

INFLUENCE OF HOUSE PRICING ON THE GROWTH OF RENTAL INCOME IN NAKURU EAST SUB-COUNTY, KENYA

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Abstract: The real estate market has experienced significant growth in the last decade with many countries experiencing house price fluctuations. This study investigated the influence of house pricing on the growth of rental income in Nakuru East Sub-county Kenya. The study adopted Hedonic Model of Pricing. Descriptive research study design was employed in the study. The study targeted population was 45 real estate agencies and companies in the Sub-county. Census survey was employed where all 45 managers in the real estate agencies and companies were engaged in data collection. The study used both primary and secondary data. Structured questionnaires were used for data collection. Questionnaire was tested for validity and reliability. The collected data was analyzed using statistical package for social sciences. Data was analyzed using descriptive statistics and inferential statistics and was presented in tables and figures. Findings established that house pricing significantly influence the growth of rental income. The study concluded that house pricing have a significant role in determining growth of rental income in Nakuru east sub-county. Therefore, the study recommended that the government should give price subsidies and tax exemptions or concessions on construction materials to companies engaged in housing construction. This in turn would guarantee lower market prices for housing. The high cost of housing as reflected on the final price to the consumer is itself a constraint to providing affordable housing to the city dwellers majority of who are lower and middle income earners. Subsidy programmes that will allow government systems be more equitable in serving more households with affordable shelter are desirable.

Keywords: Housing Demand, Housing Pricing, Growth, Nakuru East, Rental Income, Pricing, labour.

I. INTRODUCTION

Access to secure shelter and basic services has traditionally been considered one of the most vital components of urban social policy (Hall, 2004). Both have also been directly linked to the level of overall national development not only in the sense that higher income countries have better housing conditions and services, but in the sense that development effort must be committed to addressing urban needs. Basic services include water supply and sanitation, urban transport, health and education services. Basic services play a vital role in environmental sustainability by preventing the pollution of rivers and aquifers and the destruction of the ozone layer. Secondly, serviced housing is an economic asset. Its value may increase over time and it can be used to generate rental income or as a work place. Housing also forms an important part of a nation's or a city's fixed capital, with a buoyant housing market helping to fuel economic growth in other areas (Hall, 2004).

Real estate industry is the leading indicator of development in any economy and is used to measure the economic growth and health of a country. It entails creation of permanent immovable assets, involves capital and labour intensive activities thus used as a vehicle for economic development since there is job creation. Demand for real estate is triggered by economic and population growth thus real estate participants construct houses to meet the demand and on return get cash flow from these investments. As the cycle continues, there is oversupply thus creation of trade off between supply and demand (Carey, 2001).

In most developed economies where housing equity is of much importance to households, it is found that homeownership has a significant impact on household wealth accumulation in the long run. The activities of businesses, especially banks, are also significantly affected by homeownership. There is evidence that banks are the main source of finance for start-up businesses and that they are unwilling to grant unsecured lending. Thus, family homes have become one of the most acceptable collateral for granting credits. Additionally, high returns on housing investment provide yet another basis for increasing bank credit to the sector (Di and Zhu Xiao, 2001).

Studies have shown that half of the world's population live in urban centres and one third of them in slums. This figure is expected to increase by one billion in a decade and slums will grow at an accelerated pace unless 35million housing units are made available annually (UN-Habitat, 2002). Virtually all this growth takes place in developing countries. A report by Goldman Sachs (2007) analyzed factors that led to the global housing boom. The report cited several facts to support the importance of fundamentals. First, the report found a strong positive correlation between income growth and house price appreciation across countries. Second, house price appreciation was also strongly correlated with population growth.

Finally, countries with the biggest reduction in real interest rates also had the highest rates of house price appreciation. Globally real estate prices have been on an upward trend; like in the UK prices have been rising, but buying property remains 13 per cent more cost-effective than renting (Zoopla, 2012;KFPGR, 2012). In the UK, the market for property derivatives did not begin until 2004.However, since the market's inception, the growth has been significant. Through the third quarter of 2007, trades with an outstanding notional value of 7.9 billion pounds have been executed. Renting in the UK was previously £993 per year on average more expensive than servicing a mortgage, but this gap has now come down by 3.2 per cent to £961 today. As a result, the proportion of towns and cities across the UK where it is cheaper to buy than rent has fallen from 90per cent to 86per cent over the past few years (Zoopla, 2012).

According to World Bank report (2010) Kenya is one of the most rapidly urbanizing nations among the developing countries. It is estimates that about 200,000 Kenyans move to cities every year and that formerly rural areas are increasingly becoming urban. Despite this, the national and local governments have failed to provide basic urban services like infrastructure and affordable housing, thus allowing the private sector to take over (Kenya's vision 2030). Unfortunately, the profit-motivated sector largely provides housing for the upper-middle and upper-income households, thus leading to proliferation of slums and other informal settlements that cater for poor dwellers (UN-Habitat report, 2011).

Despite some attempts at achieving decent housing for Kenyans, the country has, on the whole, failed to address the dire housing conditions of her population. The situation has been partially alleviated through the activities of the private sector housing developers, who have been a key supplier of housing, particularly in Nairobi (Hassanali, 2009). In the year 2007, the private sector commenced construction of housing units worth Kshs. 9.8 billion and registered growth of 6.9% over the previous year (Republic of Kenya, 2004). But despite intensive overall private-sector activity, these private developers have mainly concentrated in the middle and upper segments of the market with relatively little focus on the low-income market. The low income house units currently constitutes less than 30% of the private development portfolio (Republic of Kenya, 2007), yet this is the segment where the need is particularly acute.

Nakuru is Kenya's third largest residential town after Nairobi and Mombasa and was rated the fastest developing town in sub-Saharan Africa in 2011 by the UN habitat. Prices for commercial space have more than doubled in the last four years with office space costing up to Sh90 per square foot from about Sh30 in 2008. The high demand has been triggered by large corporate institutions such as banks, supermarkets, universities and colleges in town which normally require huge space.

According to first county integrated plan (2013-2017) the total population of Nakuru County stood at 1,867,461 in year 2014, comprising of 937,131 males and 930,330 Females as per the projections of Kenya National Population and Housing Census of 2009. The population is projected to increase to 1,925,296, comprising of 966,154 males and 959,142 Female in 2015 and to 2,046,395 comprising of 1,026,924 males and 1,019,471 females at the end of the plan period. This remarkable growth in the population implies that the county will have to invest in more social and physical infrastructure to match the needs of the growing population. Among physical infrastructure constraining the county is residential houses. The county has a housing demand of 10,000 units per year but only 2,000 units are available annually. The governor of Nakuru County noted that some few years ago (5 years), the price of a three bed roomed house was Kshs3000 while currently the prices have more than tripled (Daily Nation, DN2 Magazine, 2014). This study sought to examine the influence of housing demand on the growth of rental income in Nakuru East Sub-County, Kenya.

II. STATEMENT OF THE PROBLEM

The Constitution of Kenya (2010) under article 60 brings forth the principle of equitable access to land. Article 40 stipulates that every person has the right, either individually or in association with others, to acquire and own property of any description and in any part of Kenya. According to the ministry of lands and physical planning (2016), Kenya continues to face a shortage in housing of over 250,000 units per year. This has been aggravated by the rapid urbanization of the country that has been boosted by devolution and realization of vision 2030. According to GOK (2007) the proportion of the Kenyans living in urban areas is estimated to reach 60 per cent by the year 2030. Access to virgin and prime land for housing has been an attractive opportunity for investors. This has seen the prices of property skyrocket to unimaginable levels. As such, property acquisition has been taken as a reserve of the well to do people. Murangi (2013) indicates that prices of real estate can be affected by factors such as property location, neighbourhood, the level of accessibility and distance or proximity to facilities. Real estate prices can also be determined by the level of technology available, level of demand and supply, the existing economy of a country, employment level and accessibility of finance by both investors and buyers (Chiller, 2005). Statistics indicate that the demand for housing, which has possibly led to increase in house prices, has been on the rise at a faster rate than the number of houses available or under construction (National Housing Corporation, 2009). The estimate number of houses constructed annually is about 30,000 whereas the demand is estimate at 150,000 (National Housing Survey, 2013). There is a deficit of studies addressing the aspects of the market that influence the pricing of properties. In trying to fill this gap, the study focused on the influence of house pricing on the growth of rental income in Nakuru east sub- County, Kenya.

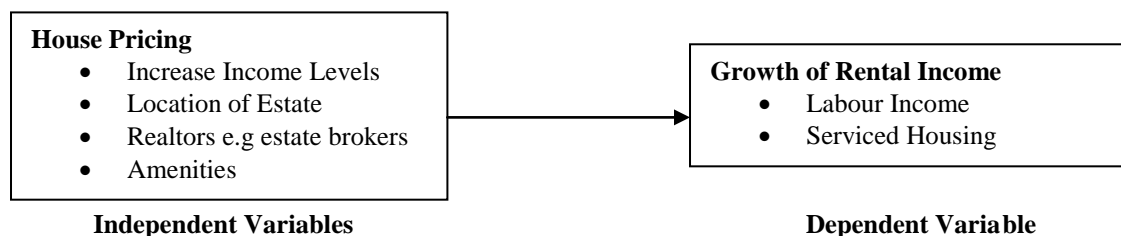
III. OBJECTIVE OF THE STUDY

The study examined the influence of house pricing on the growth of rental income in Nakuru east sub-county, Kenya.

IV. RESEARCH HYPOTHESIS

House pricing has no significant influence on the growth of rental income in Nakuru town East Sub-county, Kenya.

V. CONCEPTUAL FRAMEWORK



VI. THEORETICAL REVIEW

Hedonic Model of Pricing:

Lancaster's (1966) seminal paper was the first attempt to create a theoretical foundation for hedonic modeling. To this end, Lancaster presented a ground breaking theory of hedonic utility. Lancaster argued that it is not necessarily a good itself that creates utility, but instead the individual "characteristics" of a good that create utility. Specifically, an item's utility is simply the aggregated utility of the individual utility of each of its characteristics. Furthermore, he argued that items can be arranged into groups based on the characteristics they contain. Consumers make their purchasing decisions within a group based on the number of characteristics a good possesses per unit cost. Although Lancaster was the first to discuss hedonic utility, he said nothing about pricing or pricing models.

Rosen (1974) was the first to present a theory of hedonic pricing. Rosen argues that an item can be valued as the sum of its utility generating characteristics; that is, an item's total price should be the sum of the individual prices of its characteristics. This implies that an item's price can be regressed on the characteristics to determine the way in which each characteristic uniquely contributes to the price. Although Rosen did not formally present a functional form for the hedonic pricing function, his model clearly implied a nonlinear pricing structure.

The application of the hedonic price model to the housing market rests on several key assumptions. First, homogeneity of the housing product is assumed. Another assumption is that the market operates under perfect competition, and there are numerous buyers and sellers with free entry and exit. The model also assumes that buyers and sellers have perfect information concerning housing product and price. Finally, the hedonic price model only works under the assumption of market equilibrium, and that there are no interrelationships between the implicit prices of attributes (Rosen, 1974).

A major issue frequently associated with the hedonic price model is the misspecification of variables where an irrelevant independent variable is included (over-specification), or where a relevant independent variable (attribute of a product) is omitted (under specification). This can lead to biased and inconsistent coefficients (Rosen, 1974). The main advantage of this model is that one only needs to have certain information, such as the property price, the composition of housing attributes, and a proper specification of the functional relationships. The marginal attribute prices are obtained by estimating the parameters of the hedonic price function. It is a straightforward approach because only the coefficients of the estimated hedonic regression are needed to indicate the preference structure. No information whatsoever about individual characteristics or personal particulars of either the house buyers or the supplier is required (Rosen, 1974).

VII. EMPIRICAL REVIEW

Despite some attempts at achieving decent housing for Kenyans, the country has, on the whole, failed to address the dire housing conditions of her population. The situation has been partially alleviated through the activities of the private sector housing developers, who have been a key supplier of housing, particularly in Nairobi (Hassanali, 2009). In the year 2007, the private sector commenced construction of housing units worth Kshs. 9.8 billion and registered growth of 6.9% over the previous year (Republic of Kenya, 2004). But despite intensive overall private-sector activity, these private developers have mainly concentrated in the middle and upper segments of the market with relatively little focus on the low-income market. The low income house units currently constitutes less than 30% of the private development portfolio (Republic of Kenya, 2007), yet this is the segment where the need is particularly acute.

House Pricing and Growth of Rental Income:

Miller (2010) argues that increased property prices reduce the marketability of real estate because few peoples will be willing and able to acquire property. A change in real estate price is also said to have a direct effect on wealth of households because it contributes to increased or reduction in returns on property investment to the investors. Increased prices of residential buildings have contributed to development of new slums and expansion of the existing slums (Mutisya et.al, 2011). Chiller (2005) holds the view that an increase in existing prices of real estate leads to increase in money spent on rents and purchases hence reducing savings by households.

Glindro, Subhanij, Szeto and Zhu (2008) emphasized that there was need for availability of housing prices to aid the Asian Government to institute policies and monitor the prices of residential property. They studied the factors that affect house prices in nine Asia – Pacific economies. On overvaluation, the prices of residential properties were higher than their fundamental prices due to housing market imperfections and very optimistic future expectations that prices of residential properties will go higher than the current prices. Existence of market imperfections were exhibited since there was lag in provision of houses to meet supply and advancement of credit loans by financial institutions. To curb the problem of overvaluation of residential properties, policy makers and regulators reduce the number of incidences of residential property price cycles by availing financial information about houses, regulating land usage and instituting transparent mechanisms to protect property rights. To control the housing bubbles, regulators adopt mechanisms to reduce and control overconfidence of constant increase of residential property prices.

Thomas (2003) analysed how labour income and house prices would influence home ownership. The study found out that among United States households, a one standard deviation in covariance between income and home prices is associated with a decrease of approximately \$7,500 in the value of home occupied housing. Also a positive correlation was found between income and home prices suggesting that households enter financial markets with a greater exposure to risk.

Davidoff (2006) analysed a one period model in which households may hedge against their labour income risks by purchasing houses today and selling tomorrow. The only sources of income to the households are capital gains from investment and labour income. The study found out that the co-movement of house price growth and labour income growth have a negative impact on both the probability of home ownership and the size of housing investment. The

ownership of homes is not attractive to households who are likely to experience negative shocks to labour income and house prices at the same time. The study concludes that households enter financial markets with a greater exposure to risk than is typically modelled.

Kigige and Messah (2011) did a study on factors influencing real estate property prices in Meru, Kenya and noted that income, demand for housing units, realtors and location affected the prices of real estate properties. Income and demand contributed to 70 percent and 20 percent in change of prices of housing units while location and realtors were found to insignificantly affect the prices. Okumu (2010) concluded that due to market imperfection of real estate, the prices are solely determined by realtors and brokers thus making abnormal profits from poor Kenyans.

Growth of Rental Income:

According to Hass property consultants, in the first property index in Kenya, the prices for high end residential properties has doubled between 2005 and 2009 (Hass property index, 2009). The current rental yields that are the return on capital tied up in property is however much lower than mortgage interest. The Hass consultant property index data for the first quarter in 2011 indicated that rental yield are down to 5.62 per cent per from a high of 7.3 percent per year in 2007. The Hass survey further revealed that property prices have risen to 55 per cent since the 2007 while rental yields have appreciated with only 18 per cent. The main concern is that real estate contribution to the economy of Kenya (as measured in relation to the economic growth) has faced a declining trend for the past years. For instance in 2008, it contributed to 5.1% of total GDP, and in 2009 it reduced to 4.9% of GDP. Subsequently it slightly fell to 4.8% in 2010 and further declined to 4.5% in 2011. There is need therefore establish and assess the factors that contribute to the growth of the investment so as to sustain the investment growth in future.

Serrano (2004) studied the effect of labour income uncertainty in the probability of home ownership in Germany and Spain. Using a simple theoretical formula that highlighted a pivotal role of risk attitudes in the housing tenure decision that would allow introduction of the phenomenon, the study carried out tests using an income uncertainty measure based on panel data labour equations. The findings of the study showed that households facing increasing income uncertainty display preference for renting while those located in a positively skewed income distribution show a greater propensity for home ownership. The study also concluded that income uncertainty analysis in housing decision has important implication for the design of private mortgage insurance products.

Access to secure shelter and basic services has traditionally been considered one of the most vital components of urban social policy (Hall, 2004). Both have also been directly linked to the level of overall national development not only in the sense that higher income countries have better housing conditions and services, but in the sense that development effort must be committed to addressing urban needs. Basic services include water supply and sanitation, urban transport, health and education services. Basic services play a vital role in environmental sustainability by preventing the pollution of rivers and aquifers and the destruction of the ozone layer. Secondly, serviced housing is an economic asset. Its value may increase over time and it can be used to generate rental income or as a work place. Housing also forms an important part of a nation's or a city's fixed capital, with a buoyant housing market helping to fuel economic growth in other areas (Hall, 2004).

VIII. RESEARCH METHODOLOGY

Descriptive survey design was used in the research. Mugenda and Mugenda (2003) assert that this type of research design attempts to describe such things as possible behavior, attitudes, and characteristics. The design allowed the researcher to expose the respondents to a set of questions to allow comparison. The target population consisted of financial officers working in real estate companies and agencies. There are a total of 45 real estate agencies and companies in Nakuru town. Thus the total target population will be 45 financial officers in this companies and agencies. The researcher opted to adopt a census survey where all the elements in the target population were considered as the study respondents. The study used both primary and secondary data. Structured questionnaires were used as instruments of data collection to gather data from the respondents. To gather structured responses, closed ended questionnaires were used. The questionnaires contained a five point Likert scale (5-strongly agree, 4-agree, 3-neutral, 2-disagree and 1-strongly disagree) to measure financial factors and growth of rental income. Data analysis was carried out through the use of descriptive statistics such as frequencies, percentages and standard deviation. In order to establish the relationship between the independent variables and the dependent variable, multiple regression analysis was carried out. To avoid co-linearity between the independent variables, correlation analysis was used and adjustments made to ensure the independent variables do not affect each other and hence the results.

IX. FINDINGS AND ANALYSIS

The researcher distributed 45 questionnaires to the respondents for data collection. 6 questionnaires were not returned from the field. 39 questionnaires were completely filled up and returned for data analysis. This presented a response rate of 86.7%.

9.1 Descriptive Statistics:

9.1.1 House Pricing Descriptive Statistics Results:

In regarding to housing pricing, the percentages, means and standard deviations were analysed and presented in table 1.

Table 1: Descriptive Statistics on House Pricing

	SA (%)	A (%)	U (%)	D (%)	SD (%)	Mean	Std. Dev
Rising demand in housing has led to skyrocketing of house prices	64.1	30.8	0	2.6	2.6	4.51	.854
Increase in money spent on rent has led to decrease in people savings making it difficult for them to own homes	46.2	48.7	5.1	0	0	4.41	.595
The imbalance between the supply and demand has caused an increase in the prices of houses	38.5	46.2	2.6	10.3	2.6	4.08	1.036
To regulate the problem, of over valuation, the government avails information on the pricing of residential houses	10.3	25.6	38.5	23.1	2.6	3.18	.997
Increased income levels in this locality has led to increased hose prices	30.8	48.7	0	17.9	2.6	3.87	1.128
The high cost of capital has led to an increase in the housing prices	56.4	38.5	0	5.1	0	4.46	.756
Valid N (listwise)	39						

Majority of the respondents agreed that rising demand in housing has led to skyrocketing of house prices. 64.1% of the respondents strongly agreed and 30.8% of them agreed. This recorded a mean of 4.51 and a standard deviation of .854. Respondents also agreed that (M=4.41, SD=.595) increase in money spent on rent has led to decrease in people savings making it difficult for them to own homes. 48.7% and 46.2% of the respondents agreed and strongly agreed respectively. Respondents also agreed that the imbalance between the supply and demand has caused an increase in the prices of houses. 46.2% of the respondents agreed while 38.5% of them strongly agreed. This had a mean of 4.08 and a standard deviation of 1.036. Additionally, respondents were undecided whether to regulate the problem of over valuation, the government avails information on the pricing of residential houses. A mean of 3.18 and a standard deviation of .997 were recorded where 35.9% of the respondents agreed, 38.5% of them were undecided while 25.7% of the respondents disagreed. On the other hand, respondents agreed that (M=3.87, SD=1.128) increased income levels in this locality has led to increased hose prices. 48.7% and 30.8 % of the respondents agreed and strongly agreed respectively. 56.4% of the respondents strongly agreed and 38.5% of them agreed that the high cost of capital has led to increase in the housing prices

9.1.2 Rental Income Growth Descriptive Statistical Results

The study further established the views of the respondents in regard rental income growth in Nakuru East Sub-county. The percentages, means and standard deviations of the responses were computed. The findings from the analysis were as presented in Table 2.

Table 2: Descriptive Statistics on Rental Income Growth

	SA (%)	A (%)	U (%)	D (%)	SD (%)	Mean	Std. Dev
Rental income has more than doubled in the last ten years	28.2	56.4	5.1	10.3	0	4.03	.873
We don't experience losses on rental income	10.3	15.4	15.4	48.7	10.3	2.67	1.177
Increased housing demand spurs the growth of our rental income	25.6	59.0	0	15.4	0	3.95	.944
The number of rental properties in our management continues to rise enhancing rental income	38.5	48.7	5.1	7.7	0	4.18	.854
The value of housing continues to raise enhancing rental income	35.9	51.3	10.3	2.6	0	4.21	.732
Increased adoption of housing agents management has led to an increase in rental income	17.9	38.5	23.1	17.9	2.6	3.51	1.073
Valid N (listwise)	39						

Majority of the respondents agreed that rental income has more than doubled in the last ten years. 56.4% of the respondents agreed while 28.2% of them strongly agreed. This had a mean of 4.03 and a standard deviation of .873. Further, respondents' disagreed with the statement that they don't experience losses on rental income. 59.0% of the respondents strongly and/or disagreed registering a mean of 2.67 and a standard deviation of 1.177. In addition, a mean of 3.94 and a standard deviation of .944 were recorded where 59.0% and 25.6% of the respondents agreed and strongly agreed respectively that increased housing demand spurs the growth of our rental income. Respondents agreed that the number of rental properties in our management continues to raise enhancing rental income. 48.7% and 38.5% of them agreed and strongly agreed registering a mean of 4.18 and a standard deviation of .854. Findings established that respondents agreed that the value of housing continues to raise enhancing rental income. 38.5% and 17.9% of the respondents agreed and strongly agreed respectively. This assertion had a mean of 3.51 and a standard deviation of 1.073.

9.2 Correlation Analysis:

9.2.1 The Relationship between House Pricing and Rental Income Growth

The researcher further sought to establish the relationship between housing demand and rental income growth in Nakuru East Sub-county, Kenya. Pearson correlations coefficient established and the findings were as presented in Table 3.

Table 3: Correlations between House Pricing and Rental Income Growth

		House Pricing	Rental Income Growth
House Pricing	Pearson Correlation	1	.759**
	Sig. (2-tailed)		.000
	N	39	39
Rental Income Growth	Pearson Correlation	.759**	1
	Sig. (2-tailed)	.000	
	N	39	39

** . Correlation is significant at the 0.01 level (2-tailed).

The researcher observed a strong positive significant ($r=.759$, $p=.000$) relationship between housing pricing and rental income growth. This means that pricing housing has a significant role in determining rental income growth. Therefore, the level of pricing housing enhances rental income growth in Nakuru East Sub-county in Kenya. Other researchers were in agreed with the results. Kigige and Messah (2011) did a study on factors influencing real estate property prices in Meru, Kenya and noted that income, demand for housing units, realtors and location affected the prices of real estate properties. Income and demand contributed to 70 percent and 20 percent in change of prices of housing units while location and realtors were found to insignificantly affect the prices.

X. CONCLUSIONS AND RECOMMENDATIONS

The study concluded that house pricing reveals a significant positive relationship with rental income growth. Further, it was established that housepricing significantly influences rental income growth. It was therefore concluded that house pricing has an important role in determining the level of rental income growth in Nakuru East Sub-county, Kenya. It was recommended that the government should give price subsidies and tax exemptions or concessions on construction materials to companies engaged in housing construction. This in turn would guarantee lower market prices for housing. The high cost of housing as reflected on the final price to the consumer is itself a constraint to providing affordable housing to the city dwellers majority of who are lower and middle income earners. Subsidy programmes that will allow government systems be more equitable in serving more households with affordable shelter are desirable.

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