EFFECTS OF INTEREST RATE SPREAD ON HOUSING AFFORDABILITY AMONG THE LOW INCOME EARNERS IN KENYA

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ABSTRACT

Kenya has recognized the right to housing in the new constitution, stating that every person has the right to "accessible and adequate housing and reasonable standard of sanitation". However, the country has an annual deficit of 156,000 housing units. This study sought to evaluate the effects of interest rate on housing affordability among the low income earners in Kenya. The target population was 300.The sample size was 249.Stratified random sampling method was used. Primary data was used and questionnaires were used to collect the data. The questionnaires were pretested before launching the main study. Drop and pick method was used. The data collected was analyzed using inferential statistics and descriptive statistics using the IBM SPSS Statistics 20.0.1.The descriptive statistics that were used was the frequencies and mean. The inferential statistics involved the use of Pearson's correlation and regression analysis. Results indicated that interest rates influences housing affordability among low income earners in Kenya. The respondents agreed that lowering the interest rate spread would lead to an increase in the supply of houses for low income housing, leads to a reduction in the price of houses, leads to an increase the number of Kenyans capable of affording mortgage loans and leads to an increase in the number of people able to spend less than 30 % of their income on housing. It is recommended that the national government should ensure that the new measures put in place

through the establishment of the new interest rate base called the Kenya Bank's Reference Rate (KBRR) which was introduced in 2013 to help tackle the problem of high interest rates is adhered to. It is also recommended that the coverage by credit reference bureaus should be extended to all adult population in Kenya as this would assist the mortgage lenders mitigate against credit risk.

Key Words: *Interest Rate Spread, Housing Affordability, Low Income Earners*

Background and Research Gap

House finance lending in Kenya is predominantly done by Commercial Banks (World Bank, 2011). Overall the two largest lenders namely Kenya Commercial Bank and Housing Finance Company of Kenya control over half the mortgage market (Central Bank Supervision Report, 2013). Kenyan mortgage borrowers face high interest rates compared to other countries (Kariuki, 2013). The effects of interest rate spread on housing affordability is demonstrated by Ruprah and Marcano (2008) in their study titled 'Chile's housing finance: a story of success?' who posits that in 1990, the percentage of households being unable to access a house at market conditions was 84%, and the households' average income gap was 54% below the affordability line. By 2003, the proportion of households unable to afford a house had fallen to 61% with an income gap reduced to 29%.Two thirds of the improvement in affordability, was driven by the reduction in mortgage interest rates. The fall in interest rates mentioned above captures the country's sustained success in macroeconomic stability that has been accompanied by an increase in the depth and efficiency of the private market's supply of mortgages (Ruprah & Marcano, 2008). The effects of interest rate spread on housing affordability is also demonstrated by Bank of Ghana (2007) who in their article titled "major causes of persistent house price increases" argues that high interest rates is one of the leading causes of house price increases in Ghana. They argue that domestic interest rate trends affect activities of the sector directly since most housing projects are normally financed partially by bank loans from the domestic financial institutions. The high cost of loans impacts negatively on housing projects, which indirectly feeds into the final price of houses in the country

Thordsen and Nathan (1999) in their research titled "micro lending: a budding industry" argues that the level of interest rates has a direct effect on a consumer's ability to repay a loan. They assert that when interest rates are low, people are willing to borrow because they find it relatively easy to repay their debt. When interest rates are high, people are reluctant to borrow because repayments on loans cost more. Some consumers may even find it difficult to meet their existing loan repayments, especially if interest rates increase faster than the rise in a consumer's income. If interest rates rise sharply and stay high for a long period, some consumers will default on their loans.

 Mayer, Christopher and Hubbard (2009) in their work titled the 'mortgage market meltdown and house prices in the U S A'' posits that low real interest and mortgage rates can play a crucial role in the house price appreciation. They argue that the lower, the level of interest rates, the more sensitive are house price changes to movements in interest rates. This leads to the possibility that as interest rates fall, all else equal, house prices could become more correlated. Kuttner (2012) in his article titled "low interest rates and housing bubbles: still no smoking gun" asserts that the increased appetite for risk brought forth by low interest rates would make intermediaries more willing to lend, increasing credit supply. He argues that the increased availability of credit would allow some credit-constrained households to purchase homes, thus increasing the demand for houses.

A study by Trimbath and Montoya (2002) titled housing affordability in three dimensions: price, income and interest rates established that interest rates play a pivotal role in increasing home affordability. By mortgage interest rates have dropped from 8.05 percent in June 2000, to about 6.5 percent in 2002 it was significant enough to allow a median income household to increase its purchasing power by 18 percent, and more importantly, to afford the median-priced single family home. They concluded that a lower interest rate is directly responsible for increasing the affordability of housing. World Bank (2011) in their research titled "developing Kenya's mortgage market" argues that there is need to lower the mortgage interest rates so as to expand affordability.

A study undertaken by Hendey and Lerman (2011) titled improving home affordability through low interest rates, posits that lower interest rates reduce monthly interest payments, allowing families to accumulate home equity more quickly and increase potential wealth. Wright and

Hogue (2013) on a study titled housing trends and affordability posits that exceptionally low mortgage rates in Canada have been the main factor preventing affordability from reaching dangerous levels in recent years. They concluded that for many households, ownership remains accessible only because of rock-bottom mortgage rates. A sharp increase in interest rates, therefore, could be a significant blow for housing affordability in Canada.

Kenya has an annual deficit of 156,000 housing units (World Bank, 2011).Currently, 80 per cent of new housing supply meets the needs of middle-to-high income households, yet the greatest need is among the low-income households (Economic and Social Rights Centre, 2012).The mortgage interest rates in Kenya are too high for affordability of low income earners (Kariuki, 2013). The high mortgage rates are negatively affecting both the home buyers and rental property buyers. The high mortgage rates cause the land lords to increase the rents so as to offset the high mortgage repayments (Kariuki, 2013). This causes the ones who cannot afford the high rents to turn to informal settlements for their housing needs (World Bank, 2011). This has also caused many Kenyan families to spend more than 30-35 % of their income on housing. Families who pay more than 30 – 35 % of their income for housing are considered cost burdened and may have difficulty affording necessities such as food, clothing, transportation and medical care (Quigley & Raphael, 2004, Hurt,2010). Therefore, the main purpose of this study is to evaluate the effects of interest rates spread on housing affordability among the low income earners in Kenya.

Research Objective

To evaluate the effects of interest rates spread on housing affordability among the low income earners in Kenya

Hypothesis

Ho$_1$: There is no relationship between the effects of interest rates spread and housing affordability among the low income earners in Kenya

Methodology

This study used analytical research design. Analytical research was chosen because it is normally used when there is already a hypothesis as to why something is happening. It typically seeks to identify a type of behavior occurring in a current market environment (Nachmias et al., 2002). The target population in the study are the entities that influence the supply of low cost housing

which are the Ministry of Lands, Housing and Urban Development, the Ministry of Finance, Central Bank and CMA representing the National Government, the Ministry of Lands, Housing and Urban Development of the Nairobi County Government representing the County Government and Commercial Banks, Microfinance Organizations, Housing Cooperatives, and NHC representing the mortgage distribution channels. A sample size of 249 respondents was selected using the Godden (2004) formula. Stratified random sampling was used. Strata's were formed based on the characteristics of the population, then simple random sampling was used to select respondents in each strata. Stratified random sampling is a useful method when the population is heterogeneous and it is possible to establish strata which are reasonably homogeneous within each one (Kothari, 2004).

Primary data was collected by using the questionnaire as the main research instrument. Since this study involved relationships between variables, the study utilized correlation and regression analysis to determine the relationship between mortgage distribution channels and housing affordability. To address the research objective, the study checked whether the regression coefficient of national government (X_1) was positive (+) and significant (p value of < .05) in line with theory and study expectations. The relationship in the research questions was determined using the following regression model.

$$Y = \beta_0 + \beta_1 X_1 + \mu$$

Where Y, the dependent variable, is low income housing affordability, β is the regression coefficient, β_0 is the intercept- the value of Y when X values are zero and X1, is the effects of interest rate while μ is the error term normally distributed about the mean of zero.

Using Cronbach's Coefficient Alpha test on interest rate, a coefficient of 0.737 was found. These results corroborates findings by Sekaran (2003), Saunders Lewis and Thornhill (2009) and Christensen, Johnson and Turner (2011) who stated that scales of 0.7 and above, indicate satisfactory reliability.

Table 4.1: Reliability Test on Effects of Interest Rates Spread on Housing Affordability among the Low Income Earners

Description	Indicator
Cronbach's Alpha	0.737

No of Items   10

Factor Analysis was carried out to describe variability among the observed variables and check for any correlated variables with the aim of reducing data that was found redundant. Conventionally, statements scoring more than 30% which is the minimum requirement for inclusion of variables into the final model (Hair et al., 2010; Kothari, 2004) were included.

Findings and Discussion

The study sought to evaluate the effects of interest rates on housing affordability among the low income earners in Kenya. Regarding the statement that lowering the interest rate spread would lead to an increase in the supply of low cost houses, 38.5% strongly agreed, 27.2% agreed and 13.6% strongly disagreed. Twelve point four percent disagreed and 8.3% were neutral.These findings are also consistent with those ones of Kuttner (2012) who in their article titled "low interest rates and housing bubbles: still no smoking gun" asserts that interest rates have an economically significant effect on real estate prices. He argues that historically, interest rates declines do tend to precede periods of house price appreciation. This appreciation of house prices can make developers to respond by increasing the supply of houses

A majority (66.3%) of the respondents strongly agreed and agreed that lowering the interest rate spread would lead to a reduction in the price of houses. In addition, 20.7% of the respondents strongly disagreed, 10.1% disagreed and 3% were neutral. These findings are inconsistent with those ones of Levin and Pryce (2009) who in their article titled "what determines the responsiveness of housing supply? The role of real interest rates and cyclical asymmetries" posits that falling real interest rates causes a rise in house prices as the lower discount rate increases the present value of expected future rents avoided by house ownership.

Contradictory results were found by Kranendonk (2008) who in his article titled "are Dutch house prices overvalued" argues that as long-term interest rates become higher, the financial burden for households increases and house prices decline. Kranendonk (2008) in his research into the factors that may be of influence on house prices in the Netherlands found an elasticity of around -5% for every 100 basis points in higher, long-term interest. The study made a decomposition of the contributions by the various factors related to house price development.

This decomposition shows that interest rate developments since the turn of the century have only had a limited impact on house prices.

On the statement whether lowering the interest rate spread would lead to an increase the number of Kenyans capable of affording mortgage loans, 32.5% strongly agreed, 31.4% agreed and 17.2% strongly disagreed. A further 13.6% disagreed and 5.3% were neutral. The study findings agree with those of Africa Union for Housing Finance (2012) who in their article titled "growing housing opportunities in Africa: encouraging investment" find that high interest rates is among mortgage lenders' and housing financiers concerns. They posits that such challenges limit or restrict mortgage lending to the lower income populations.

A majority (59.7%) of the respondents agreed and strongly agreed that lowering the interest rate spread would lead to an increase in the number of people able to spend less than 30 % of their income on housing. Eighteen point three percent of the respondents disagreed while 17.2% strongly disagreed and 4.7% were neutral. These findings are consistent with a previous study done by Were (2012) in her article titled "factors affecting the uptake of pension secured mortgages in Kenya" where she argues that high interest rates by the mortgage financiers is one of the major constraint factors affecting the mortgage uptake level

These findings are consistent with those ones of World Bank (2011) who in their article titled "developing Kenya's mortgage market" argues that there is need to lower the mortgage interest rates so as to expand affordability. The respondents were asked to indicate whether lowering the interest rate spread would enable developers to undertake large scale projects. 59.2% of the respondents agreed while 19.5% were neutral and 21.3% disagreed with the statement. These findings also concur with a previous study done by Arvanitis (2013) who in his article titled "African housing dynamics: lessons from the Kenyan market" argues that there are only a handful of private developers in Kenya that can afford to invest into medium to large scale developments of 200 units and above for middle to low income segments. He cites difficulty in raising adequate finance as one of the key obstacles for the growth of capacity of property developers.

29% of the respondents strongly agreed that lowering the interest rate spread would reduce the monthly mortgage interest payments. A further 21.3% of the respondents agreed that reducing costs associated with enforcing financial debt contracts would lower the interest rate spread.

These findings are consistent with those ones of Trimbath and Montoya (2002) who in their article titled "housing affordability in three dimensions: price, income and interest rates" posits that if homebuyers bid according to how much they can afford to pay for housing every month, lower interest rates will allow them to increase the purchase price of the home of their dreams without increasing their monthly payments**.**

Regarding the statement that lowering the interest rate spread would encourage an increase on the size of mortgage loans borrowed, 42.6% agreed, 33.7% strongly agreed, 9.5% disagreed and 6.5% strongly disagreed.The study findings concur with those of CAHF (2012b) who in their article titled "housing finance mortgage loan performance in South Africa" indicates that rising interest rates in South Africa resulted in a downward shift in house loan sizes in 2007 and 2008 in line with affordability constraints. They argue that there were noticeable increases in loan sizes from 2009 onwards reflecting the declining interest rate cycle.

63.3% of the respondents agreed and strongly agreed that lowering the interest rate spread would lead to a reduction on the amounts of mortgage down payment. The findings imply that reduction of intermediation costs by mortgage lenders influenced housing affordability among low income earners in Kenya. These findings are consistent with those ones of Trimbath and Montoya (2002) who in their article titled "housing affordability in three dimensions: price, income and interest rates" posits that higher house prices require a larger down payment deposit for any given maximum ratio of loan to property value. The larger down payment represent a constraint for younger households wishing to switch from renting to home ownership, and this in turn would constrain the number of first time buyers entering the market.

Regarding the statement whether lowering the interest rate spread would increase the period of mortgage repayments, 34.9% of the respondents agreed, 29% strongly agreed, 25.4% disagreed and 7.1% were neutral.A majority (74.6%) of the respondents agreed that lowering the interest rate spread would lead to an increase in the volume of mortgage loans offered to the borrowers, 14.8% disagreed and 7.7% strongly disagreed with that statement Complementary findings have established that the risk taking channel is a mechanism through which monetary policy could affect house prices. These findings are consistent with those ones of Kuttner (2012) who in their article titled "low interest rates and housing bubbles: still no smoking gun" asserts that the increased appetite for risk brought forth by low interest rates would make intermediaries more

willing to lend, increasing credit supply. He argues that the increased availability of credit would allow some credit-constrained households to purchase homes, thus increasing the demand for houses.The mean score of responses regarding the effects of interest rate spread on housing affordability among the low income earners in Kenya are as follow: 30.7% strongly agreed, 33.7% agreed while 7.5% were neutral, 14.6% disagreed and 13.6% strongly disagreed.

Correlation between variables is a measure of how well the variables are related. The most common measure of correlation in statistics is the Pearson Correlation (technically called the Pearson Product Moment Correlation or PPMC), which shows the linear relationship between two variables. The Pearson correlation results from this study reveal that there is a 0.598 positive correlation between the role of interest rate spread and housing affordability among low income earners.

In this section, the research hypothesis was tested and results presented. Reference is made to the proposed hypothesis ($H0_1$).Regression analysis was conducted to empirically determine whether the effects of interest rate was a significant determinant of housing affordability among the low income earners. Regression results in Table 4.2 indicate the goodness of fit for the regression between interest rate spread and housing affordability is satisfactory. An R squared of 0.357 indicates that 35.7% of the variances in the housing affordability among the low income earners are explained by the variances in the roles played by the interest rate spread.

Table 4.2: Model Summary for Effects of Interest Rate Spread on Housing Affordability among the Low Income Earners

Indicator	Coefficient
R	0.598
R Square	0.357
Std. Error of the Estimate	0.56756

The model significance was presented in Table 4.3. An F statistic of 98.443 indicated that the model is significant. This was supported by a probability value of 0.000. The reported probability (0.000) is less than the conventional probability (0.05). The model applied can significantly predict the change in the housing affordability among the low income earners in Kenya. The study, therefore, fails to accept the null hypothesis, H_{01} at 95% confidence interval

and concludes that there is a significant relationship between the interest rate spread and housing affordability

Table 4.3: ANOVA for Effects of Interest Rate Spread on Housing Affordability among Low Income Earners

Indicator	Sum of Squares	df	Mean Square	F	Sig.
Regression	31.711	1	31.711	98.443	0.000
Residual	57.016	177	0.322		
Total	88.727	178			

The interest rate spread coefficients are presented in Table 4.4. The results show that interest rate spread contributes significantly to the model since the p-value is 0.000. This implies that interest rate spread is statistically significant in explaining housing affordability among the low income earners in Kenya.

Table 4.4: Coefficients of Effects of Interest Rate Spread on Housing Affordability among Low Income Earners

Variable	Beta	Std. Error	t	Sig.
Constant	1.873	0.182	10.309	0.000
Interest Rate Spread	0.51	0.051	9.922	0.000

Conclusion and Recommendations

The objective of the study was to assess the effects of interest rate spread on housing affordability among the low income earners in Kenya. The study findings indicated that interest rate spread was a key driver of housing affordability by low income earners. Results indicated that the respondents agreed that lowering the interest rate spread would lead to an increase in the supply of houses for low income housing, leads to a reduction in the price of houses, leads to an increase the number of Kenyans capable of affording mortgage loans, leads to an increase in the number of people able to spend less than 30 % of their income on housing, enables developers to undertake large scale projects and reduce the monthly mortgage interest payments.It is recommended that measures be put in place to lower the interest rates as this would lead to an increase in the supply of houses, a reduction in the price of houses, an increase the number of

Kenyans capable of affording mortgage loans and an increase in the number of people able to spend less than 30% of their income on housing.It is recommended that the national government should ensure that the new measures put in place through the establishment of the new interest rate base called the Kenya Bank's Reference Rate (KBRR) which was introduced in 2013 to help tackle the problem of high interest rates is adhered to. It is also recommended that mortgage lenders should adopt modern technology as this would lower their fixed costs and operating costs and can thus reduce the rate of interest. It is also recommended that the coverage by credit reference bureaus should be extended to all adult population in Kenya as this would assist the mortgage lenders mitigate against credit risk. Fiscal policy that would maintain low Treasury bill rates is also recommended

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