DETERMINANTS OF REAL ESTATE MORTGAGE UPTAKE IN KENYA

BY

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UNITED STATES INTERNATIONAL UNIVERSITY-AFRICA

SUMMER 2015
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A Research Project Report Submitted to the Chandaria School of Business in Partial Fulfillment of the Requirement for the Degree of Master of Business Administration (MBA)

UNITED STATES INTERNATIONAL UNIVERSITY-AFRICA

SUMMER 2015
STUDENT’S DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted to any other college, institution or university other than the United States International University in Nairobi for academic credit.

Signed: ___________________________ Date: __________________________

Kiguru Fredrick Ngigi (ID: 640004)

This Report has been presented for examination with my approval as the appointed supervisor.

Signed: ___________________________ Date: __________________________

Dr. Paul Wachana

Signed: ___________________________ Date: __________________________

Dean, Chandaria School of Business
ABSTRACT

The purpose of the study was to better understand the determinants of mortgage uptake in Kenya. The study was guided by the following research questions: How does household income affect the mortgage uptake in Kenya? How does employment status affect mortgage uptake in Kenya? How does interest rate affect the mortgage uptake in Kenya?

The total population for this study comprised of one hundred and fifty respondents. The study adopted a descriptive research design. This design was appropriate for this study because it necessitated collection, organization and summarizing data from a sample for conclusions. The sampling technique adopted in this study was simple random sampling. The data analysis involved measures of central tendency and frequencies.

The study revealed that majority of the respondents agree that indeed low income has contributed significantly to low mortgage uptake, with high income level it is easier to get mortgage than if low income earner in Kenya. It is cheaper to get a mortgage if you have a stable income, unexpected changes in mortgage price has made it difficult for low income earners to afford houses, Many financial institutions are not willing to give mortgage to low income people in Kenya, individuals with volatile income tend to default paying mortgages than those with a stable income, not every middle income person can afford to take mortgage in Kenya, high level of poverty rate in Kenya has contributed significantly to low growth in real estate in Kenya and finally low income earners avoid taking mortgages due to anticipate future loss to their assets.

The study also revealed that there was a positive relationship between mortgage uptake and the employment status, the coefficient value of 0.591 and a t value of 11.101. When the calculated t-value is higher the critical t value at p=0.005 then the findings indicate that mortgage uptake in Kenya status is positively and significantly influenced by employment income.

Finally the study revealed a negative relationship between mortgage uptake and interest rates, the coefficient value of -0.461 and a t value of -.285. When the calculated t value is lower the critical t value at p=0.005 then the findings indicate that mortgage uptake in Kenya is negative and significantly influenced by interest rates. Similarly the findings revealed that indeed Interest rates provided by financial institution affect the mortgage takers, interest rates fluctuations have a positive impact on the mortgage uptake, many
Kenyans consider putting up their own houses rather than taking a mortgage, majority of Kenyans cannot afford to take a mortgage in the current set up, lending rates of the mortgage providers should be closely monitored, mortgage providers in this country are making supernormal profit, financial institutions charges discourage borrowers from taking mortgages, competition among the finance providers has contributed to mortgage uptake in the country, through increase in competition the cost of borrowing has decreased.

The study concludes that indeed household income is an important determinant of mortgage uptake, with high income level it is easier to get mortgage than if low income earner in Kenya, It is cheaper to get a mortgage if you have a stable income, unexpected changes in mortgage price has made it difficult for low income earners to afford houses. The study also concludes that that there was a positive significant relationship between mortgage uptake and the employment status. This is a clear indication that employment status matters and influences mortgage uptake in Kenya. These factors include: Employment Status, lack of employment, nature of employment i.e Permanent or casual, income from employment and volatile income. Finally the study concludes that there is a negative insignificant relationship between mortgage uptake and the interest rates.

The study recommends the need for real estate developers to ensure a careful development of strategies to avoid speculation from the outset. The study recommends the use of alternative technologies in Kenyan market to bring down the cost of housing. Finally establishment of a well-developed financial sector, including a more integrated micro-credit sector. This can help expand access to an array of financial services (credit and insurance; saving facilities and payment instruments). This helps to finance small private firms at rates that do not cripple their operations.
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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Study

Real estate investment requires huge capital, most people are not able to afford on savings, and therefore they turn to banks for a loan. Banks charge an interest rate for lending their funds depending on the length of the loan and security or otherwise referred to as collateral. The interest rate charged to the borrower is based on the Central Bank. Nielsen (2010) submits that mortgages come in two primary forms, fixed and adjustable rates, with some hybrid combinations and multiple derivatives of each.

Globally Nguyen (2007) established that interest rates had a huge impact on capital intensive industries and this increased the risk of investing in those industries. This therefore has a huge impact on the real estate industry knowing that it is a capital intensive industry (Nguyen, 2011). Changes in interest rates can greatly influence a person's ability to purchase a residential property. That is because as the interest rates fall, the cost to obtain a mortgage to buy a home decreases, which creates a higher demand for real estate, which in turn pushes prices up. Conversely, as interest rates rise, the cost to obtain a mortgage increases, thus lowering demand and prices of real estate.

Real estate is an industry that is very intertwined with the monetary markets, due high cost investment required in real estate, developers and home owners turn to banks to source for funding. Thus growth in real estate very dependent on availability of funds and the cost of funds from the banks. The cost of funds is determined by the interest rates set by the central bank which is transmitted to the borrowers by commercial banks after adding a spread to cover the commercial banks operation cost. Banks charge an interest rate for lending their funds depending on the length of the loan and security or otherwise referred to as collateral. The interest rate charged to the borrower is based on the Central Bank Base Rate (CBR), which the Central bank uses to control interest rates.

According to Kuttner (2012), the relationship between interest rates and property prices has come under intense scrutiny since the housing boom of the mid-2000s, and the ensuing financial crisis of 2007–09. When interest rates are down, credit affordability is up, increasing demand for houses, pushing house prices up and when interest rates are
high, credit becomes expensive, demand lowers and house prices fall. Wenzel (2012) seems to contradict this view by stating that there is no direct correlation between interest rate and housing prices. He argues that what is important is the rate of interest relative to price inflation meaning the rate of interest should be looked at in real terms. Another contradictory view is held by Abel, Bernanke, and Croushore (2008) who argue that the price of a nonmonetary asset and its nominal and real interest rate are negatively related (Muthaura, 2012).

A study by Wong, Hui and Seabrook (2003) revealed that housing prices displayed a moderately high correlation with interest rates in deflationary periods. However, the results showed that interest rates do not have a causal effect on housing prices (Otwoma, 2013). Two views have emerged from this experience. One is that monetary policy should respond more proactively to asset price rises, and especially to excesses in the property markets. According to this view, by “leaning against the wind” central banks can prevent or attenuate asset price bubbles, and thus promote financial stability (Muthaura, 2012).

Proam (2012), asserts that although most of the assumptions and expectations made by the Central Banks or Reserve Banks by countries (and economies) that by technically lowering the interest rate would produce the effect of increasing investments and consumptions, however, low interest rate by macro-economic policy is also risky and would also lead to the creation of massive economic bubble, when great amount of investments are poured into the real estate market and stock market, this happened in Japan where there were massive investments in the real estate industry while interest remained low this resulted in a real estate bubble (Inamot, Hasegawa, Sudo and Shimizu 1995).

Bhattarai (2006), added that changes in the interest rates have profound impacts on saving and consumption behaviours of households, on investment and capital accumulation decisions of firms, and on portfolio allocation of domestic and foreign traders in the financial and exchange rate markets. It is generally agreed that these changes affect the aggregate demand and aggregate supply positions in an economy that may occur immediately or over a lag of up to two years; like the 2008 financial crisis effect, are still being felt to date.
Cummings (1997), adds that Real Estate Finance and Investment is a branch of finance, which deals with investing money or wealth in real estate. Real estate finance deals with the allocation, generation and use of monetary resources over time, which is invested in the real estate business. Like any other aspect of finance, real estate finance also has risks associated with it and the effective management of assets, which will maintain or increase in value over time, which is the investment yield of the project.

According to Kuttner (2012), the relationship between interest rates and property prices has come under intense scrutiny since the housing boom of the mid-2000s, and the ensuing financial crisis of 2007–09. When interest rates are down, credit affordability is up, increasing demand for houses, pushing house prices up and when interest rates are high, credit becomes expensive, demand lowers and house prices fall. Two views have emerged from this experience. One is that monetary policy should respond more proactively to asset price rises, and especially to excesses in the property markets.

Regionally real estate industry is both capital-intensive, highly related industries and industries essential to provide the daily necessities. However, the real estate pricing models and methods of research rarely receive the critical attention and development it deserves. Lack of adequate data has limited the scope of empirical research on real estate transactions. Existing data sets typically include property characteristics, time to sale, initial listing price and sale price. They do not contain information on the buyer’s side of the transaction or on the seller’s behavior between the initial listing and the sale of a property. This explains why most of the empirical literature on real estate transactions has either focused on the determinants of the sale price or on the role of the initial listing price and its effect on the time to sale (Huawang, 2009).

Locally Ndung’u (2010), established long-term finance allowing for the provision of affordable and adequate housing which is a major thrust of Kenya’s Vision 2030. The Kenya real estate boom has arisen because many investors have switched their savings from the low-yield treasury bills to the hugely profitable property market. This has been complemented by banks introducing and aggressively marketing various mortgage products. The comparatively low Kenya property prices are indicative of a strong capital growth potential and reasonable rental yields.
Otewoma (2013), states that the real estate market in Kenya is dominated by private developers with the Government through the National Housing Corporation accounting for a small percentage. The demand for housing in Kenya continues to outstrip supply, particularly in urban areas with an estimated annual average supply of only 30,000 – 50,000 units against estimated annual demand of over 150,000 units in the urban areas (Ministry of Housing, 2004). Factors that were cited by the Ministry to contribute to the national housing shortage include rapid urbanization, inaccessibility to land and housing finance, stringent planning regulations, restrictive building standards, high cost of infrastructure, poor economic performance and high incidence of poverty. Housing is a major problem in Kenya especially in Nairobi. This study therefore seeks to examine the major determinants of real estate mortgage uptake in Kenya.

1.2 Statement of the Problem

The Kenya real estate market has experienced a boom since 2002, confounding many interregional. Kenya’s rapid economic development and a dynamic business regime are some of the reasons for the property market to remain strong despite the dip in other markets in the world (Makena, 2012).

The previous researchers have found a correlation between various factors and mortgage loans. In his study (Nzuve2012), on the relationship between house prices and mortgage uptake in Kenya focused on house price fluctuations which have been witnessed by the several booms and busts have led to financial instability differs among countries because of the important differences in countries housing systems and the role that the government plays. Wahome (2010), studied the changing home mortgage market and unique financing requirements have brought about the widespread home ownership have caused a continuing evolution in mortgage lending practice. The study sought to establish the effects of mortgage financing on performance of the firms.

Oremo (2012), studied the role of the government in the cost of borrowing and how it goes towards improving mortgage uptake. He found out that there is need for more collaboration between the public and private sector to improve the investment environment considering Kenya’s annual housing demand stands at 150,000 yet supply is only 25,000 units, resulting in a shortage of 125,000 units. In his study however he did
not concentrate on the effect of interest rates on the real estate industry and this has been a major setback on growth of the real estate business.

Majority of the studies have been carried out in the developed countries and with Kenya being in the developing countries category maybe affected by the same bubble however no study has been carried out in Kenya to find out the potential causes of the real estate bubble in Kenya. This study therefore seeks to find out the major determinants of real estate mortgage uptake in Kenya.

1.3 Purpose of the Study

The purpose of the study was to better understand the determinants of real estate mortgage uptake in Kenya.

1.4 Research Questions

The study was guided by the following research questions

1.4.1 How does household income affect mortgage uptake?

1.4.2 How does employment status affect mortgage uptake?

1.4.3 How does interest rate affect mortgage uptake?

1.5 Significance of the Study

1.5.1 Borrowers

The study will be able to increase the knowledge of borrowers in real estate financing and thus providing an opportunity for them to expand their portfolios. They may learn the advantages of moving to the Diaspora to borrow at low interest rates while at the same time increase their portfolios locally through arbitrage hence deciding between conventional and creative financing methods. They may also uncover real estate tax loopholes that increase cash flow.
1.5.2 Real Estate Agents

Given the strong ties between housing markets and mortgage markets, residential real estate agents who wish to better serve their clients should have a good understanding of the system used to funnel investment capital into the hands of mortgage borrowers. Real estate agents who are more familiar with the residential financing process may be able to close more transactions and thus earn greater compensation.

1.5.3 Investors

New entrants into the mortgage financing business (banks and financiers) may borrow a strategy on how to position themselves on the market, benefiting themselves as well as the client.

1.5.4 Policy Makers

The information from this study will be insightful in offering empirical data that policy markers within the government can rely on when developing policy directions for the real estate sector in Kenya.

1.6 Scope of the Study

The study involved anlysis of primary data gathered from 50 respondetns in kenya. The study was carried over the period of January 2015 to June 2015. One of the expected challenges was the possibility of collecting data not related to the topic or that which maybe obsolete. However this challenge was mitigated by desighning a secondary data collection guide as a tool for collecting secondary data. This tool was to guide the researcher on the data to collect to ensure that the data is updtate. The second mitigation measure was to ensure that data was collected from the most recent documents of companies involved that are not later than one year.

1.7 Definition of Terms

1.7.1 Mortgage

A mortgage is a loan procured by a buyer to pay off the seller of a piece of property in full. The buyer then owes the lender the total amount borrowed, plus interest and fees. As
collateral or guarantee of payment, the lender holds the deed or ownership of said property, until the buyer pays the mortgage off. However, the buyer occupies the property as if it were already his or her own. A loan taken out to buy the property is referred to as a mortgage (Crowley, 2000).

1.7.2 Mortgage uptake

The rate at which individuals are willing and able to own mortgage facilities through facilitation from financial institutions in form of loans among other facility types (Jones, 2010).

1.7.3 Employment Status

This is defined as the type or nature of employment of an individual whether casual, or permanent or even temporary (Kimani, 2011).

1.7.3 Disposable Income

The amount of money that households have available for spending and saving after income taxes have been accounted for (Jones, 2010).

1.7.4 Interest rates

Interest rates are the annual charge for borrowing funds, usually specified as a percent of the amount borrowed. Changes in interest rates affect the overall expense of borrowing and thus expenditures undertaken with the borrowed funds (Amos, 2012).

1.8 Chapter Summary

This chapter has presented a general introduction to the back ground of the study, purpose of the study as well as research questions. The chapter has also provided the definitions of the terminologies and concepts in the context of this study. Chapter two of this study will review literature of this subject matter. Chapter three will focus on research methodology adopted for this study i.e. the research design, population of study, data collection and data analysis methods to be used. Chapter four captures the findings of the study while chapter five presents a discussion in a manner such as to answer the research questions raised in chapter one.
CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

The chapter presents literature review on determinants of mortgage uptake in Kenya. The chapter is organized as follows. First the relationship between household income and mortgage uptake, secondly the relationship between employment status and mortgage uptake and finally the relationship between interest rate and mortgage uptake.

2.2 Effect of Household Income on Mortgage Uptake in Kenya

The income level affects the ability to take up a mortgage facility (Kimani, 2011). Mortgage facilities are long term investments that consume a substantial amount of one’s income for a long time. The income levels also dictate the amount of money that one can qualify for in terms of mortgage facilities. Banks staff who are on contract basis such as the sales team and some operational staff don’t qualify for mortgage facilities due to their short engagement period with the bank. Contracts are either one or two year period renewable contracts dependent on the performance of the employee and the needs of the bank within that period. This time is not sufficient for contract based employees to take mortgage facilities (Mwangi, 2009). A variety of credit facilities are easily available at relatively cheaper and easy terms and conditions. Among those credit facilities include credit cards and personal unsecured loan of up to a million shillings. However, imprudent uptake and usage of these credit facilities may lead to unnecessary over borrowing/over commitment leading to inability to take up meaningful long term credit facilities such as mortgage facilities (Mwangi, 2009). Over stretching on one’s personal credit facilities may lead to situations where one is not able to meet their financial obligations leading to uptake of risky financial credit facilities such as shylock facilities. The high interest rates charged by the shylocks further create financial challenges for the bank staff sometimes leading to disciplinary cases (Kimani, 2011).

There are situations in which the one wants to meet certain short-term financial commitments take up substantial amount of funds. Such short term financial commitments include education opportunities such as undertaking of post graduate qualifications. These short term financial commitments may impede the ability to take up
long term facilities. Most of the staff in the banking industry join the bank while unmarried and thereafter get married while working. This has the effect of increasing the expenses and reducing the disposable income. If such staff had other ongoing short term financial commitment, then they may find their ability to take additional credit facilities especially with the growing young family severely curtailed. Affluent living may also lead into a situation where the staff is not able to take long term mortgage facilities as they finance short term lifestyle related expenses. Such expensive lifestyle expenses include motor vehicles and entertainment spots (Mwangi, 2009).

According to Moyo (2014), affordable housing has been an issue to both the governments and low income earners. Milligan, Phibbs, Fagan & Gurran (2004), defined the terms affordable housing as housing that assists lower income households in obtaining and paying for appropriate hardships. The main components of affordability are income distribution, cost of construction, rent propensities and financial terms (Kamete, 2006).

Bostic & Gabriel (2006) found that there was an effect on the affordable housing mandate on mortgage market. It has also been established that low income housing projects are in areas where the land is of low cost (Hassanali, 2009). Lang, Takhtamanova & Furlong (2014), found out that loan pricing terms determined the households’ choice of mortgage. Lang et al (2014) also established that the margins between the fixed rate mortgages and adjustable rate mortgages were important in the choice that borrowers made. In his study Krainer (2010), also found out that the loan pricing terms were significant determinants of mortgage choices.

The prices of houses have been known to rise with the raise in the determinants of the choice of mortgage financing (Lang, Takhtamanova & Furlong, 2014). Investor speculation is another important factor that causes an appreciation on the mortgage prices and therefore an increase in the prices of house (Shiller, 2013). The unprecedented change in the prices has made it difficult for the low income earners to be able to plan for housing and therefore low percentages of house owners (Shiller, 2007).

Foote et al. (2012) argues that expectations of raise in the housing demand cause an increase in the mortgages prices. It has also been established that house the raise in house prices has an effect on the choices that low income borrowers make between the fixed rate mortgages and adjustable rate mortgages (Elliehausen & Hwang, 2010). The higher
the appreciation on the loan prices has been known to cause the low income borrowers to make an option of adjustable rate mortgage financing (Krainer, 2010).

According to Campbell & Cocco (2003), argue that the borrower’s attitude towards risk and financial constraints can in the long run affect the choice of mortgage financing that the borrower makes. Coulibaly & Li (2009), also supported this argument stating that risk attitude affects the sensitivity on mortgages by the low income earners and in turn affect the loan pricing. It can therefore be concluded that when borrowers opt for adjustable rate mortgages they do not understand the magnitude of the possibility of the loan interest rates changing.

Real estate is an industry that is very intertwined with the monetary markets, due high cost investment required in real estate, developers and home owners turn to banks to source for funding. Thus growth in real estate very dependent on availability of funds and the cost of funds form the banks. The cost of funds is determined by the interest rates set by the central bank which is transmitted to the borrowers by commercial banks after adding a spread to cover the commercial banks operation cost. Banks charge an interest rate for lending their funds depending on the length of the loan and security or otherwise referred to as collateral. The interest rate charged to the borrower is based on the Central Bank Base Rate (CBR), which the Central bank uses to control interest rates.

Nguyen (2011), in his research, found out that income have a major impact on the real estate markets. Changes in interest rates can greatly influence a person's ability to purchase a residential property. That is because as the interest rates fall, the cost to obtain a mortgage to buy a home decreases, which creates a higher demand for real estate, which pushes prices up. According to Fisher (1930), there is a positive relationship between future price increases and nominal interest. He argues that when prices are rising, the rate of interest also tends to be high and vice versa. Furthermore, he points out that over long periods, interest rates follow the price movement and not the other way round. This is supported by Larock (2012), who observed that increases in mortgage rates did not trigger a decrease in houses prices but more often than not the reverse was true.
Demographics are the data that describes the composition of a population, such as age, race, gender, income, migration patterns and population growth. First is the population growth which is expected to put pressure on housing demand and hence push prices up. Taltavull (2003), found that population appears to have a strong significance in explaining the housing price levels.

Growth in household income also impacts real estate growth, while employment growth is important, the quality of jobs and the wages and salaries earned in these occupations are also important. Brueggeman and Fisher (2008), argue that there is a very strong association between house price and income/employment growth. A major shift in this data will have implications on real estate market, growth of population will increase demand for housing, growth of working or employed population will push the demand for housing higher since more people can afford to invest in real estate, conversely growth in unemployment will increase level of informal housing and a decline in real estate growth.

**2.3 Effect of Employment Status on Mortgage Uptake**

The impact of real estate investment on economy is significant, from the jobs it creates to the revenue it generates. Real estate’s multiplier effect in terms of job creation is significant, as this study demonstrates. The same time, ownership of real property, and particularly homeownership, does more than meet essential needs. It is a key factor in sustaining neighborhood and community stability. This is indeed an extraordinary value. In any economy, long-term finance is one of the key driver of economic growth. Ndung’u (2010) talked of Long-term finance allowing for the provision of affordable and adequate housing which is a major thrust of Kenya’s Vision 2030.

The Kenya real estate boom has arisen because many investors have switched their savings from the low-yield treasury bills to the hugely profitable property market. This has been complemented by banks introducing and aggressively marketing various mortgage products. The comparatively low Kenya property prices are indicative of a strong capital growth potential and reasonable rental yields. There are a variety of real estate investment possibilities when buying Rentals including commercial, multi-family, and single-family homes.
According to Njiru (2013), argues that mortgage market remain undeveloped in the sub-Saharan Africa due to the growing middle class need of affordable homes. Vusumuzi (2009) argues that housing challenges are not due to lack of demand but due to lack of access to finances to buy homes. It has also been established that prices of property are prohibitive to the young and low income workers (McCann, 2009).

There has been extensive research on the appropriate variable and whether it is current income permanent income or wealth. However, the choice between income and wealth depends on the way money is viewed whether it is a medium of exchange or an asset that has returns in a diversified portfolio. The level of transactions is typically measured by the level of income or gross national product (GNP). The choice between permanent income and current income is rooted in the distribution between money as a medium of exchange (transactions), which suggests the inclusion of both permanent and transitory (expected and unexpected) income in the demand function for money, and money as a "purchasing power" (wealth asset). Most of the empirical studies show that real income is the most important determinant of the demand for real cash balances, although the available evidence is rather conflicting on the magnitude of real income elasticity of the demand for money (Jones, 2011).

In the Gujarati (2012) study for India and Chow study (2010) for the United States, income proved to be the most significant determinant of mortgage uptake. This supported the Kaufman and Latta (2010) contention that the level of income function would be more significant in countries with well-developed money markets. A more extensive analysis concerning eight developing Asian countries in addition to Japan was undertaken by Fau and Liu (2013) and results indicated very low interest elasticities (except for Taiwan) while all income elasticities were significantly different from zero, and nearly all were inelastic. Burma provided a high income elasticity when it comes to determinants of mortgage uptake.

A study by Akhtar (2010), for the demand for mortgage uptake in Pakistan showed also that income was the primary determinant of mortgage uptake. When a narrow definition of money was employed, the rate of interest appeared as a statistically significant variable as well.
A study by Hynes for Chile found that the evidence on the long run income elasticity surprising in the sense that a narrow definition of money had a higher elasticity than a broader definition. This reverses the pattern found for several developed countries. Deaver (2010), investigated demand for mortgage in Chile too and found that higher income elasticities were obtained when permanent income (a weighted sum of past incomes) was used rather than measured income.

Growth in household income also impacts real estate growth, while employment growth is important; the quality of jobs and the wages and salaries earned in these occupations are also important. Brueggeman and Fisher (2008), argue that there is a very strong association between house price and income/employment growth. A major shift in this data will have implications on real estate market, growth of population will increase demand for housing, growth of working or employed population will push the demand for housing higher since more people can afford to invest in real estate, conversely growth in unemployment will increase level of informal housing and a decline in real estate growth.

The mortgage market is complex and often involves a series of procedure which hinder the accessibility of mortgage funding in Kenya (Pittman, 2008). CBK (2011), statistics show that less than 20000 mortgage holders in Kenya. This low uptake of mortgage in the country can be attributed to low accessibility of mortgage to the Kenya population (World Bank, 2010). Njiru & Moronge (2013), argued that there has been an upward surge of construction material prices and other factors that have not been addressed that affect the mortgage uptake process.

Banerjee, Cole, Duflo & Linden (2007), carried out a study in India on the frequently changing regulation on the housing and emphasis being put on funding housing for low income households. According to Toal, Mookherjee & Visaria (2012) the economic liberalization of the 1990s has led to the rapid economic growth in India and hence a more sophisticated financial sector which is highly regulated. This rapid changes and financial regulations have contributed significantly to the rapid changes in the Indian capital market (Anagol & Kim, 2012).

Cutts & Merrill (2008), also argue that lengthy foreclosure processes provide an incentive to the borrowers to forego the reinstatement of the loan. Laws that are costly to the lender impose credit discrimination and therefore reduce the rate of default (Goodman & Smith,
Therefore according to Goodman et al. (2010) foreclosure rates are lower in states that allow longer redemption periods. It has also been established that 30% of borrowers are most likely to default in states that ban deficiency judgments. Mian, Sufi & Trebbi (2011) also established that where judicial foreclosure is required there is lower foreclosure rates than in areas where there are no such requirements.

Foote, Gerardi, Gotte & Willen (2009), in their study found that an increase by in the unemployment rate by 1% raised the probability of default by 10-20% while a fall in housing prices raised the probability of default by half. This led to the conclusion that negative equity would predict default rates better than unemployment rate (Ashworth et al, 2010). According to Meen (2001), the risk of unemployment reduces the willingness of employed households to get mortgages and in turn reducing the housing prices. This theory affects those households that have volatile incomes since they cannot purchase houses due to the anticipation of future losses (Yao & Zhang, 2005).

According to Ghent & Kudlyak (2011), borrowers with negative equity may decide to cease mortgage repayment, not due to not affording to service the loan but because they believe they will gain financially by defaulting to service the mortgage. It was also found out that when there was a negative equity but at low level default would often occur when there was an extra income shock that would have been in the form of job loss (Foote et al, 2008). In their study Bhutta et al (2011) established that default rates increased for borrowers who experienced negative equity in severity. Through a study by carried out by Guiso et al (2010), found out that among other factors sever negative equity contributed significantly to default of mortgages. A comparison between the unemployment rate and negative equity also established that negative equity was most likely to cause default as compared to unemployment (Goodman et al, 2010).

In some schools of heterodox economics, notably Austrian economies and post Keynesian economies, real estate bubbles are seen as an example of credit bubble because property owners generally use borrowed money to purchase property, in the form of mortgages (Jimmy, 2010). In case of default the risk of default is transferred to the borrower (Campbell et al., 2011). According to Demyannyk & Van Hemer (2011), argued that default rates commonly experienced in US were from household who opted for non-traditional loans. According to Demyannyket al (2011), alternative mortgage products
differ from traditional mortgages as they have low mortgage payments required limited or deferred repayment of the principal.

According to Edward (2010), unlike the purchases made at retail stores, real estate prices are not fixed. When a buyer searches for a new home, he/she does it with the knowledge that he/she has the option to offer the seller less for the property than the asking price. Every aspect of a real estate purchase is negotiable. According to Sharpe (1999), real estate pricing deals with the valuation of real estate and all the standard methods of determining the price of fixed assets apply. Prices are limited by various factors such as the incomes of potential buyers, the cost and the ability to construct new property to increase supply and demand for rental units. The ability to make payments, borrow money and the cost of borrowing money are major influences limiting how far prices can rise before hitting resistance due to prices hitting levels where potential borrowers are unable to qualify (Sharpe, 1999).

2.4 Effect of Interest Rate on Mortgage Uptake

The inflationary expectations of consumers and businesses can have a major impact on interest rates. Lenders who foresee rising prices for goods and services will charge higher interest rates in order to compensate for the likelihood that their loans will be repaid with devalued dollars. At the same time potential borrowers, who are also anticipating rising inflation rates, are more likely to accept higher-interest loans because they expect to be able to pay them back with devalued dollars. The anticipation of rising inflation also stimulates consumers and businesses to buy as soon as possible in order to beat the expected price increases, placing more of a demand on credit which, in turn, drives interest rates upward (Wallace, 2004).

According to Cheng (2013) argues that lower interest rates will stimulate consumption of loans and therefore increase in investment. This will in turn increase the commercial bank credit base and therefore increasing profitability of commercial banks. On the other hand low completion on the commercial banks would cause a rise in the interest rates, such kind of a rise in interest rates causes a reduction in the number of loans and this in turn has an impact on the profitability of banks and at the same time reduction in real estate investment (Zhang, 2012). A study carried out by Ahearne, John, Brian, Linda and Robert (2005) showed that a period of easing monetary policy led to an increase in the real estate
investment. Therefore monetary policy variables such as interest rate should be regulated to encourage real estate development (Zhang & Fung 2006).

Gupta (2006), assesses the impact of monetary policy on real house price growth in South Africa using a factor-augmented vector auto regression (FAVAR), estimated based on a large data set comprising of 246 quarterly series over the period 1980:01 to 2006:04. This paper assesses the impact of a positive monetary policy shock on real house price growth for the five-segments of the South African economy using a FAVAR estimated with 246 variables spanning the period of 1980:Q1 to 2006:Q4. Overall, the results show that real house price growth responds negatively to a positive monetary policy shock, suggesting that the framework does not experience the home price puzzle.

According to Mishkin (2007), developments in the housing market can also affect credit markets. In the United States, rising delinquencies of subprime residential mortgages have led to Substantial losses to holders of securities backed by those mortgages and to sharp Increases in credit spreads for those securities. Furthermore, problems in the subprime Mortgage market have led investors to reassess credit risk and risk pricing, thereby widening spreads in general and weakening the balance sheets of some financial institutions. In this paper Mishkin examined what we know about the role of housing in the monetary transmission mechanism and then explore the implications of this knowledge for the conduct of monetary policy.

According to case and Shiller (2008), the meltdown in mortgage markets has substantially raised mortgage rates relative to their historical relationship to interest rates. They conducted a study analyzing the role of credit markets in mortgage prices and thus in house prices in USA housing market. The study showed that the spread between the interest rate on the average 30-year conforming mortgage and the 10-year Treasury bond had widened enormously in the last few years. In fact, while the yield on the 10-year Treasury bond had fallen by nearly 1.5 percent in the past 2 years, the average rate on conforming mortgage had fallen by about 0.5 percent. Problems in the entire economy combined with the broader credit crunch were responsible for the increase in the spread between mortgage rates and treasury securities.

Selim (2008), using hedonic regression model analysis the determinants of house prices in Turkey for both urban and rural areas. The study reveals that water system, number of
rooms, type of house, pool, house size, type of building and locational characteristic are the most significant variables affecting the house prices. Egert and Mihaljek (2007) used panel DOLS techniques in their study of determinants of house price dynamics in eight transition economies of central and eastern Europe and 19OECD countries. They analyzed fundamentals such as real income, real interest rates and demographic factors. They also analyzed the importance of transition specific factors such as improvements in housing quality and in housing market institutions and housing finance. In their study they established that per capita GDP, real interest rates and housing (or private sector) credit as significant factors affecting house prices in both CEE and OECD countries. Demographic factors and labor market developments also played an important role in house price dynamics.

Klyuev (2008), using the fundamentals model and the asset pricing approach studied the development of house prices in the United States from 1970 to 2008. In the fundamental model for house price determinants, he uses real disposable income, construction cost, unemployment, real mortgage rate and average household size. Klyuev links real rents and interest rates under asset pricing approach. In this study both methods yield substantial overvaluation in the U.S. housing market starting from 2001. He also found that house prices can deviate from their equilibrium values for long periods of time. Gupta (2008), while analyzing monetary policy shocks with three-variable SVARs for the middle-segment of the South African housing market. This result points to the benefit gained by using a large information set.

A paper by Hua (2010), investigates the impact of monetary policy on property prices for the case of China over the period 1999Q1-2006Q2. After considering the time series characteristics of the dataset, a high dimensional autoregressive distributed lag (ARDL) framework is used as the appropriate specification and the long-run relationship between property prices, interest rate, money supply and bank credit is identified by the bounds test. The empirical results suggest that there exist both long-run and short-run causality from real long-term interest rate and bank credit to property prices, implying these instruments may be more effective to control roaring property prices.

Maluku and Kamau (2010), present a GIS-based, computer-assisted analysis of the impact of location on residential property value in selected neighborhoods of Nairobi, Kenya. The results showed that multiple regression analysis and geostatistical analysis are
viable computer-assisted valuation techniques that can easily incorporate the factor of location into property appraisal and produce values that compare well with those generated by professional valuers using traditional approaches, but in a small fraction of the time. The selected neighborhoods where the study was conducted are Buruburu, Karen and Westlands. This study has shown the impact of location in the modeling of real estate property values to be significant. The results show three factors; distance to CBD, area of parcel, and distances to desirable amenities, stands out consistently as strong value determinants in all the three areas of Buruburu, Karen, and Westlands. These techniques clearly have the potential for assisting urban authorities in Kenya and similar countries to set up and update valuation roles much faster.

Olszewski (2012) reviews the impact of commercial real estate (CRE hereafter) on macro-financial stability and gives some ideas, how central banks could deal with the risk by presenting the main features of the CRE market, explain its cycle and outline risks related to this market. Its relation to the financial sector is discussed.

Xiaoqin (2012), working paper was conducted using quarterly data from 1998:Q1 to 2009:Q4 and monthly data from July 2005 to February 2010, this paper examines the impact of key monetary policy variables, including long-term benchmark bank loan rate, money supply growth, and mortgage credit policy indicator, on the real estate price growth dynamics in China. Empirical results consistently demonstrate that expansionary monetary policy tends to accelerate the subsequent home price growth, while restrictive monetary policy tends to decelerate the subsequent home price growth. These results suggest that Chinese monetary policy actions are the key driving forces behind the change of real estate price growth in China. We also show that hot money flow does not have a significant impact on the change of home price growth after controlling for the money supply growth.

Further on, basing on the experience of some countries with CRE crises, by critically assess the reactions of their central banks. The characteristics of the CRE market are presented on the case of Poland, because it is a fast growing market. Its analysis should simplify the understanding why the CRE market should be tracked by the central bank. This shows the relationship between real estate and monetary policy and how it should and need for close monitoring.
Empirically, not much has been done on interest rates in Kenya. According to Muguchia (2012), in her study of the effect of flexible interest rates on the growth of mortgage finance in Kenya during the financial period 2007 to 2011. Through the regression analysis conducted the study found out that the flexible interest rates have a strong negative and significant effect on mortgage financing among the financial institutions in Kenya.

Ngumo (2013), studied the effect of interest rates on the financial performance of firms offering mortgages in Kenya for the period 2007 to 2011. Linear regression analysis was used to analyze the data at 95% confidence level. The study established positive relationships in the five regression analysis between financial performance and the amount of mortgage loans advanced; three positive results were established between interest rates and the former. The study concludes that the amount of mortgage advanced by mortgage firms would lead to a high financial performance (EBIT) as it raises the revenue thereof. On the other hand, interest rate would positively relate with financial performance till is starts discouraging borrowings owing to increase in the cost of mortgage. The study recommends that mortgage firms in Kenya charge interest rates on the mortgage appropriately as ineffective interest rate policy raises the cost of mortgage borrowing, negate its demand thus lowers financial performance.

Gaitho (2014), carried out an investigation on the causes of non-performing loans in Kenya. She found out that the main causes of NPL were the national economic downturn which lead to depression for business in general; reduced buying ability of consumers; insider lending; and owner concentration; inadequate procedures of credit risk assessment and credit management; misuse of loans; and legal delays.

According to Omengo (2012), High interest rates in Kenya are hurting real estate investment. Interest is a cost to the developer of real estate as it is to the end buyer. Since October 2011 the Central Bank of Kenya (CBK) has increased the Central Bank Rate (CBR) from 7% to 18% in an effort to tame runaway inflation and stabilise the weakening shilling. Consequently commercial banks have increased their lending rates from low figures of 11% to about 25%.While the intervention by the CBK brought almost immediate relief to the economy, the effects of high interest rates on real estate is yet to be felt. Real estate market is an imperfect market. Any change in real estate market is felt several months later. This can be explained by the process and time it takes to deliver real
estate. High interest rates in Kenya mean that ongoing projects will cost more when finally delivered. This will be due to higher costs of material, labour and most importantly

2.4.1 Effect of Interest Volatility on Mortgage Market

Studies carried out in 2012 by Kassam (2012) have showed that 4.6% of loans ended up as non performing advances. This was expected to be higher considering the fact that the interest rates have been constantly increasing, however this was not the case. Increase in interest rates can cause alot of difficulties to borrowers since an increase in interest rates increases the mortgage cost which makes the mortgage repayment unaffordable (Pettinger, 2011). According to Nzuve (2012) this fluctuations in the interest rate have caused house prices fluctuations which in turn have caused the economy to distibilize.

According to Elliehausen and Hwang (2010) if the house prices appreciate borrower’s selection among different fixed and adjustable rates, with higly fluctuating rates the borrower preffer adjustable rates. It has also been established that the pricing terms of loans determine to a significant extent the mortgage choices that borrowers make (Krainer, 2010).

In their study Coulibaly and Li (2009) also found out that interest rates on the fixed rate mortgages (FRMs) influenced the borrowers to go for adjustable rate mortgages (ARMs). This was because with interest rates uncertainty with higher expected future short term interest rates the buyers will preffer ARM as opposed to FRM kind of financing while with expected lower future short term interest rates the borrowers will preffer FRM as opposed to ARM (Elliehausenet al., 2010).

2.5 Chapter Summary

This chapter reviewed literature based on the three research question of the study, as well as analysis of views of scholars on effect of interest rates on mortgage uptake. The chapter presented literature review on determinants of mortgage uptake. The chapter is organized as follows. First how the level of household income affects mortgage uptake, how employment status affects mortgage uptake and how interest rate affects mortgage uptake. The next chapter presents the research methodology used in the study.
CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodology that was used to carry out the study. The chapter considered in detail the methods that were used to collect primary and secondary data required in the study. This chapter discussed the research design, target population, data collection and sample. I have also discussed how this data was analyzed giving details of models and statistical tools that were used in the analysis with reasons as to why these particular models and statistical tools were selected.

3.2 Research Design

Research design is an overall framework for investigation and logical model of proof that guides the investigator in the various stages of research (Kothari, 2005). A descriptive survey research design was used in this research. According to Cooper and Schindler (2011), if the research is concerned with finding out who, what, where, when, or how much, then the study is descriptive. A descriptive survey is primarily concerned with addressing the particular characteristics of a specific population of subjects, either at a fixed point in time or at varying times for comparative purposes.

Saunders, Lewis and Thornhill (2003), submit that surveys are one of the most utilized methods in business research since for they allow the collection of large amount of data from a sizeable population in a highly economic way while describing the status quo. The survey method is therefore justified for this research as it contains the most advantageous traits given the large sample size and short time span for administration. Some of the traits include; flexibility of data collection, range of questions, sample management, control of the data collection environment, number of data, response rate, rate and expenditure.
3.3 Population and Sampling

3.3.1 Population

According to Ngechu (2004), a population is a well-defined set of people, services, elements, and events, group of things or households that are being investigated. This definition ensures that population of interest is homogeneous. Cooper and Schindler (2011) have defined population as the total collection of elements about which some inferences can be made. The population of this study comprises of hundred and fifty individuals both employed and unemployed who have experience in mortgage industry in Kenya.

3.3.2 Sampling Design

3.3.2.1 Sampling Frame

According to Lewis, et al., (2003), a sampling frame is a list of the elements from which the sample is actually drawn, and is closely related to the population. However, this list maybe incomplete or inaccurate, with the result that some members of the population may not have their due chance of being selected for the sample. The sampling frame used in this research consisted of complete and correct list of population members only. The Sampling Frame used was the list of individuals who have taken up real estate mortgages in Nairobi County in the last 2 years.

3.3.2.2 Sampling Technique

According to Cooper and Schindler, (2011) sampling is the process of selecting some elements from a population to represent the population as a whole. In this study simple random sampling technique was used. The sampling technique used ensures that the parameters of interest are taken into consideration, the sampling frame, and type of sample, cost and also the size of sample needed. The criterion for being selected was prior experience in mortgage industry in Kenya.
3.3.2.3 Sample Size

A sample size is the number of individual or cases that were studied (Cramer and Howitt, 2004). The computation of the sample size for this survey study adapted a formula advanced by (Coopers and Schindler, 2000).

\[ x = \frac{Y}{1 + Y(e)^2} \quad \text{and} \quad x = \frac{51}{1 + 51(0.05)^2} = 45 \]

Where \( x \) is the sample size, \( Y \) is the population and \( e \) is the error. The assumed confidence interval is 95% making the allowable error 5%.

Table 3.1 Sample Size

<table>
<thead>
<tr>
<th>Population</th>
<th>Sample size</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed people</td>
<td>80</td>
<td>40</td>
</tr>
<tr>
<td>Self employed</td>
<td>70</td>
<td>35</td>
</tr>
<tr>
<td>150</td>
<td>75</td>
<td>100%</td>
</tr>
</tbody>
</table>

3.4 Data Collection Methods

The primary data was collected through the use of a structured questionnaire, which were developed and organized on the basis of the research questions. It contained both open and closed ended questions. The questionnaires were self-administered. Secondary data collected comprised of banks interest rates that were obtained by data collecting guide.

3.5 Research Procedures

The research was based on the research questions to develop a questionnaire after which it was presented to five respondents. This sought to ensure that the content was clear and easily translatable. After the pretesting the necessary modifications were made taking into consideration any omissions’ or suggested additions. This was to ensure that the questionnaires designed by the researcher based on the research questions were pretested to ascertain the suitability of the tool before the actual administration. Initial analyses were done based on the pilot questionnaire to determine the validity and accuracy of the research.
### 3.6 Data Analysis Technique

Data analysis is the process of inspecting, transforming and modeling data with the goal of getting useful information that is important for decision making process (Ader and MellenBergh 2008). Data collected was edited for completeness and visibility then a code book was developed to summarize the data. The data was then entered to the computer for analysis using Statistical Package for Social Sciences (SPSS). The summarized data was analyzed using quantitative and qualitative techniques; quantitative techniques used were descriptive statistics, which includes mean, frequency, percentages and standard deviations. The study also used simple linear regression technique. Linear regression was used to establish the relationship between household income, interest rates, and employment status on mortgage uptake.

Linear regression formula used is as follows:

\[ Y_s = \beta_0 + B_{1X1} + B_{2X2} + B_{3X3}, \]

Where,

- \( Y_s \) = Mortgage Uptake
- \( \beta_0 \) = constant (coefficient of intercept), \( B_1 \ldots B_3 \) = regression coefficient of three variables
- \( X_1 \) = Household Income
- \( X_2 \) = Employment Status
- \( X_3 \) = Interest rates

### 3.7 Chapter Summary

This chapter provided research methodology of carrying out the study. It provided details of the target population, how a sample was obtained. Moreover it provided details of instrument used to collect data and the research procedures undertaken. Finally it provided details on data analysis.
CHAPTER FOUR

4.0 RESULTS AND FINDINGS

4.1 Introduction

Chapter four presents a summary of findings with regards to the three objectives of the study. The first part of the chapter presents the background information of the respondents. This is followed by findings on the how household income affects mortgage uptake, how employment status influences mortgage uptake and finally part how interest rates affect mortgage uptake.

4.2 Background Information

This subsection presents background information that is relevant to the respondents involved in the study. This includes gender of the respondents, level of education, employment status and number of years in the industry.

4.2.1 Gender of the Respondents

Table 4.1 presents findings with regards to the respondents’ gender. The data shows that sixty eight percent of the respondents were male while the remaining thirty two percent were female. The data sought to examine whether gender bias affects mortgage uptake in Kenya and it was found that gender bias does not affect mortgage uptake.

Table 4.1: Gender of the Respondents

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>34</td>
<td>68.0</td>
</tr>
<tr>
<td>Female</td>
<td>16</td>
<td>32.0</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100.0</td>
</tr>
</tbody>
</table>

4.2.2 Employment Status

Table 4.2 shows that the majority of the respondents (60 percent) were not in employment while the remaining forty percent were in self employment.
Table 4.2. Employment Status

<table>
<thead>
<tr>
<th>Employment Status</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed</td>
<td>30</td>
<td>60.0</td>
</tr>
<tr>
<td>Self Employed</td>
<td>20</td>
<td>40.0</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100.0</td>
</tr>
</tbody>
</table>

4.2.3 Position in the Organization

Table 4.3 shows that majority of the respondents were in the middle management (35 percent), followed by those in lower management (8 percent) and finally top managers were 7 percent. It is expected that are always few given that there are very limited positions for top management in any particular organization.

Table 4.3 Position in the Organization

<table>
<thead>
<tr>
<th>Position in the Organization</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top Management</td>
<td>7</td>
<td>14.0</td>
</tr>
<tr>
<td>Middle Management</td>
<td>35</td>
<td>70.0</td>
</tr>
<tr>
<td>Lower Management</td>
<td>8</td>
<td>16.0</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100.0</td>
</tr>
</tbody>
</table>

4.2.4 Number of Years in the Organization

Table 4.4 presents findings with regards to the number of years in their particular organizations.

As seen in the table 23 percent of the respondents have been in their organization between 1-5 years, followed by 20 percent who have been in their organization between 6-10 years, 11-15 years stood at 4 percent, 16-20 years at 2 percent and 21 years and above were only 1 percent. This findings imply that the more the number of years the more likely on is to have a mortgage.
Table 4.4: Number of Years in the Organization

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-5 Years</td>
<td>23</td>
<td>46.0</td>
</tr>
<tr>
<td>6-10 years</td>
<td>20</td>
<td>40.0</td>
</tr>
<tr>
<td>11-15 Years</td>
<td>4</td>
<td>8.0</td>
</tr>
<tr>
<td>16-20 Years</td>
<td>2</td>
<td>4.0</td>
</tr>
<tr>
<td>21-Years and Above</td>
<td>1</td>
<td>2.0</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100.0</td>
</tr>
</tbody>
</table>

4.2.5 Education Level

Table 4.5 reveals that majority of the respondents were degree holders, (54 percent), followed by those with Masters Degrees (20 percent), and then Doctorates (16 percent) and finally certificate holders at 10 percent. This findings imply that majority of the respondents have sufficient education qualifications to be able to make reasonable decisions when it comes to mortgage uptake.

Table 4.5: Education Level

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certificate</td>
<td>5</td>
<td>10.0</td>
</tr>
<tr>
<td>University</td>
<td>27</td>
<td>54.0</td>
</tr>
<tr>
<td>Masters</td>
<td>10</td>
<td>20.0</td>
</tr>
<tr>
<td>Doctorate</td>
<td>8</td>
<td>16.0</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100.0</td>
</tr>
</tbody>
</table>

4.3 Correlation Analysis

Table 4.6 presents a correlation analysis conducted on the variables under study. The table shows significant correlation between mortgage uptake and household income (.718), significant correlation between employment status and mortgage uptake (.844) and finally negative insignificant correlation between interest rates and mortgage uptake (-0.41).
Table 4.6: Correlations

<table>
<thead>
<tr>
<th></th>
<th>Household Income</th>
<th>Employment status</th>
<th>Interest Rates</th>
<th>Mortgage Uptake</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household Income</td>
<td>Pearson Correlation</td>
<td>1</td>
<td>.240</td>
<td>-.208</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.093</td>
<td>.147</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Employment status</td>
<td>Pearson Correlation</td>
<td>.240</td>
<td>1</td>
<td>.101</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.093</td>
<td>.485</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Interest Rates</td>
<td>Pearson Correlation</td>
<td>-.208</td>
<td>.101</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.007</td>
<td>.485</td>
<td>.003</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Mortgage Uptake</td>
<td>Pearson Correlation</td>
<td>.718**</td>
<td>.848**</td>
<td>-.041</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.777</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
</tbody>
</table>

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

4.4 Effect of Household Income on Mortgage Uptake in Kenya

The first objective of the study was to examine the effect of household income on mortgage uptake in Kenya. The following subsection provides analysis of findings with regards to how the respondents perceived this element. As seen in the table 4.7 below it is evident that 77 percent of the respondents agree that indeed low income has contributed significantly to low mortgage uptake. Similarly 70 percent of the respondents agree that higher income earners are preferred to get mortgage than low income earners in Kenya. It was also revealed that 80 percent of the respondents agreed that it is cheaper to get a mortgage if you have a stable income earner, while 80 percent of the respondents agreed that indeed the unexpected changes in mortgage price has made it difficult for low income earners to afford houses. It was further revealed that 85 percent of the respondents agreed that many financial institutions are not willing to give mortgage to low income people in Kenya while 84 percent of the respondents agreed that individuals with volatile income tend to default paying mortgages than those with a stable income. The study further revealed that 72 percent of the respondents agreed that not every middle income person can afford to take mortgage in Kenya while 78 percent of the respondents agreed that high level of poverty rate in Kenya has contributed significantly to low growth in real estate in Kenya and finally 72 percent of the respondents agreed that low income earners avoid taking mortgages due to anticipate future loss to their assets.
Table 4.7: Effect of Household Income on Mortgage Uptake in Kenya

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Uncertain</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low income has contributed significantly to low mortgage uptake</td>
<td>42.0</td>
<td>35.0</td>
<td>3.0</td>
<td>13.0</td>
<td>7.0</td>
<td>4.18</td>
</tr>
<tr>
<td>If you have a high income level it is easier to get mortgage than if low income earner in Kenya.</td>
<td>46.0</td>
<td>24.0</td>
<td>6.7</td>
<td>23.0</td>
<td>7.0</td>
<td>4.06</td>
</tr>
<tr>
<td>Is it cheaper to get a mortgage if you have a stable income</td>
<td>35.0</td>
<td>45.0</td>
<td>5.0</td>
<td>10.0</td>
<td>5.0</td>
<td>4.01</td>
</tr>
<tr>
<td>Unexpected changes in mortgage price has made it difficult for low income earners to afford houses</td>
<td>45.0</td>
<td>35.0</td>
<td>7.0</td>
<td>5.0</td>
<td>1.0</td>
<td>4.07</td>
</tr>
<tr>
<td>Many financial institutions are not willing to give mortgage to low income people in Kenya</td>
<td>50.0</td>
<td>35.0</td>
<td>4.0</td>
<td>10.0</td>
<td>1.0</td>
<td>4.13</td>
</tr>
<tr>
<td>Individuals with volatile income tend to default paying mortgages than those with a stable income</td>
<td>50.0</td>
<td>34.0</td>
<td>7.0</td>
<td>6.0</td>
<td>3.0</td>
<td>4.25</td>
</tr>
<tr>
<td>Not every middle income person can afford to take mortgage in Kenya</td>
<td>48.0</td>
<td>24.0</td>
<td>2.0</td>
<td>14.0</td>
<td>12.0</td>
<td>4.08</td>
</tr>
<tr>
<td>High level of poverty rate in Kenya has contributed significantly to low growth in real estate in Kenya</td>
<td>43.0</td>
<td>35.0</td>
<td>7.0</td>
<td>5.0</td>
<td>10.0</td>
<td>4.07</td>
</tr>
<tr>
<td>Low income earners avoid taking mortgages due to anticipate future loss to their assets</td>
<td>46.0</td>
<td>26.0</td>
<td>6.0</td>
<td>20.0</td>
<td>2.0</td>
<td>4.06</td>
</tr>
</tbody>
</table>

Table 4.8 further presents, regression analysis on the relationship between income of the household and mortgage uptake in Kenya. As seen in table 4.8 (a), the adjusted R squared value was .042 indicating that 42 percent of the variations in mortgage uptake in Kenya is influenced by household income.

Table 4.8 Household Income and Mortgage Uptake in Kenya

<table>
<thead>
<tr>
<th></th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>.718*</td>
<td>.650</td>
<td>.424</td>
<td>1.6542</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Income

Table 4.8 (b) shows a positive relationship between mortgage uptake and household income with the coefficient value of 0.524 and a t value of 6.054. When the calculated t
value is higher the critical t value at $\alpha=0.05$ then the findings indicate that mortgage uptake in Kenya is positively and significantly influenced by household income.

b)

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>13.564</td>
<td>3.935</td>
<td>3.447</td>
<td>.001</td>
</tr>
<tr>
<td>Household Income</td>
<td>.524</td>
<td>.092</td>
<td>.718</td>
<td>6.054</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Mortgage Uptake

4.5 Effect of Employment Status on Mortgage Uptake

The second objective of the study was to examine the effect of employment status on mortgage uptake in Kenya. The following subsection presents findings with regards to how employment status influence the uptake of mortgage in Kenya. As seen in the table 4.9, 76.7 percent of the respondents agree that employment status affect the level of mortgage uptake in Kenya, lack of employment has contributed to low mortgage uptake in Kenya (73.7 percent), with a permanent employment it is easier to get mortgage in Kenya (80 percent), it is cheaper for someone in formal employment to get a mortgage than informal employment (78.3 percent), unemployed people cannot access mortgage in Kenya (85 percent), majority of mortgage takers in Kenya are in permanent employment (72 percent), growth in economy and job market affect the growth of real estate in Kenya (90 percent), the financial providers consider employment status while giving mortgages in Kenya (87 percent), most people in the informal employment prefer building their own houses than taking a mortgage (93 percent) and finally 97 percent of the respondents agree that lack of proper government regulation has greatly contributed to poor mortgage uptake.
Table 4.9: Employment Status and Mortgage Uptake

<table>
<thead>
<tr>
<th>Employment Status</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Not Sure</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment status affect the level of mortgage uptake in Kenya</td>
<td>41.7 %</td>
<td>35.0  %</td>
<td>3.3 %</td>
<td>13.3 %</td>
<td>3.3 %</td>
<td>4.18</td>
</tr>
<tr>
<td>Lack of employment has contributed to low mortgage uptake in Kenya.</td>
<td>46.7 %</td>
<td>26.7  %</td>
<td>6.7 %</td>
<td>13.3 %</td>
<td>1.7 %</td>
<td>4.06</td>
</tr>
<tr>
<td>With a permanent employment it is easier to get mortgage in Kenya</td>
<td>35.0 %</td>
<td>45.0  %</td>
<td>5.0 %</td>
<td>10.0 %</td>
<td>0 %</td>
<td>4.01</td>
</tr>
<tr>
<td>It is cheaper for someone in formal employment to get a mortgage than informal employment.</td>
<td>43.3 %</td>
<td>35.0  %</td>
<td>6.7 %</td>
<td>5.0 %</td>
<td>1.7 %</td>
<td>4.07</td>
</tr>
<tr>
<td>Unemployed people cannot access mortgage in Kenya</td>
<td>50.0 %</td>
<td>35.0  %</td>
<td>3.3 %</td>
<td>10.0 %</td>
<td>1.7 %</td>
<td>4.13</td>
</tr>
<tr>
<td>Majority of mortgage takers in Kenya are in permanent employment</td>
<td>60.1 %</td>
<td>11.9  %</td>
<td>20.0 %</td>
<td>8.0 %</td>
<td>0 %</td>
<td>4.60</td>
</tr>
<tr>
<td>Growth in economy and job market affect the growth of real estate in Kenya</td>
<td>55.0 %</td>
<td>35.0  %</td>
<td>5.0 %</td>
<td>5.0 %</td>
<td>0 %</td>
<td>4.51</td>
</tr>
<tr>
<td>The financial providers consider employment status while giving mortgages in Kenya</td>
<td>72.0 %</td>
<td>15.0  %</td>
<td>3.0 %</td>
<td>5.0 %</td>
<td>5.0 %</td>
<td>5.61</td>
</tr>
<tr>
<td>Most people in the informal employment prefer building their own houses than taking a mortgage.</td>
<td>69.0 %</td>
<td>24.0  %</td>
<td>7.0 %</td>
<td>0 %</td>
<td>0 %</td>
<td>4.63</td>
</tr>
<tr>
<td>Lack of proper government regulation has greatly contributed to poor mortgage uptake</td>
<td>74.0 %</td>
<td>23.0  %</td>
<td>3.0 %</td>
<td>0 %</td>
<td>0 %</td>
<td>4.62</td>
</tr>
</tbody>
</table>

Table 4.10 presents regression results with regards to how employment status affect mortgage uptake in Kenya. As seen in table 4.10 (a), the adjusted R squared value was .714 indicating that 71 percent of the variations in mortgage uptake in Kenya is as a result of employment status.

Table 4.10: Employment Status and Mortgage Uptake
<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.848a</td>
<td>.720</td>
<td>.714</td>
<td>1.64023</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Employment status

(b)

Table 4.10 b) shows a positive relationship between mortgage uptake and the employment status, the coefficient value of 0.591 and a t value of 11.101. When the calculated t value is higher the critical t value at p=0.005 then the findings indicate that mortgage uptake in Kenya is positively and significantly influenced by employment income.

<table>
<thead>
<tr>
<th>Coefficientsa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Mortgage Uptake

4.6 Effect of Interest Rates on Mortgage Uptake in Kenya

The third and final objective of the study was to examine how interest rate affect mortgage uptake in Kenya. Table 4.11 regression results with regards to how interest rates affect mortgage uptake in Kenya. As seen in table 4.11 (a), the adjusted R squared value was .191 indicating that 19.1 percent of the variations in mortgage uptake in Kenya is as a result of interest rates.

Table 4.11: Interest Rates

(a)

<table>
<thead>
<tr>
<th>Model Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Interest Rates

Table 4.11 c) shows a negative relationship between mortgage uptake and the employment status, the coefficient value of -0.461 and a t value of -.285. When the
calculated t value is less than the critical t value at $\alpha=0.05$ then the findings indicate that mortgage uptake in Kenya is negative and insignificantly influenced by interest rates, so the higher the interest rates the lower the mortgage uptake.

(b)

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>43.616</td>
<td>7.162</td>
<td>6.090</td>
<td>.000</td>
</tr>
<tr>
<td>Interest Rates</td>
<td>-.461</td>
<td>.362</td>
<td>-.410</td>
<td>-.285</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Mortgage Uptake

The findings in table 4.12, reveal that indeed Interest rates provided by financial institution affect the mortgage takers (91 percent), interest rates fluctuations have a negative impact on the mortgage uptake (72 percent), many Kenyans consider putting up their own houses rather than taking a mortgage (90 percent), majority of Kenyans cannot afford to take a mortgage in the current set up (87 percent), lending rates of the mortgage providers should be closely monitored (93 percent), mortgage providers in this country are making supernormal profit (97 percent), financial institutions charges discourage borrowers from taking mortgages (90.3 percent), competition among the finance providers has contributed to mortgage uptake in the country (95 percent), through increase in competition the cost of borrowing has decreased (77 percent)
Table 4.12: Interest rates on Mortgage Uptake

<table>
<thead>
<tr>
<th>Interest Rates</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Not Sure</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest rates provided by financial institution affect the mortgage takers</td>
<td>70.1</td>
<td>20.9</td>
<td>5.0</td>
<td>2.0</td>
<td>2.0</td>
<td>3.68</td>
</tr>
<tr>
<td>Interest rates fluctuations have a positive impact on the mortgage uptake</td>
<td>60.1</td>
<td>11.9</td>
<td>20.0</td>
<td>8.0</td>
<td>0</td>
<td>3.60</td>
</tr>
<tr>
<td>Many Kenyans consider putting up their own houses rather than taking a mortgage</td>
<td>55.0</td>
<td>35.0</td>
<td>5.0</td>
<td>5.0</td>
<td>0</td>
<td>3.61</td>
</tr>
<tr>
<td>Majority of Kenyans cannot afford to take a mortgage in the current set up</td>
<td>72.0</td>
<td>15.0</td>
<td>3.0</td>
<td>5.0</td>
<td>5.0</td>
<td>3.61</td>
</tr>
<tr>
<td>Lending rates of the mortgage providers should be closely monitored</td>
<td>69.0</td>
<td>24.0</td>
<td>7.0</td>
<td>0</td>
<td>0</td>
<td>3.51</td>
</tr>
<tr>
<td>Mortgage providers in this country are making supernormal profit</td>
<td>74.0</td>
<td>23.0</td>
<td>3.0</td>
<td>0</td>
<td>0</td>
<td>3.50</td>
</tr>
<tr>
<td>Financial institutions charges discourage borrowers from taking mortgages.</td>
<td>67.0</td>
<td>23.3</td>
<td>1.7</td>
<td>1.3</td>
<td>7.0</td>
<td>4.08</td>
</tr>
<tr>
<td>Competition among the finance providers has contributed to mortgage uptake in the country</td>
<td>55.0</td>
<td>40.0</td>
<td>5.0</td>
<td>0</td>
<td>0</td>
<td>3.91</td>
</tr>
<tr>
<td>Through increase in competition the cost of borrowing has decreased</td>
<td>45.0</td>
<td>32.0</td>
<td>10.0</td>
<td>13.0</td>
<td>0</td>
<td>4.67</td>
</tr>
</tbody>
</table>
CHAPTER FIVE

5.0 DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter is made up of four sections; this includes the chapter summary, discussion, conclusions, and recommendations respectively. The first section provides a summary of the study, while section two presents a discussion of the major findings of the study. The third Section offers a discussion as well as the conclusions based on the specific objectives, and finally the last sub-section provides the recommendations for improvement which are indeed based on the specific objectives.

5.2 Summary

The purpose of the study was to better understand the determinants of mortgage uptake in Kenya. The study was guided by the following research questions: How does household income affect the mortgage uptake in Kenya? How does employment status affect mortgage uptake in Kenya? How do interest rates affect the mortgage uptake in Kenya?

The total population for this study comprised of 150 respondents. The study adopted a descriptive research design. This design was appropriate for this study because it necessitated collection, organization and summarizing data from a sample for conclusions. The data analysis involved measures of central tendency and frequencies. The data was presented by bar graphs, pie charts and frequency tables.

The study revealed that majority of the respondents agree that indeed low income has contributed significantly to low mortgage uptake, with high income level it is easier to get mortgage than if low income earner in Kenya, It is cheaper to get a mortgage if you have a stable income, unexpected changes in mortgage price has made it difficult for low income earners to afford houses, Many financial institutions are not willing to give mortgage to low income people in Kenya, individuals with volatile income tend to default paying mortgages than those with a stable income, not every middle income person can afford to take mortgage in Kenya, high level of poverty rate in Kenya has contributed significantly to low growth in real estate in Kenya and finally low income earners avoid taking mortgages due to anticipate future loss to their assets.
The study in particular revealed that there was a positive and significant relationship between mortgage uptake and the employment status, the coefficient value of 0.591 and at value of 11.101. The findings indicate that mortgage uptake is positively and significantly influenced by employment status.

Finally the study revealed a negative relationship between mortgage uptake and the employment status, the coefficient value of -0.461 and a t value of -0.285. When the calculated t value is lower than the critical t value at α=0.05 then the findings indicate that mortgage uptake in Kenya is negative and insignificantly influenced by interest. Similarly the findings revealed that indeed Interest rates provided by financial institution affect the mortgage takers, interest rates fluctuations have a positive impact on the mortgage uptake, many Kenyans consider putting up their own houses rather than taking a mortgage, majority of Kenyans cannot afford to take a mortgage in the current set up, lending rates of the mortgage providers should be closely monitored, mortgage providers in this country are making supernormal profit, financial institutions charges discourage borrowers from taking mortgages, competition among the finance providers has contributed to mortgage uptake in the country, through increase in competition the cost of borrowing has decreased.

5.3 Discussion

5.3.1 Household Income and Mortgage Uptake

The study revealed that household income has a positive and significant relationship on mortgage uptake. Majority of the respondents agree that indeed low income has contributed significantly to low mortgage uptake, with high income level it is easier to get mortgage than if low income earner in Kenya. It is cheaper to get a mortgage if you have a stable income, unexpected changes in mortgage price has made it difficult for low income earners to afford houses. Many financial institutions are not willing to give mortgage to low income people in Kenya, individuals with volatile income tend to default paying mortgages than those with a stable income, not every middle income person can afford to take mortgage in Kenya, high level of poverty rate in Kenya has contributed significantly to low growth in real estate in Kenya and finally low income earners avoid taking mortgages due to anticipate future loss to their assets.
The findings affirm that indeed the income level affects the ability to take up a mortgage facility (Kimani, 2011). Mortgage facilities are long term investments that consume a substantial amount of one’s income for a long time. The income levels also dictate the amount of money that one can qualify for in terms of mortgage facilities. Banks staff who are on contract basis such as the sales team and some operational staff don’t qualify for mortgage facilities due to their short engagement period with the bank. Contracts are either one or two year period renewable contracts dependent on the performance of the employee and the needs of the bank within that period. This time is not sufficient for contract based employees to take mortgage facilities (Mwangi, 2009). A variety of credit facilities are easily available at relatively cheaper and easy terms and conditions. Among those credit facilities include credit cards and personal unsecured loan of up to a million shillings. However, imprudent uptake and usage of these credit facilities may lead to unnecessary over borrowing/over commitment leading to inability to take up meaningful long term credit facilities such as mortgage facilities (Mwangi, 2009). Over stretching on one’s personal credit facilities may lead to situations where one is not able to meet their financial obligations leading to uptake of risky financial credit facilities such as shylock facilities. The high interest rates charged by the shylocks further create financial challenges for the bank staff sometimes leading to disciplinary cases (Kimani, 2011).

The findings also agree with Moyo (2014) that indeed affordable housing has been an issue to both the governments and low income earners. Milligan, Phibbs, Fagan & Gurran (2004) defined the terms affordable housing as housing that assists lower income households in obtaining and paying for appropriate hardships. The main components of affordability are income distribution, cost of construction, rent propensities and financial terms (Kamete, 2006). Bostic & Gabriel (2006) also found that there was an effect on the affordable housing mandate on mortgage market. It has also been established that low income housing projects are in areas where the land is of low cost (Hassanali, 2009). Lang, Takhtamanova & Furlong (2014) found out that loan pricing terms determined the households’ choice of mortgage. Lang et al (2014) also established that the margins between the fixed rate mortgages and adjustable rate mortgages were important in the choice that borrowers made. In his study Krainer (2010) also found out that the loan pricing terms were significant determinants of mortgage choices.
5.3.2 Employment Status and Mortgage Uptake

The study also revealed that there is a positive significant relationship between mortgage uptake and the employment status, the coefficient value of 0.591 and a t value of 11.101. When the calculated t-value is higher the critical t value at $\alpha=0.05$ then the findings indicate that mortgage uptake in Kenya status is positively and significantly influenced by employment status.

The findings agree with Foote, Gerardi, Gotte & Willen (2009) who in their study found that an increase in the unemployment rate by 1% raised the probability of default by 10-20% while a fall in housing prices raised the probability of default by half. This led to the conclusion that negative equity would predict default rates better than unemployment rate (Ashworth et al, 2010). According to Meen (2001) the risk of unemployment reduces the willingness of employed households to get mortgages and in turn reducing the housing prices. This theory affects those households that have volatile incomes since they cannot purchase houses due to the anticipation of future losses (Yao & Zhang, 2005).

The findings also agree with Ghent & Kudlyak (2011) who established that borrowers with negative equity may decide to cease mortgage repayment, not due to not affording to service the loan but because they believe they will gain financially by defaulting to service the mortgage. It was also found out that when there was a negative equity but at low level default would often occur when there was an extra income shock that would have been in the form of job loss (Foote et al, 2008). In their study Bhutta et al (2011) established that default rates increased for borrowers who experienced negative equity in severity. Through a study by carried out by Guiso et al (2010) found out that among other factors sever negative equity contributed significantly to default of mortgages. A comparison between the unemployment rate and negative equity also established that negative equity was most likely to cause default as compared to unemployment (Goodman et al, 2010).

Finally the findings affirm that Bostic & Gabriel (2006) were right when they argued that there was an effect on the affordable housing mandate on mortgage market. It has also been established that low income housing projects are in areas where the land is of low cost (Hassanali, 2009). Lang, Takhtamanova & Furlong (2014) found out that loan
pricing terms determined the households’ choice of mortgage. Lang et al (2014) also established that the margins between the fixed rate mortgages and adjustable rate mortgages were important in the choice that borrowers made. In his study Krainer (2010) also found out that the loan pricing terms were significant determinants of mortgage choices. Also the prices of houses have been known to rise with the raise in the determinants of the choice of mortgage financing (Lang, Takhtamanova & Furlong, 2014). Investor speculation is another important factor that causes an appreciation on the mortgage prices and therefore an increase in the prices of house (Shiller, 2013). The unprecedented change in the prices has made it difficult for the low income earners to be able to plan for housing and therefore low percentages of house owners (Shiller, 2007).

5.3.3 Interest Rates on Mortgage Uptake

Finally the study revealed a negative insignificant relationship between mortgage uptake and the interest rates, the coefficient value of -0.461 and a t value of -.285. When the calculated t value is lower than the critical t value at α=0.05 then the findings indicate that mortgage uptake in Kenya is negative and insignificantly influenced by interest rates. Similarly the findings revealed that indeed Interest rates provided by financial institution negatively affect the mortgage takers, interest rates fluctuations have a positive impact on the mortgage uptake, many Kenyans consider putting up their own houses rather than taking a mortgage, majority of Kenyans cannot afford to take a mortgage in the current set up, lending rates of the mortgage providers should be closely monitored, mortgage providers in this country are making supernormal profit, financial institutions charges discourage borrowers from taking mortgages, competition among the finance providers has contributed to mortgage uptake in the country, through increase in competition the cost of borrowing has decreased.

Finally the findings agree with a study by Coulibaly and Li (2009) that also also found out that interest rates on the fixed rate mortgages (FRMs) influenced the borrowers to go for adjustable rate mortgages (ARMs). This was because with interest rates uncertainty with higher expected future short term interest rates the buyers will preffer ARM as opposed to FRM kind of financing while with expected lower future short term interest rates the borrowers will preffer FRM as opposed to ARM (Elliehausen et al., 2010).
5.4 Conclusions

5.4.1 Household Income and Mortgage Uptake

The study concludes that indeed household income is an important determinant of mortgage uptake, with high income level it is easier to get mortgage than if low income earner in Kenya, It is cheaper to get a mortgage if you have a stable income, unexpected changes in mortgage price has made it difficult for low income earners to afford houses, Many financial institutions are not willing to give mortgage to low income people in Kenya, individuals with volatile income tend to default paying mortgages than those with a stable income, not every middle income person can afford to take mortgage in Kenya, high level of poverty rate in Kenya has contributed significantly to low growth in real estate in Kenya and finally low income earners avoid taking mortgages due to anticipate future loss to their assets.

5.4.2 Employment Status and Mortgage Uptake

The study concludes that there was a positive significant relationship between mortgage uptake and the employment status. This is a clear indication that employment status matters and influences mortgage uptake in Kenya. These factors include: Employment Status, lack of employment, nature of employment i.e Permanent or casual, income from employment and volatile income.

5.4.3 Interest Rates and Mortgage Uptake

Finally the study concludes that there is a negative insignificant relationship between mortgage uptake and the interest rates. These results shows that interest rate is not an important determinant of mortgage uptake in Kenya, interest rates fluctuations have a positive impact on the mortgage uptake, many Kenyans consider putting up their own houses rather than taking a mortgage, majority of Kenyans cannot afford to take a mortgage in the current set up, lending rates of the mortgage providers should be closely monitored, mortgage providers in this country are making supernormal profit, financial institutions charges discourage borrowers from taking mortgages, competition among the finance providers has contributed to mortgage uptake in the country, through increase in competition the cost of borrowing has decreased.
5.5 Recommendations

5.5.1 Recommendations for Improvement

5.5.1.1 Household Income and Mortgage Uptake

The study recommends the need for real estate developers to ensure development of strategies to target low income households. The government should also focus on providing alternative housing solutions to low income earners. Some potential strategies include: firms to also provide low cost solutions to housing to ensure affordable houses to the majority poor in poor neighborhoods. The government should also provide incentives to investors who are willing to provide low income houses such as tax holidays and provision of land to reduce the cost of construction.

5.5.1.2 Employment Status and Mortgage Uptake

The study recommends the stakeholders to create more employment as this will increase the mortgage uptake in Kenya. Provision of equal employment opportunities will also increase the level of mortgage uptake. Reduction of gender based discrimination will also contribute positively towards mortgage uptake. The stakeholders should come up with better structured facilities that will address the needs of people with fluctuating income. The business community should be encouraged to take mortgages and use such facilities as collateral to access business loans.

5.5.1.3 Interest Rates Income and Mortgage Uptake

The study recommends that proper policies should be put in place to ensure the stability of interest rates. Though not very significant the study indicates that indeed there is a slight influence of interest rates on mortgage uptake and if properly addressed can lead to better housing solutions in Kenya. The provision of more integrated micro-credit sector can help expand access to an array of financial services (credit and insurance; saving facilities and payment instruments). This helps to finance small private firms at rates that do not cripple their operations.

5.5.2 Recommendations for Further Studies

Data on major variables deemed necessary for the study such as GDP, inflation rates, and interest rates and population growth as well as real estate were not readily available. In addition the period on which the study was conducted is relatively short to provide a good
data set for sound conclusions to be drawn from the study. Some of the areas for further research may include the following: The impact of the cost of finance on the real estate industry, the effect of the population growth on real estate development and the effect on demographic factors on mortgage uptake.
REFERENCES


**APPENDIX I: COVER LETTER**

**Kiguru Fredrick Ngigi**

United States International University- Africa (USIU-A)

P.O. Box 14634-00800

Nairobi

Date:…………………………..

**Dear Respondent,**

I am carrying out a study on the determinants of real estate mortgage uptake in Kenya. This study is in partial fulfillment of the requirement of the Degree of Masters in Business Administration (MBA) at the United States International University.

The study uses mortgage providers in Kenya as the case study from which you have been selected as one of the respondents; the result of this study will provide the stakeholders with key insight on effect of interest rate on real estate development in Kenya.

This is an academic research and confidentiality is strictly emphasized, and respondent will not identify themselves. The questioner will take approximately 5 to 7 minutes to complete. Kindly spare some time to complete the questionnaire attached.

Thank you in advance,
Yours sincerely,

Kiguru Fredrick Ngigi
APPENDIX II: QUESTIONNAIRE

Part A: Demographic Information

Kindly, fill all the questions either by ticking (✓) in the boxes or writing in the spaces provided.

1. Please indicate your gender.
   Male ( ) Female ( )

2. Please indicate your employment status
   Formal Employment ( ) informal employment ( )

3. Please indicate your position/level in the organization.
   Top Management ( ) Middle Management ( ) Lower Management ( )

4. How long have you been in this position?
   1-5 Years ( ) 6-10 Years ( ) 11-15 Years ( ) 16-20 Years ( ) 21 and above ( )

5. Please indicate your highest level of qualifications.
   Degree ( ) Post-graduate ( ) Other ( ) Indicate…………………………

6. Please indicate your income level
   Low ( ) middle ( ) high ( )
PART A: EFFECT HOUSEHOLD INCOME ON MORTGAGE UPTAKE IN KENYA.

In the table below, tick appropriately. Using a scale of 1-5 tick the appropriate answer from the alternatives, 1- **Strongly Agree** 2-Agree 3-Not Sure 4-Disagree 5- **Strongly Disagree**

<table>
<thead>
<tr>
<th>ESMU1</th>
<th>Has income level has a big influence on mortgage uptake in Kenya</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESMU 2</td>
<td>Low income has contributed significantly to low mortgage uptake</td>
</tr>
<tr>
<td>ESMU 3</td>
<td>If you have a high income level it is easier to get mortgage than if low income earner in Kenya.</td>
</tr>
<tr>
<td>ESMU 4</td>
<td>Is it cheaper to get a mortgage if you have a stable income.</td>
</tr>
<tr>
<td>ESMU 5</td>
<td>Unexpected changes in mortgage price has made it difficult for low income earners to afford houses</td>
</tr>
<tr>
<td>ESMU 6</td>
<td>Many financial institutions are not willing to give mortgage to low income people in Kenya</td>
</tr>
<tr>
<td>ESMU 7</td>
<td>Individuals with volatile income tend to default paying mortgages than those with a stable income</td>
</tr>
<tr>
<td>ESMU 8</td>
<td>Not every middle income person can afford to take mortgage in Kenya</td>
</tr>
<tr>
<td>ESMU 9</td>
<td>High level of poverty rate in Kenya has contributed significantly to low growth in real estate in Kenya</td>
</tr>
<tr>
<td>ESMU 10</td>
<td>Low income earners avoid taking mortgages due to anticipate future loss to their assets</td>
</tr>
</tbody>
</table>

Kindly state ways in which employment status in the country have affected mortgage uptake______________________________
______________________________________________________________
______________________________________________________________
**PART B: EFFECT OF EMPLOYMENT STATUS ON MORTGAGE UPTAKE IN KENYA**

In the table below, tick appropriately. Using a scale of 1-5 tick the appropriate answer from the alternatives, 1- **Strongly Agree** 2- **Agree** 3- **Not Sure** 4- **Disagree** 5- **Strongly Disagree**

<table>
<thead>
<tr>
<th>IRMU 1.</th>
<th>Does employment status affect the level of mortgage uptake in Kenya</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRMU 2.</td>
<td>Lack of employment has contributed to low mortgage uptake in Kenya.</td>
</tr>
<tr>
<td>IRMU 3.</td>
<td>If you have permanent employment it is easier to get mortgage in Kenya</td>
</tr>
<tr>
<td>IRMU 4.</td>
<td>It is cheaper for someone in formal employment to get a mortgage than informal employment.</td>
</tr>
<tr>
<td>IRMU 5.</td>
<td>Unemployed people cannot access mortgage in Kenya</td>
</tr>
<tr>
<td>IRMU 6.</td>
<td>Majority of mortgage takers in Kenya are in permanent employment</td>
</tr>
<tr>
<td>IRMU 7</td>
<td>Growth in economy and job market affect the growth of real estate in Kenya</td>
</tr>
<tr>
<td>IRMU 8</td>
<td>The financial providers consider employment status while giving mortgages in Kenya</td>
</tr>
<tr>
<td>IRMU 9</td>
<td>Most people in the informal employment prefer building their own houses than taking a mortgage.</td>
</tr>
<tr>
<td>IRMU 10</td>
<td>Lack of proper government regulation has greatly contributed to poor mortgage uptake</td>
</tr>
</tbody>
</table>

Please state any other factor that you believe affect the growth in real estate in Kenya

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

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# PART C: INTEREST RATE EFFECT ON MORTGAGE UPTAKE IN KENYA

In the table below, tick appropriately. Using a scale of 1-5 tick the appropriate answer from the alternatives, 1- **Strongly Agree** 2-**Agree** 3-**Not Sure** 4-**Disagree** 5- **Strongly Disagree**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>GREI 1</td>
<td>Do the interest rates provided by financial institution affect the mortgage takers?</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>GREI 2.</td>
<td>Interest rates fluctuations have a positive impact on the mortgage uptake</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>FAMU 3.</td>
<td>Many Kenyans consider putting up their own houses rather than taking a mortgage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FAMU 4.</td>
<td>Majority of Kenyans cannot afford to take a mortgage in the current set up</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>FAMU 5.</td>
<td>Lending rates of the mortgage providers should be closely monitored</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FAMU 6.</td>
<td>Mortgage providers in this country are making supernormal profit</td>
<td></td>
<td></td>
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<tr>
<td>FAMU 7.</td>
<td>Financial institutions charges discourage borrowers from taking mortgages.</td>
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<tr>
<td>FAMU 8</td>
<td>Competition among the finance providers has contributed to mortgage uptake in the country</td>
<td></td>
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</tr>
<tr>
<td>FAMU 9</td>
<td>Through increase in competition the cost of borrowing has decreased</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>FAMU 10</td>
<td>The mortgage market should be regulated and interest rates charged to borrowers monitored by an independent institution.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Kindly indicate how interest rates have affected mortgage uptake

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Thank you for Your Cooperation