

EFFECTS OF LAND USE REGULATIONS ON HOUSING PRICES IN LAGOS STATE

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ABSTRACT

The living standard of the residents in an urban area could be influenced either positively or negatively by land use regulations through its impact on property value. This paper examined the effects of land use regulations on residential property prices in Lagos State. The town planners in Lagos State planning office indicated the land use regulations adopted in the State and these were incorporated into the housing price determinants questionnaire administered to the real estate developers in the State. The methods of analysis adopted were correlation and multiple regressions. The results revealed that there is increasing difficulty of obtaining regulatory approval for building or redeveloping old homes. These have significant effect on housing prices. Given the acute shortage of housing in Lagos State, the policy makers should factor the adverse effect of the identified land use regulations so that it would not be counterproductive on shelter provision. By implication, the effects of land use regulation on the rental market might have repercussion on housing. In view of the above findings, there is need for innovative planning regulations.

Keywords: Land Use, Housing, Prices, Regulations, Lagos State

INTRODUCTION

The Agenda 21, which was ratified by more than 170 nations at the Earth Summit in Rio de Janeiro in 1992, mentions frequently that land use planning plays a key role in natural resource management. In the case of competing stakes and interests in the use of land, land use planning allows settling of rising conflicts and reconciliatory interests in such a way that agreements can be reached which guarantee the sustainability of land resources.

In sub-Saharan Africa, urban populations are exploding leading to housing shortages, proliferation of informal settlements and squatter colonies which are likely to be severe if not control. Informal houses do not comply with property rights and urban

regulations (Souza, 2009, Anim-Odame, 2022). Some problems frustrating efforts to meet demand are poor infrastructure, inadequate finance; anachronistic property rights systems and inflexible and outdated land use plan (Le Meur, 2006).

Variation in typical determinants of housing demand, such as trends in the real disposable household income, impact fees, land use regulations and the real interest rate, has been modest compared to the observed variation in real house price growth. Shifts in demand may lead to strongly divergent price developments under different supply schedules. These simple statistics therefore bring to mind the role of housing supply conditions and their effect for house price volatility and aggregate economic stability. Restrictive land use policies may increase

the steepness of the housing supply curve, so that the sensitivity of prices to demand shocks is enhanced. In spite of a growing recognition of the importance of supply conditions for the level and volatility of house prices, empirical work on housing supply outside the USA is scarce. Demographic change coupled with economic growth has increased demand for housing units in USA and UK. Differences exist between the UK and USA planning approaches; however, in both countries, planning constraints are seen to raise price, reduce supply, increase density and, in the UK at least, reduce choice. In addition, planning is also seen to provide certainty and reduce risk. Of key interest is the price elasticity of supply of housing and suggestion on a value estimate for the long-run elasticity to be between 0 and 1 for the UK, and 6 to 13 for the USA (Vermeulen & Rouwendal, 2007).

Furthermore, institutions in land and housing markets vary substantially between countries, and recent studies point to a strong relationship between the restrictiveness of land use regulation and the price elasticity of housing supply (Quigley & Raphael, 2005).

This study aim at examining the effects of land use regulation on housing prices. As a way of addressing this, the following questions were raised: What are the land use regulations adopted in Lagos state? Are the housing prices influenced by the land use regulations? If yes, do their impacts vary by scale and do they affect housing market?

Land use regulations effects on housing prices

Land use regulations can affect property values in diverse ways. It can be positive, negative or no effect. Modern land use regulations that might conceivably affect housing prices comprises of traditional zoning and more recently developed devices grouped under the aegis of growth control.

Down (1991) observed that some regulations such as land use restrictions, building codes, environmental protection, and process requirements might add delay and cost to housing production thereby reducing affordability of housing. The cost increase effects observed by him are caused by direct restrictions on the supply of housing units and land usable for housing purposes. Moreover, reducing the supply of affordable housing also removes price competition which might lower the price of existing housing.

Olayiwola, Adeleye & Oduwaye, (2006) study noted that zoning is one of the factors that determine residential land values in Lagos metropolis. Jaeger & Plantinga (2007) report concluded that Oregon's land use regulation system do not reduced the value of restricted properties.

Pendall (2000), Ihlanfeldt (2004) and Greater Boston (2009) observed that in response to the growth of the suburbs, local governments enact zoning policies such as large minimum lot requirements, minimum multifamily zoning, and age restricted zoning which restrict lower income families and families of colour from moving to the suburbs. In addition, the zoning regulations were created to control density, protect open space, and artificially inflate housing prices.

Boamah, Nelson and Gyimah (2012) paper examines the development control regime in Wa, Ghana and it's implications for residential land values. It was found that development controls are largely not enforced in the study. It was also revealed that the land use ordinances and the building codes were not consistent with the socio-economic state of the residents. Therefore, it was concluded that these conditions led to haphazard development which have impacted negatively on land values in the municipality.

Ahmed, Sangari, Idris & Ogah (2019) study of three areas in Abuja revealed that the control of land use by the planning authority in the study area have significant rise in the

rental value of properties between 2008 and 2017.

Landis and Reina (2021) study considers the connection between regulatory stringency and housing values as a function of employment growth and per worker payroll levels. They found that restrictive land use regulations have pervasive effect on local home values and rents. Also, the degree to which they constrain supply is uneven among different housing markets.

The above study revealed that land use regulation may or may not reduce the housing prices. Also, informal housing prices in urban land sub-division should be given due consideration because it creates informal sector in the more distance neighbourhood which encourages the proliferation of slum settlement.

Research method

The literature reviewed above discussed the general indirect measurement of the regulatory variables because there is lack of uniform national standards for measurements adopted and the variableness of enforcement. Some studies manage measurement uncertainty adeptly by confining the analysis to a reasonable geographic scope. The measurement of the explanatory variables could present a problem to the outcome of the research analysis.

In solving the problem identified, this study asked a set of local land use regulators to describe their land regimes and from the list of possible enactments, they were requested to rate the ones adopted with a 5 point Likert scale attempting to measure the importance of each enactment; thus, avoiding longer survey which may generates undifferentiated weights. Shorter survey will attempt to capture only those enactments deemed important that will avoid possible selection bias.

The research methods adopted in the reviewed literature on land use regulations

impact on housing are: comparing land use pattern and values, with and without development restrictions in similar areas (Jaeger & Plantinga, 2007); multiple regression analysis (Souza, 2009) and hedonic pricing model (Quigley & Rosenthal, 2005). The most common method is multiple regression analysis.

The comparison method involves data of various periods of time on land regulations implementation and property values of different planning areas. The lack of adequate and reliable records of the required data made it inappropriate method for the study area. Correlation analysis was used to determine the relationship of the relevant variables of housing prices. In order words to limit the problem of endogeneity of the independent variables, product of highly correlated variables were analysed as a new variable.

Multiple regression analysis was thereafter employed in the analysis because the relevant land use regulations affecting housing prices can easily be ascertained. The list of land use regulations was presented to town planners in the Lagos State planning office and the adopted land use regulations were indicated. Those that were at the preliminary stage of implementation were also identified. The adopted regulations were factored into the real estate developers' questionnaire rating of the determinants of housing prices.

There are one hundred and forty registered members of the Lagos Real Estate Developers Association of Nigeria in Lagos metropolis (REDAN Directory, 2020). However, most of the addresses have changed hence, snow-ball sampling of estate developers especially along Lekki – Epe corridor of the metropolis which is the fastest growing area (6% per annum) of the city were served with questionnaire. The questionnaire covers the physical characteristics, economic variables, utility variables, location/neighbourhood variables, environmental variables, and land use

regulation variables. Eighty questionnaires were retrieved and they were all admissible.

A total of 260 questionnaires were randomly distributed in Ajah and environs to private property developers using purposive sampling because the update of residential properties from the Valuation office of the Lagos State government is on-going and the data was not available at the Eko Electricity Distribution Company office in Lekki. The questionnaire covers ownership of residential property and the mode of acquisition, whether constructed by the owner or purchased. The duration of acquiring building permit, the commencement of the project, the problems of acquiring building permit and approval were also inquired.

Lagos has continued to be the country's principal urban centre, it is the largest and most concentrated urban area in Nigeria. The urbanization growth is 6% to 8% especially in the Lekki corridor. It is the country's commercial hub and principal trading centre. The telecommunication, hospitality, media and service industries revolve largely around Lagos city. The soaring population resulted in enormous challenges such as: environmental management, infrastructural development and maintenance, shelter inadequacy to mention a few.

All the eighty respondents have undertaking residential housing development in Lagos State. From Table 1, 70% of the respondents have six years and above number of years experience, 30% have over 15years of experience.

Analysis and Discussion

Table1: Year of Experience

No. of Year	Frequency	Percentage (%)
Below 1	8	10
1-5	16	20
6-10	24	30
11-15	8	10
Above 15	24	30

The determinant of housing prices was considered using 46 independent variables. These are: number of bedrooms, number of sitting room, availability of dining room, number of toilets, number of bathroom/shower, size of the bedroom, size of the sitting room, availability of water supply, car park, condition of the building and number of accommodation per plot. Others are: rent passing, statutory control on rent, interest rate on loan, boom in economy, recession in economy, effective demand, effective supply, inflation, mortgage moratorium, building material cost, import duties/tariffs and similar social and economic status. Accessibility, motorable road, location, neighbourhood, open spaces, social

amenities, sewage/drainage, adjoining properties, respectability of telecommunication services, electricity (public) supply, and distance to work were also included. Lastly, these variables were also considered building permit; cost of building approval, bureaucracy of getting approval, adequate day lighting, building height, layout plan, title of land, town planning laws governing use, town planning laws governing redevelopment and the approved use of the land (zoning). The dependent variable is the housing prices.

The multiple regressions indicated that the following independent variables determine the housing prices (see Table 2). These are

number of bedrooms, availability of dining room, size of the sitting room, number of accommodation per plot, rent, interest rate on loan, boom of national economy, effective demand, effective supply, inflation, mortgage moratorium, motorable road, distance to workplace, building permit approval duration, bureaucracy of getting building approval, title to land, town planning law governing use and redevelopment and location.

Table 2: Multiple Regressions of Housing Prices Determinants

Model	Regression coefficient
Number of bedrooms	-0.686
Availability of dining room	-3.020
Size of the sitting room	0.498
No. of accommodation per plot	-1.171
Rent	-0.701
Interest rate on loan	-0.616
Economic boom	1.184
Effective demand	-2.033
Effect Supply	3.392
Inflation	0.335
Mortgage moratorium	-0.066
Motorable road	-0.380
Distance to workplace	1.036
Building permit approval duration	-0.066
Bureaucracy of building approval	1.563
Title to land	-0.332
Town planning laws govern use	2.464
Town planning laws govern redevt.	0.551
Location	-0.746
Constant	-2.753

The relevant independent variables determining the housing prices are as tabulated in table 2.

The correlation between the variables of land use regulations and house prices using Spearman's correlation is shown in table 3.

Table 3: Correlation between housing prices and land use regulations

Land use Regulations	Correlation
No. of accommodation per plot	0.248
Building permit	-0.019
Bureaucracy of building approval	0.212
Town Plg. Laws govern use	0.342*
Town Plg. Laws govern redevelopment	0.441**
Open spaces	-0.204
Adequate day lighting	-0.095
Size of bedroom	0.486**
Size of sitting room	0.380*
Car park space	-0.386*
Layout plan	0.137
Building codes	0.147
Effective supply	0.497*
Neighbourhood	0.471**
Adjoining property	0.474**
Building height	0.269

The significant positive relationships exist between housing prices and the following variables of land use regulations: town planning laws governing use and redevelopment, size of bedroom and sitting room, neighbourhood, adjoining property. Whereas there is a negative significant relationship with car park space provision.

The above confirms the importance of effective supply and approved use of a designated plot on the housing prices.

Analysis of questionnaire to private developers:

240 (92.3%) out of the 260 private developers are owner occupied and constructed their houses in the study area. The duration for securing building permit

varies between 1 to 5 years with the mean score of 2.8 years. The implication is that planning permission and approval takes almost three years. This may not encourage developers and will result in the high cost of borrowed funds which might affect the viability of the investment and housing supply.

62.5% got approval before commencing while 37.5% commenced construction before approval was given. This implies that monitoring to ensure compliance was not effective since about a third of those building commenced construction before approved building permit.

Likert scale of low, medium, great and very great effect was used to rank the problems of getting building plan approval.

Table 4: Problems of building permit procedure

Problems of building permit procedure	Frequency	Sum	Mean	Rank
Delay in approval	240	1030	4.29	3 rd
High cost of approval	240	960	4.00	6 th
Cost of building plan	240	970	4.04	5 th
Bureaucracy	230	1030	4.48	1 st
Corruption	240	1070	4.46	2 nd
Delay in site visitation before approval	240	1010	4.21	4 th
Lack of current land use map	240	780	3.25	7 th

The problem of bureaucracy must be looked into by reducing the number of officers involved, activities can be merged and could reside in the same office. This will in turn reduce or eliminate corruption. Field vehicles and other important equipment should be made available to assist in site inspection as and when due.

The Pearson chi-square correlation revealed that there is significant relationship between the time taken for the approval and bureaucracy (P value =.002), corruption (P value =.003) and delay in site inspection before approval (P value =.016). There is no significant relationship between the time taken for the approval and income level, education, high cost of approval, and lack of recent land use map. The result revealed evidence of rigorous planning approval. This is very daunting for private developers and investments.

Conclusion

The analysis above is consistent with earlier studies on government regulatory impact on land use and housing prices. This also shows a reflection of the increasing difficulty of obtaining regulatory approval for building or redeveloping old homes. The overall result can cause or aggravate acute shortage of housing, accompanied by high prices and low affordability. In view of the above findings, there is need for innovative

planning regulations. State agencies still have buildable land in good locations but with no interest in socially directed uses of land. Therefore, serviced land at affordable prices and subsidised policies should be given due consideration to increase the supply for housing.

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