FACTORS AFFECTING ACCESS TO MORTGAGE FINANCE IN NAIROBI, KENYA

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ABSTRACT

Mortgage finance plays a significant role in the development of the economy and in enabling people to be homeowners through provision of mortgages. Despite its significance, past statistics indicate that very few people access mortgage finance in Kenya as research indicates that at best only 3% of households in Kenya might be eligible for mortgage finance. The study was guided by four objectives which seek to find out the role of tax incentives, cost of capital, land registration systems and loan maturation period on access to mortgage finance in Kenya. This research employed the use of descriptive research survey. The research targeted 35 mortgage providers focusing on the management of the mortgage finance in Nairobi and walk in customers/clients at the particular time of study. The target population was 13,803 respondents. The researcher used purposive and simple random sampling techniques to sample its respondents. The sample size was 400 respondents. The questionnaires and interview schedule were used for the data collection. The research utilized descriptive analysis presenting the findings in tables, graphs and pie charts. Correlation and regression analysis was used to carry out inferential analysis Regression analysis model was used to find out the effect of tax incentives, cost of capital, land registration systems and loan maturation period on access to mortgage finance in Kenya. The study identified the independent variables: tax incentives, cost of capital, land registration systems and loan maturation period as very crucial in enhancing the access to mortgage finance as shown by their strong and positive relationship with the dependent variable i.e. access to mortgage finance. The study recommends that institutions that offer mortgage finance should foster the policy of providing incentives to potential home buyers in order to enable them access mortgage finance.

Key Words: *Mortgage finance, Access, home buyers, Kenya*

Introduction

This study seeks to find out the determinants of mortgage finance in Kenya. With low access to mortgage finance in Kenya for the middle class and other groups, the researcher seeks to find out the determinants of mortgage finance in Kenya. Literature was reviewed from a global, regional and local perspective. Globally, Zandi and Deritis (2011) observe that the problem of housing markets resonates across many countries, both the developed and developing. For example, in the United States of America, the nation's housing market is said to have gone from boom to bubble to bust over the past decade, with a devastating impact on the global economy and financial system. Millions of bad mortgage loans were made, homeowners would have had difficulty repaying under the best of circumstances and as a result, millions are now losing their homes (Zandi and Deritis, 2011).

Mortgage Finance

Against this background, it is important to note that, a growing body of research has shown that correctly structured finance systems can deliver improved housing for larger population segments, which has caused housing finance to rise to the top of urban policy and research agendas (Datta and Jones, 2000). The aim of a formal housing finance system is to create institutional arrangements which can efficiently mobilize and channel funds from savers to borrowers to finance a housing investment (Chiquier and Lea, 2009). At an individual level, housing finance makes it possible for people to have shelter and a real asset, which might be the largest investment a household makes. Moreover, at a macro level, it generates economic growth via job creation, economic linkages and it spurs entrepreneurial activities **(**IFC, 2010). In addition, housing finance plays an important role in shaping a country's wider housing system and services the stability and effectiveness of the financial system and the overall financial portfolio of the public, providing social stability and promoting economic development (Akinwunmi et al., 2008).

Datta and Jones (2000) however argue that for housing finance to be effective; those seeking to be home owners have to be motivated to invest in homeownership. For example, Zandi and Deritis (2011) in a study on future of mortgage finance system in the U.S found that the aggressive pursuit of homeownership since 1930s was largely due to subsidies provided via mortgage interest and gains treatment, and the lower mortgage rates and affordable housing mandates of Fannie Mae and Freddie Mac, among other channels. The Clinton and Bush administrations often pointed to the rising homeownership rate as evidence of their economic policies success. With both parties set on this policy objective, many households that should not have received mortgage loans got them.

Mortgage Finance in Kenya

In Kenya, some of the mortgage lenders have designed mortgage products that would encourage Kenyans to save from the early years of employment with a view of accumulating enough savings that would enable them mobilize the mortgage finance (Housing Finance, 2011). The Retirement Benefits Regulations (2009) provides for policies that would entice Kenyans to access mortgage finance. Such policies include the use of accumulated pension funds to act as security for mortgage borrowing. According to Nabutola (2004), by its nature, housing in Kenya represents major investment requiring substantial capital outlay. In the majority of housing projects, the developer whether as a corporate or an individual has to borrow. The main constraints to affordable housing in the urban areas are: Land, finance, building materials and regulatory framework. For someone to qualify for a mortgage finance the following criteria is considered; High eligibility criteria, proof of adequate and dependable income, requirement for provision of marketable satisfactory collateral with proof of ownership, predetermined payment periods and amounts. Moreover, existing mortgage finance institutions require lengthy and complicated loan procedures, which impose demands on the poor who can neither spare the time nor comprehend some of the issues. Literacy levels of the majority, means that they are unable to comprehend and go through these procedures (Nabutola, 2004). There are many Kenyans who have been occupying properties as tenants for many years, yet there exists financial institutions offering mortgage finance. Such rent paying Kenyans have not been motivated enough to consider mortgage finance and have continuously opted to enrich landlords. This study aimed at determining the incentives available within the Kenyan mortgage market enabling Kenyans access mortgage finance.

In Kenya, it is estimated that 234,000 new housing units are required every year yet only 20,000-30,000 units per year are currently being produced and a mere 20% of these are affordable to low and moderate income families (Giddings 2007). Government has estimated a housing need of 190,000 dwellings per year in Kenya's urban areas though it is not clear what assumptions underlie this estimate (Ministry of Housing, 2011). Government further estimates that formal production by the public and private sectors is not more than 30,000 units per year and concludes that the annual deficit of more than 120,000 housing units is met by slum housing. In Nairobi, with a population of around 3 million people, nearly 60% of households live in slum areas. A recent survey of these settlements showed that 73% of households live below the poverty line (Giddings, 2007).

Moreover, around 90% are tenants, are forced into this type of tenure by poor access to land and, in some cases, by the deliberate choice to invest in their rural homes. To complicate the housing matter further, the average mortgage loan is approximately Kshs. 4 million while the median household income of the non-poor in these slums was just over Ksh 10,000 (USD 125) in 2004, an indication that houses are quite expensive for most Kenyans (Mutero, 2007). According to Center for Affordable Housing in Africa (2011), in Niger, the smallest mortgage is equivalent to Kshs. 1.228 Million (USD 14,444), while 85.6% of the country population earn below Kshs. 5,100 (USD 60). Therefore, to enable majority of Kenyans afford to buy homes, offering incentives is critical so that the gap between the housed and the homeless is reduced significantly.

This study therefore seeks to fill the knowledge gap, caused by the lack of empirical data on incentives that determine the access to mortgage finance towards provision of housing in Kenya, by carrying out the current study. The researcher intends to find out if there exist any incentives and their impact on the above and further make recommendations based on the study findings towards improved access to mortgage finance. This paper is divided into four parts. First it reviews the extent of literature relevant to the study of factors affecting access to mortgage finance. Then the research methodology is presented and data analysis techniques are discussed. Next the findings are discussed and summarized. The discussion concludes with recommendations and directions for further research.

Literature Review

In Kenya, a study by Melzer (2005) on access to housing finance in the low income market found that the Income Tax Act has for some time provided that contributions to registered schemes designed and established to enable savings for purchase of residences can be deducted from gross income up to a maximum of Ksh 4,000/= per month (Ksh 48,000/= per annum). This has been enhanced by making interest earned on deposits of up to Ksh 3 million into such a scheme tax free. This avenue for savings and tax mitigation still remains relatively unattractive, however, since the enabling rules and regulations are difficult for banks to abide with. As a result, so far only one financial institution, Housing Finance, has launched a savings product for this purpose. On the other hand, interest incurred on personal mortgages is deductible from gross income before arriving at taxable income, subject to a limit of Ksh 12,500/= per month or Ksh 150,000/= per annum.

In South Africa, Rust (2008) found that rising cost of capital have had a dramatic impact on housing affordability and, while property prices have been rising, have decreased the amount of loan that a low-income household is able to support. In 2004, a household earning R3500 would have been eligible for a R101 000 loan at 11% interest over 20 years; in June of 2008, a household earning R3500 is only eligible for a loan of about R79 000, now at 16.5% interest. In 2004, a household earning R9000 per month would have been eligible for a R261 000 loan, well within the 'affordable' target market. Now, a household earning R9000 per month cannot find a house to buy at the R205 000 of mortgage finance that they can afford.

According to Sacerdoti (2005) in a study on access to bank credit in Sub-Saharan Africa (SSA), there is a wide concern that bank spreads are too high in Africa. Analysis conducted in a number of studies indicated that the causes of the spreads in most SSA banking system are high operating costs, difficulties in obtaining and using collateral, and the absence of efficient judicial procedures to facilitate loan recovery. A detailed analysis of the main determinants of the spreads in Kenya across different categories of banks (state-owned, private domestic, and foreign) shows that spreads are a function of loan loss provisions and operating costs. Specifically, state-owned banks have the highest loan-loss provisions, and highest profit margins, which together account for almost two-third of the spread; the higher profit margin on lending reflects the higher write-offs on loans; their overall profitability is much lower, as indicated by the return on assets.

In a study on housing finance in sub-Saharan Africa and focusing on South Africa, Rust (2008) found that almost without exception, private sector developers as well as government officials and knowledgeable experts cite the unavailability of reasonably priced and well-located serviced land as the major constraint to the rapid expansion of housing for low and moderate income families. For a variety of reasons, including large holdings of land by government, control of large tracts by special private interests, poor environmental conditions and a woeful lack of essential infrastructure such as water and sewer, private developers are forced to look at unserviced land on the outskirts of most urban areas for housing sites. Because local jurisdiction has been unable to provide for basic infrastructure, housing developers have had to make provisions for it as part of their development plans. Yet their only means to recoup the cost is through the sale of the housing units. However, providing such necessary infrastructure can add at least 30-40% to the sales cost of a unit, in effect pricing it well beyond the affordability capacity of most of the originally targeted population.

In Ghana, according to the International Monetary Fund (2012) housing finance is adversely affected by the lack of land titles, and/or the slowness in issuing them. Thus, in Ghana most lenders have been deterred to providing housing finance, due also to an inefficient and cumbersome foreclosure process; this has left the Home Financing Company as the sole provider of mortgage, as this company benefits from a more favorable legal framework. The authorities are reviewing this framework, in order to encourage more lending by other financial institutions.

European Central Bank (2009) indicates that housing finance is of crucial importance to the Eurosystem as housing loans constitute the largest liability of households and account for a large proportion of bank lending. In the Euro Area, most countries have recorded significant increases in their mortgage debt-to-Gross Domestic Product ratios over the last decade and especially in more recent years. The average annual growth of housing loans in the Euro from 1999 to 2007 was just above 10% though the country patterns differ with loan growth even decreasing slightly in Germany in year 2007. The main underlying drivers of growth in housing debt on the supply side included the fierce competition of banks for market shares which resulted in more diversified credit instruments becoming available at lower cost, with longer maturities and on flexible terms (such as lower amortisation requirements and higher loan-to-value ratios).

In a study on housing finance in African countries, Sacerdoti, (2005) found that with macroeconomic stability returning to many countries in Africa, and with implemented or planned deregulation of the banking sector in several countries (e.g. Kenya, Ghana, Uganda, Nigeria, Tanzania and Zambia) the liquidity situation of many of the well-managed banking institutions in Africa has improved considerably. The availability of resources to invest in areas such as mortgage finance, therefore, does not appear to be a major constraint to increased housing production, particularly among the large regional merchant banks such as Barclay's Bank, Stanbic and Standard Charter. In a number of countries, there has also been a significant "shake out" of the banking system and increased oversight by government institutions, which has left remaining banks in a stronger financial position.

The researcher observes that in most of the studies reviewed in this chapter, the scope of the study is limited to only one variable. For example, a study that explores the role of cost of capital on accessing mortgages tends to touch on other incentives in passing. The researcher intends to fill in this gap by comprehensively looking at four incentives including loan maturation period, cost of capital, tax incentives and land registration systems. The study carried out in Ghana by the International Monetary Fund (2012) on housing finance provides useful insights as to the effect of land registration systems on access to mortgage. However, the study does not have a developed theoretical framework where a reader can be able to follow the line of argument of the author. In addition, the methodology used in the study is vague. The researcher therefore recommends that a study be carried out outlining the theories used to argue the problem of the study and the methodology used to arrive to the conclusions.

The study carried out by European Central Bank (2009) indicated that housing finance is of crucial importance to the Euro system as housing loans constitute the largest liability of households and account for a large proportion of bank lending. The study is of much importance to the current study as it gives the reader a basis of why many people who wish to be home owners borrow from banks to do the same; this includes the longer loan maturation period and low cost of capital. However, the study was carried out through a review of literature. The researcher acknowledges that while this is an appropriate method of study, it is not sufficient because data collected empirically may have provided a current true picture of the state of contribution of longer loan maturity to access to mortgage. In addition, literature review does not comprehensively cover the study objectives as empirical review although it gathers information from a wider area.

Research Methodology

The study adopted descriptive research design. Creswell (2002) observes that a descriptive research survey is used when data are collected to describe persons, organizations, settings, or phenomena. The study aims at observing and describing the behavior of the subjects under study without influencing it in any way and therefore considers the descriptive research survey to be the most appropriate for this study. Mugenda (2010) argues that descriptive survey is the best design to use when in a fact finding mission in order to explain a certain phenomenon. That is why the researcher opted for descriptive survey research design.

The population of interest was all commercial banks providing mortgage finance in Nairobi central business district. There are 35 mortgage lenders in Nairobi central business district and averagely 13,803 home buyers who have been financed through a mortgage as per the World Bank & Central Bank (2011). The sampling unit of the study was made up of all the 35 commercial banks. The target population were grouped into two broad groups: credit managers and home buyers financed for a mortgage in the banks that made up the respondents of the study. Ngechu (2004), noted that a population is a well-defined or set of people, services, elements, events, group of things or households that are being investigated.

Since a sample is part of the target population that has been procedurally selected to represent it according to Oso and Onen (2009), the sample size of the study was 400 respondents who are divided into credit managers and home buyers. The optimal sample size was used to fulfill the requirements of efficiency, representativeness and reliability which a small sample size would not.

To get the home buyers, the researcher used sampling formula adopted from Neuman (2000). 35 credit managers were all selected to participate in the study because according to Orodho, (2002) when the population is small, the whole population is taken as the sample. The study consist of a sample of 400 respondents.

The sample size was determined by use of the following formula. According to Neuman (2000), the size of a sample for a particular study will be calculated as follows: $n = \frac{Z^2 pq}{d^2}$

Where n = the required sample size

Z = is standard normal deviate at the required confidence level (1.96) at 0.05

p = is the proportion of the target population estimated to have the characteristics being measured when one is not sure, so one takes middle ground (0.5)

q = 1-p

d is the level of statistical significance

Therefore n = $\frac{1.96^2 x 0.5 x 0.5}{0.05^2} = 384$

This gives a sample size of 384 which can be adjusted when population is more than 10,000 using the following relationship (Neuman, 2000).

$$n = \frac{n}{1 + {}^{n}/_{N}}$$

n_f is the desired sample size when population is less than 10,000

n is the desired sample size when population is more than 10,000$n = \frac{384}{1 + {}^{384}/_{13803}} = 364$.89Which is approximately 365

Table 3.1 Sampling frame and sample size

	Population	Sample
Credit managers	35	35
Home buyers	13803	365
Total	**13838**	**400**

Data was primarily collected to provide information regarding a specific topic. Data was collected using structured questionnaires and interview schedules. Questionnaires were used to collect data from the staff of the mortgage providers while interview schedule was used to collect data from the potential homebuyers. The questionnaires were individually administered to the identified respondents after a random selection within the 35 banks. Considering the sample of 400 respondents, the researcher strived to conduct an interactive interview for purposes of shortening the period of research and also to be able to collect as much information as possible with high level of accuracy.

In order to test the reliability and validity of the study instruments, a pilot study was conducted. The pilot study was conducted in a population that is not in the sample. However the pilot population must possess the same characteristics as the sample size. 10% of the sample size was used in the pilot study as it deemed adequate (Neuman, 2000). Validity was ensured through establishing a chain of evidence through literature review, which provides an emerging framework; pilot study, which was to fill the gap between emerging conceptual framework and later field study; and use of the questionnaire as an instrument of data collection (Paton, 2002). In order to obtain reliability of the instruments, a test-retest method was used to pilot the research instruments in order to estimate the degree to which the same results could be obtained with a repeated measure of accuracy of the same concept. In this study the researcher administered questionnaires to respondents which will not be in the sample. A re-test was done after two weeks with the same respondents. The researcher then scored the items and computes the Pearson’s correlation coefficient between the two sets. After piloting the items that were found vague were rephrased to make them clear and those that were found irrelevant were replaced.

Data collected was both qualitative and quantitative. Quantitative data was analyzed through the use of a data analysis programme known as the Statistical Package for Social Sciences (SPSS). This was done through derivation of mean, standard deviation and frequency distributions for observable variables (Paton, 2002). Quantitative data was presented in form of charts, tables and graphs. Qualitative data was analyzed through the use of content analysis. Content analysis was used in the instances where data was obtained from open ended questions. Data collected was first typed and then put in different categories and then coded to yield frequencies. Frequencies yielded from the analysis helped the researcher to compare the various relationships of the variables in the study. Data was then presented in prose form and the various inferences made. Correlation and regression analysis was used to carry out inferential analysis. Correlation was used to find out whether the variables are correlation positively or negatively. Regression analysis was used to find out the direction and extent of these relationships. In this case, regression analysis model was used to find out the effect of tax incentives, cost of capital, land registration systems and loan maturation period on access to mortgage finance in Kenya.

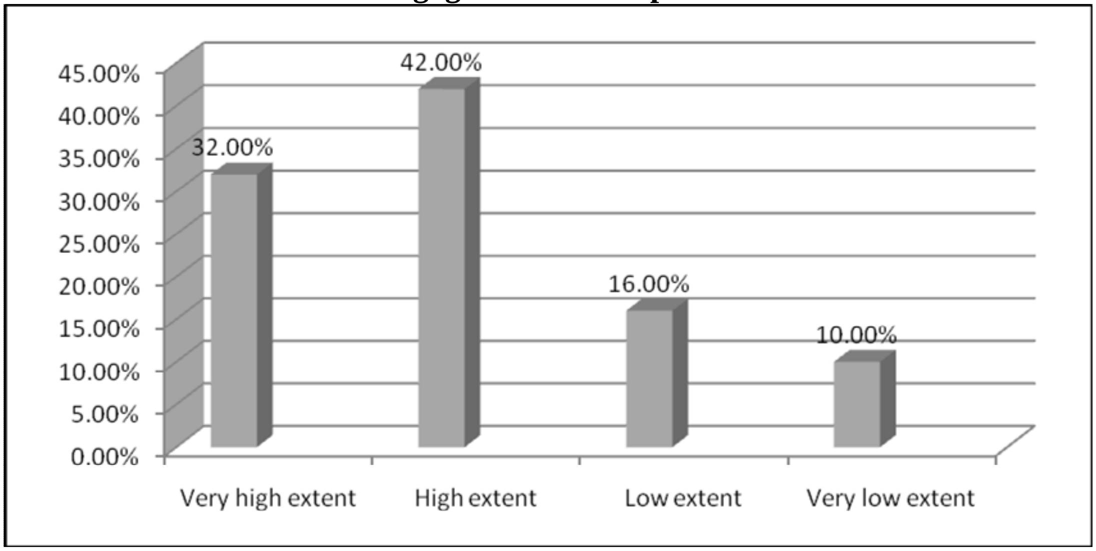
Research Results

From the data collected, out of the 400 questionnaires administered, 388 were filled and returned. This represented 90% response rate, which is considered satisfactory to make conclusions for the study. According to Mugenda and Mugenda (2003) a 50% response rate is adequate, 60% good and above 70% rated very good. This also collaborates Bailey (2000) assertion that a response rate of 50% is adequate, while a response rate greater than 70% is very good. This implies that based on this assertion; the response rate in this case of 90% is very good. The findings of the pilot test showed that the calculated Cronbach's reliability alpha was greater than 0.7 which implied that the questionnaire was reliable.

Tax incentives

First the extent the tax incentives influence potential home owners decision to acquire a mortgage from the respective institutions. From the study findings majority 42% indicated that tax incentives influences potential home owner's decision to acquire a mortgage from the respective institutions followed by 32% who indicated very high extent with only few 16% and 10% indicating low extent and very low extent respectively. This can be depicted to mean that tax increases the cost of a mortgage and therefore any incentive given as far as tax is concerned will improve the potential home buyers' ability significantly. The findings were as indicated in Figure 1. This concurs with a study by Melzer (2005) on access to housing finance in the low income market found that the Income Tax Act has for some time provided that contributions to registered schemes designed and established to enable savings for purchase of residences can be deducted from gross income up to a maximum of Ksh 4,000/= per month (Ksh 48,000/= per annum). This has been enhanced by making interest earned on deposits of up to Ksh 3 million into such a scheme tax free.

Figure 1: The extent tax incentives influence potential home owners decision to acquire a mortgage from the respective institutions



The study sought to determine the influence of tax incentives basing on certain related statements. From the study findings majority disagreed that in their institution, most of the potential house buyers acquire funds from taxable deductions as indicated by a mean of 2.84. Majority further agreed that the deposits made for mortgages by potential homeowners are free of tax hence an incentive for more people to acquire mortgages as indicated by a mean of 3.82. Finally majority agreed that tax deductions enable savings for purchase of houses as indicated by a mean of 3.91. The findings were as indicated in Table 1. This implies that tax is an additional cost and therefore any tax incentives given to potential home buyers will act as an incentive to take mortgage finance. This is in line with Muli, (2009) that interest incurred on personal mortgages is deductible from gross income before arriving at taxable income, subject to a limit of Ksh 12,500/= per month or Ksh 150,000/= per annum.

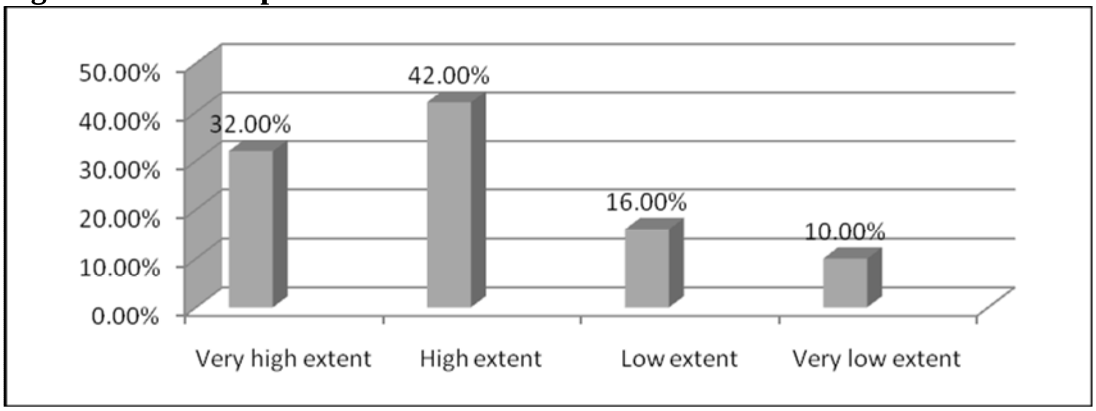
Table 1: Statement related to tax incentives

STATEMENT	Mean	Standard deviation
In my institution, most of the potential house buyers acquire funds from taxable deductions	2.84	1.961
The deposits made for mortgages by potential homeowners are free of tax hence an incentive for more people to acquire mortgages	3.82	0.627
Tax deductions enable savings for purchase of houses	3.91	0.678

Cost of capital

The findings were as indicated in Figure 2. The study findings indicated that majority 42% agreed that cost of capital influence the potential buyers decision to high extent followed by 32% who indicated the influence as very high extent, 16% as low extent with only few indicating the influence as very low extent. In South Africa, Rust (2008) found that rising cost of capital have had a dramatic impact on housing affordability and, while property prices have been rising, have decreased the amount of loan that a low-income household is able to support.

Figure 2 Cost of capital



The study also found of important to determine annual cost of capital for the three consecutive years ranging from 2010 to 2012. The findings were as indicated in Table 2. The study findings indicated that the year 2012 had an average interest rate of 18.46%, the year 2011 had an interest rate of 18.04% with the year 2010 having registered the lowest interest rate of 17.65%. this implies that interest rate keep on increasing which can be attributed to high cost of capital increasing each year due to economic factors such as inflation and currency fluctuations.

Table 2: Rate of interest charged by mortgage institutions for the last three years

Cost of capital	Mean (%)
Year 2010	17.65
Year 2011	18.04
Year 2012	18.46

The study then evaluated the statements related to cost of capital and access to mortgage. The findings were as indicated in Table 3. The study findings indicated that majority agreed that low Cost of Capital increases demand for housing as indicated by a mean of 3.45. Majority also agreed that low Cost of Capital make credit cheaper as indicated by a mean of 3.66. Majority further agreed that low Cost of Capital increases the borrower's capacity to acquire a mortgage as indicated by a mean of 3.89. Further there was an agreement that higher Cost of Capital reduces affordability to acquire a mortgage as indicated by a mean of 3.67. Further respondents also agreed that high Cost of Capital decreases the value of collateral as indicated by a mean of 3.86. This concurs with the above findings that the cost of capital in mortgage finance is high and influences mortgage finance to high extent.

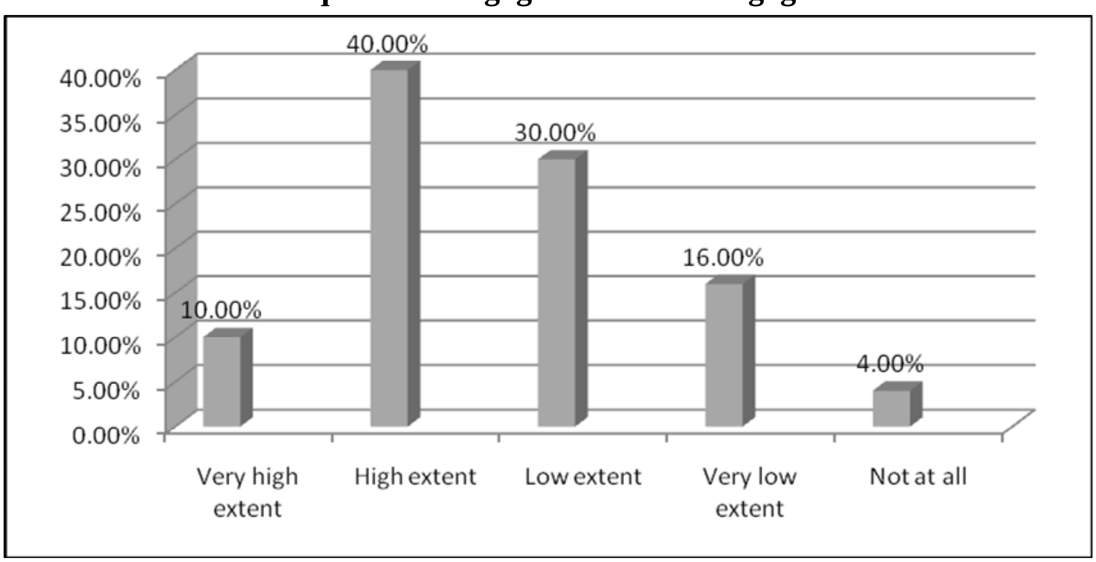
Table 3 Statements related to cost of capital and access to mortgage

STATEMENT	Mean	Standard deviation
Low Cost of Capital increases demand for housing	3.45	0.461
Low Cost of Capital make credit cheaper	3.66	0.390
Low Cost of Capital increases the borrowers capacity to acquire a mortgage	3.89	0.378
Higher Cost of Capital reduces affordability to acquire a mortgage	3.67	0.389
High Cost of Capital decreases the value of collateral	3.86	0.377

Land registration systems

From the study findings majority 40% indicated that land registration systems influence the potential home ownership decision to acquire a mortgage from the mortgage institutions to high extent, 30% indicated low extent, 16% indicated very low extent with only few 10% and 4% indicating very high extent and not at all respectively. In a study on housing finance in sub-Saharan Africa and focusing on South Africa, Rust (2008) found that almost without exception, private sector developers as well as government officials and knowledgeable experts cite the unavailability of reasonably priced and well-located serviced land as the major constraint to the rapid expansion of housing for low and moderate income families. For a variety of reasons, including large holdings of land by government, control of large tracts by special private interests, poor environmental conditions and a woeful lack of essential infrastructure such as water and sewer, private developers are forced to look at unserviced land on the outskirts of most urban areas for housing sites.

Figure 3: the influence of land registration systems to potential home ownership decision to acquire a mortgage from the mortgage institutions



The study further determined land registration systems statements in relation to mortgage finance. The study findings indicated that majority agreed that poor system of land records and registration discourages potential buyers from accessing mortgages due to lack of timely verification of properties as indicated by a mean of 3.95. Majority also agreed that bureaucracy in obtaining information hinders potential buyers from accessing mortgages as indicated by a mean of 3.88. the study further indicated that majority also agreed that slowness in issuance of titles discourages potential home owners from accessing mortgages as indicated by a mean of 3.77. In Ghana, according to the International Monetary Fund (2003) housing finance is adversely affected by the lack of land titles, and/or the slowness in issuing them. Thus, in Ghana most lenders have been deterred to providing housing finance, due to an inefficient and cumbersome foreclosure process; this has left the Home Financing Company as the sole provider of mortgage, as this company benefits from a more favorable legal framework.

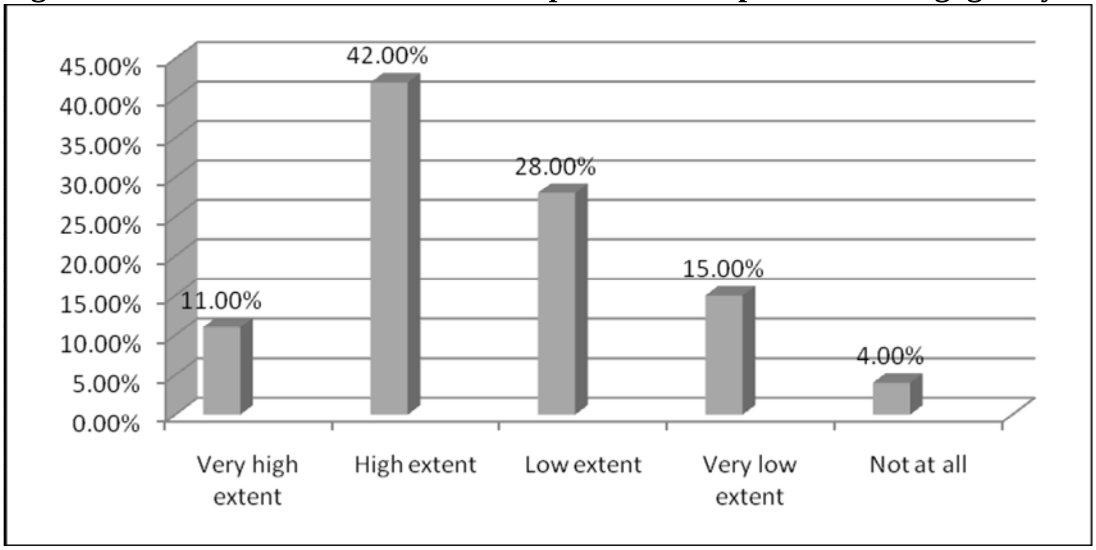
Table 4: Statements related to land registration systems and access to mortgage finance

STATEMENT	Mean	Standard deviation
Poor system of land records and registration discourages potential buyers from accessing mortgages due to lack of timely verification of properties	3.95	0.781
Bureaucracy in obtaining information hinders potential buyers from accessing mortgages	3.88	0.792
Slowness in issuance of titles discourages potential home owners from accessing mortgages	3.77	0.832

Loan maturation period

Loan maturation period was also important for the study, first the study sought to determine the influence of Loan maturation period on the potential mortgage buyers. The findings were as indicated in Figure 4. From the study findings majority 42% indicated that loan maturation period influences the potential mortgage buyers to high extent, 28% indicated low extent, 15% indicated low extent with only few 11% and 4% indicating very high extent and not all respectively. This implies that maturation period is a very crucial factor in determining access to mortgage finance due to the ability to pay in the stipulated time period. The average annual growth of housing loans in the Euro from 1999 to 2007 was just above 10% though the country patterns differ with loan growth even decreasing slightly in Germany in year 2007. The main underlying drivers of growth in housing debt on the supply side included the fierce competition of banks for market shares which resulted in more diversified credit instruments becoming available at lower cost, with longer maturities and on flexible terms (such as lower amortization requirements and higher loan-to-value ratios).

Figure 4: Influence of Loan maturation period on the potential mortgage buyers



Loan maturity period and access to mortgages related statements were also evaluated in relation to influence to mortgage finance. The findings were as indicated in Table 5. From the study findings majority did agree that shorter loan maturity period leads to poor access to mortgage hence poor buying as indicated by a mean of 3.86. Majority also agreed that the longer the loan maturity period, the smaller the cost of capital hence more access to mortgage as indicated by a mean of 3.42. However majority of the respondents disagreed that in their institution, the loan maturity period attracts potential homeowners to acquire mortgages as indicated by a mean of 2.66. This can be depicted to mean that loan maturity period in accessing mortgage facilities is a very important consideration by the potential buyers.

Table 5: Statements related to loan maturity period and access to mortgage

STATEMENT	Mean	Standard deviation
Shorter loan maturity period leads to poor access to mortgage hence poor buying	3.86	0.563
The longer the loan maturity period, the smaller the cost of capital hence more access to mortgage	3.42	0.678
In my institution, the loan maturity period attracts potential homeowners to acquire mortgages	2.66	1.056

Mortgage Finance

After establishing the influence of the determinants of mortgage finance in accessing the mortgage finance in financing institutions, the study found it necessary to determine the number and average rate of application for mortgages for a period of three years. The findings were as indicated in Table 4.7. The study findings indicate that the years 2012 was the leading with the average number of applications which stood at 676 with a rate of application of 31.45%. Number of applications in 2011 was 602 at a rate of 27.25% and 588 applications in 2010 at 26.08% rate of application. This may imply that mortgage demand increases each year for the period under consideration. Moreover, the improving financial climate has led to the expansion of mortgage lending in a number of African countries. For example, the mortgage market in Uganda has grown from almost nothing at the beginning of the decade to a $50 million industry in 2006. Nevertheless, the development of mortgage markets is still in its infancy in most African countries. For many banks, building societies, and mortgage companies, the mismatch between the short term nature of their deposits and the longer term nature of mortgage lending, in combination with the unavailability of longer term sources of finance, remain constraints. Thus, cost of capital for mortgages are therefore still at fairly high levels despite the improving macroeconomic climate.

Table 6: The number and average rate of application for mortgages for a period of three years

Mortgage application	No. of applications	Rate of application (%)
Year 2010	588	26.08
Year 2011	602	27.25
Year 2012	676	31.45

Regression and Correlation Coefficients of access to mortgage finance

Regression analysis was utilized to investigate the relationship between the variables. These included an error term, whereby a dependent variable was expressed as a combination of independent variables. The unknown parameters in the model were estimated, using observed values of the dependent and independent variables.
The following model represents the regression equation representing the relationship between access to mortgage finance as a linear function of the independent variables (tax incentives, cost of capital, land registration systems and loan maturation period), with έ representing the error term.

Yi = α + β1(TI) + β2(CP) + β3(LRS) + β4(LMP)+ έ . When β5=0……Equation 1

(Equation 1: Regression Equation)

Where; Yi=Access to mortgage finance
TI= Tax incentives
CP=Cost of capital
LRS=Land registration systems
LMP=Loan maturation period
έ representing the error term

Incorporating the values of the Beta values into equation 1 we have:

Yi = α + 0.719(TI) + 0.843(CP) + 0.822(LRS) + 0.972(LMP) + έ….Equation 2

(Equation 2: Regression Equation with Beta Values)

The βi's in the above equation represent the estimated parameters.
The correlation matrix in table 7 indicates that tax incentive is strongly and positively correlated with access to mortgage finance as indicated by a correlation coefficient of 0.719. Further the matrix also indicated that cost of capital is also positively correlated with access to mortgage finance as indicated by a coefficient of 0.843. The correlation matrix further indicates that land

registration system is also strongly and positively correlated with access to mortgage finance as indicated by a coefficient of 0.862.

The correlation matrix implies that the independent variables: tax incentives, cost of capital, land registration system and loan maturation period are very crucial in enhancing the access to mortgage finance as shown by their strong and positive relationship with the dependent variable i.e. access to mortgage finance.

Table 7: Correlation Coefficients between tax incentive, cost of capital, land registration system, loan maturation period and the mortgage finance.

	Tax incentive	Cost of capital	Land registration system	Loan maturation period	Access to mortgage finance
Tax incentive	1				
Cost of capital	0.851	1			
Land registration system	0.753	0.653	1		
Loan maturation period	0.754	0.854	0.714	1	
Access to mortgage finance	0.719	0.843	0.822	0.672	1

Regression Model Summary of the Effect of tax incentive, cost of capital, land registration system, loan maturation period and the access to mortgage finance

From the results shown in table 8, the model shows a goodness of fit as indicated by the coefficient of determination (R^2) with a value of 0.7338. This implies that the independent variables tax incentive, cost of capital, land registration system and loan maturation explain 73.38 percent of the variations of access to mortgage finance.

The study therefore identifies tax incentive, cost of capital, land registration system and loan maturation as critical factors for enhancing access to mortgage finance.

Table 8: Regression Model Summary of the Effect of tax incentive, cost of capital, land registration system and loan maturation period and the access to mortgage finance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.8566	0.7338	0.7011	0.7638

Predictors: (Constant), Tax incentive, cost of capital, land registration system and loan maturation period.

Analysis of Variance (ANOVA)

Table 9: Analysis of Variance (ANOVA) results for tax incentive, cost of capital, land registration system, loan maturation period and the access to mortgage finance.

	Sum of Squares	df	Mean Square	F	F-critical value	Significance
Regression	69.82	4	19.95	22.08	104.92	0.00
Residual	4.364	23	6.321			
Total	73.19	27				

NB: F-critical Value 104.92 (statistically significant if the F-value is less than 104.92: from table of F-values).

a. **Predictors: (Constant),** tax incentive, cost of capital, land registration system and loan maturation period**.**

The value of the F statistic, 22.08 indicates that the overall regression model is significant hence it has some explanatory value i.e. there is a significant relationship between the predictor variables tax incentive, cost of capital, land registration system and loan maturation period (taken together) and access to mortgage finance.

The study identifies the independent variables: tax incentives, cost of capital, land registration system and loan maturation period as very crucial in enhancing the access to mortgage finance as shown by their strong and positive relationship with the dependent variable i.e. access to mortgage finance. This was also shown from the results shown in table 4.9, where the model shows a goodness of fit as indicated by the coefficient of determination (R^2) with a value of 0.7338 which implies that the independent variables explain 73.38 percent of the variations of access to mortgage finance. The study therefore identifies tax incentive, cost of capital, land registration system and loan maturation as critical factors for enhancing access to mortgage finance.

Discussion

From the study findings majority indicated that tax incentives influences potential home owner's decision to acquire a mortgage from the respective institutions followed those who indicated very high extent with only few and indicating low extent and very low extent respectively. This can be depicted to mean that tax increases the cost of a mortgage and therefore any incentive given as far as tax is concerned will impact home owner's potential buyers significantly.

The study further sought to determine the influence of tax incentives basing on certain related statements. From the study findings majority disagreed that in their institution, most of the potential house buyers acquire funds from taxable deductions. Majority further agreed that the deposits made for mortgages by potential homeowners are free of tax hence an incentive for more people to acquire mortgages. Finally majority agreed that tax deductions enable savings for purchase of houses as indicated. This implies that tax is an additional cost and therefore any tax incentives given to potential home buyers will act as an incentive to take mortgage finance.

Rate of the acquisition of mortgages by potential home owners in relation to tax incentives was also very crucial for the study. The study findings indicate that majority indicated that acquisition of mortgages by potential home owners in relation to tax incentives is poor, this was followed by who indicated average. This implies that tax incentives are very important as an incentive to boost mortgage finance by potential homebuyers. Generally tax incentive is strongly and positively correlated with access to mortgage finance as indicated by a correlation coefficient of 0.719.

The study also found it of great importance to determine to what extent cost of capital influence potential buyers decision to access mortgage finance. The study findings indicated that majority agreed that cost of capital influence the potential buyers' decision to high extent followed by who indicated the influence as very high extent with only few indicating the influence as very low extent. It was also very crucial for the study to rate the institutions cost of capital. From the study findings majority rated the institutions cost of capital as high, followed by who indicated the cost of capital as low with only few rating cost of capital as very low. This can be depicted to mean that the mortgage finance cost of capital is usually high and requires huge collateral in accessing it.

After accessing the cost of capital by mortgage institutions, the study further found it necessary to determine the acquisition rate of mortgages by potential home owners in relation to cost of capital. From the study findings majority indicated the acquisition of mortgages by potential home owners in relation to cost of capital as poor, followed by who indicated as very poor with only few rating the acquisition of mortgage by potential home owners to cost of capital as good and very good respectively. A detailed analysis of the main determinants of the spreads in Kenya across different categories of banks (state-owned, private domestic, and foreign) shows that spreads are a function of loan loss provisions and operating costs.

The study then evaluated the statements related to cost of capital and access to mortgage. The study findings indicated that majority agreed that low Cost of Capital increases demand for housing. Majority also agreed that low Cost of Capital make credit cheaper. Majority further agreed that low Cost of Capital increases the borrowers' capacity to acquire a mortgage. Further there was an agreement that higher Cost of Capital reduces affordability to acquire a mortgage. Further respondents also agreed that high Cost of Capital decreases the value of collateral. This concurs with the above findings that the cost of capital in mortgage finance is high and influences mortgage finance to high extent. In general cost of capital is positively correlated with access to mortgage finance as indicated by a coefficient of 0.822. The study further rated the acquisition of mortgage by potential home owners in relation to land registration systems. The study findings indicates that majority indicated the acquisition of mortgages by potential home owners in relation to land registration systems as poor, some indicated as average with few indicating as good, very poor and very good respectively. This implies that land registration systems procedures are high and majority of the potential buyers do not own land legally and therefore do not collateral to access the mortgage finance.

The study further determined land registration systems statements in relation to mortgage finance. The study findings indicated that majority agreed that poor system of land records and registration discourages potential buyers from accessing mortgages due to lack of timely verification of properties. Majority also agreed that bureaucracy in obtaining information hinders potential buyers from accessing mortgages. The study further indicated that majority also agreed that slowness in issuance of titles discourages potential home owners from accessing mortgages. In summary land registration systems is positively and strongly correlated with access to mortgage finance as indicated by a correlation coefficient of 0.862. Loan maturation period was also important for the study, first the study sought to determine the influence of loan maturation period on the potential mortgage buyers. From the study findings majority indicated that loan maturation period influences the potential mortgage buyers to high extent with only few indicating very low extent and not all respectively. This implies that majority of the mortgage finance institutions have put in place some measures to reduce the loan maturation period for the mortgage finance potential buyers.

After determining the influence of loan maturation period to potential buyers, the study further sought to determine the average period of loan maturation period in mortgage finance institutions. From the study findings majority indicated the average period of loan maturation as 11-15 years, followed by who indicated over 15 years with only few indicating below 5 years. This implies that mortgage loans takes long period of time as far as loan maturation period is concerned. The study further sought to rate the acquisition of mortgages by potential home owners in relation to loan maturity period. From the study findings majority of the respondents indicated that the acquisition of loans in relation to maturity period is good, followed by who indicated average. Further quite a number of the respondents indicated the rating as poor with only few indicating very good and very poor respectively.

Loan maturity period and access to mortgages related statements were also evaluated in relation to influence to mortgage finance. From the study findings majority did agree that shorter loan maturity period leads to poor access to mortgage hence poor buying. Majority also agreed that the longer the loan maturity period, the shorter the cost of capital hence more access to mortgage. However majority of the respondents disagreed that in their institution, the loan maturity period attracts potential homeowners to acquire mortgages. This can be depicted to mean that maturity period in accessing mortgage facilities is a very important consideration by the potential buyers. Loan maturation period in general is positively and strongly correlated with access to mortgage finance as indicated by a correlation coefficient of 0.672.

Conclusions

From the study findings the study concludes that tax incentives influences potential home owner's decision to acquire a mortgage from the respective institutions and that in their institution, most of the potential house buyers acquire funds from taxable deductions. Further the study concludes that the deposits made for mortgages by potential homeowners are free of tax hence an incentive for more people to acquire mortgages. The study further agrees that tax deductions enable savings for purchase of houses. The study also concludes that acquisition of mortgages by potential home owners in relation to tax incentives is good.

The study also concludes that cost of capital influences the potential buyers decision to high extent and that the institutions cost of capital is high. The study also concludes that the acquisition of mortgages by potential home owners in relation to cost of capital is poor. The study further concludes that the year 2012 had an average interest rate of 18.46%, the year 2011 had an interest rate of 18.04% with the year 2010 having registered the lowest interest rate of 17.65%. The study further concluded that low Cost of Capital increases demand for housing, low

Cost of Capital make credit cheaper, that low Cost of Capital increases the borrowers capacity to acquire a mortgage and that higher Cost of Capital reduces affordability to acquire a mortgage.

The study concludes that land registration system influence the potential home ownership decision to acquire a mortgage from the mortgage institutions to high extent and that the acquisition of mortgages by potential home owners in relation to land registration systems as poor. The study further concludes that poor system of land records and registration discourages potential buyers from accessing mortgages due to lack of timely verification of properties. The study also concludes that bureaucracy in obtaining information hinders potential buyers from accessing mortgages. The study further concludes that slowness in issuance of titles discourages potential home owners from accessing mortgages.

The study further concludes that loan maturation period influences the potential mortgage buyers to very low extent with only few indicating very high extent and that the average period of loan maturation as 11-15 years, followed by over 15 years and below 5 years. The study further concludes that the acquisition of loans in relation to maturity period is good and that shorter loan maturity period leads to poor access to mortgage hence poor buying, that in their institution, the loan maturity period attracts potential homeowners to acquire mortgages.

Recommendations

As far as tax deduction is concerned the study recommends that institutions of mortgage finance should foster the policy of potential house buyers acquiring funds from taxable deductions and should be free of tax to act as an incentive for more people to acquire mortgages. The study further recommends that mortgage finance institutions should create awareness and education to the potential customers on information relating to tax incentives to enable many people acquire mortgage loans for development.

The study also recommends that cost of capital should not be translated to the interest charged to mortgage customers to create an ease spirit of repaying the loan with ease. The study also recommends that the acquisition of mortgages by potential home owners in relation to cost of capital should be enhanced through giving incentives e.g. cheaper interest rates.

The study recommends that land registration system should be streamlined to enable the potential home ownership decision to acquire a mortgage from the mortgage institutions to high extent. The study further recommends that the current poor system of land records and registration should be enhanced to encourage potential buyers from accessing mortgages e.g. timely verification of properties. The study also recommends that bureaucracy in obtaining information should be enhanced to boost potential buyers from accessing mortgages.

The study further recommends that mortgage finance institutions should make loan repayment period a little longer to spread the burden of the potential customers to repay the loans. The study further recommends that the acquisition of loans in relation to maturity period should be made attractive to enable the loan maturity period attracts potential homeowners to acquire mortgages.

Areas for further Research

The study focused on the selected independent variables of tax incentives, cost of capital, land registration systems and loan maturity period and the dependant variable, access to mortgage finance. There are other variables that have equally important contribution towards access to mortgage finance by potential homebuyers. Other studies should focus on other factors not considered and how they can be incorporated in the variable to enhance access to mortgage finance by the potential homebuyers.

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