/urban areas located in a public environment.
2. People living in Lagos island pay between N1.5 million – N4.5 million for house rents per annum, earn between N2.5 million - N5million per annum, have a household size greater than 5, use company staff/ personal vehicle to get to their work place, have a medium/long distance between their house and work place, live in a central business district situated in a private estate/government estate.
3. In Lagos Mainland, the main factor affecting the rental values of accommodation is individual's level of income.
4. In Lagos Island, the main factors affecting the rental values of

accommodation are individual's level income and location.

University of Ibadan, Ibadan, Nigeria.

Based on the findings, the study advised that government, real estate planners, property owners and stakeholders should take these socioeconomic factors into consideration before determining and reviewing the rental value of properties.

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