EFFECT OF MORTGAGE FINANCING ON PERFORMANCE OF REAL ESTATE INDUSTRY IN NAIROBI, KENYA

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OCTOBER, 2013
DECLARATION

I, the undersigned, declare that this project is my original work and that it has not been presented in any other University or Institution for academic credit. I am entirely responsible for any errors or omissions in this report.

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DEDICATION

"Gold owes its value due to its scarcity". To my father Gregory Mackenzie, my mother Anne Kav induction and the entire family for their continuous support and encouragement throughout my studies. It is your drive and ambition that has brought me to the place I am today. God bless you.
ACKNOWLEDGEMENT

Am thankful to almighty God for life, strength and provision this far, may his name be glorified forever. I am extremely grateful to my supervisor, Mr. James Muturi, for his tireless guidance, corrections, approvals, insights and encouragement in this research project.

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I am indebted to, my Brother, Lish and Sister Esther for their endless support and instilling in me a life full of gratitude and hope. To those I am unable to mention but assisted me either directly or indirectly I say thank you all.
OPERATIONAL DEFINITION OF TERMS

**Interest rate**
rate at which interest is paid by borrowers for the use of money that they borrow from a lender. Specifically, the interest rate is a percent of principal paid a certain amount of times per period, usually quoted per annum.

**Mortgage**
a loan secured by the collateral of some specific real estate property that allow home buyers to spread out the cost of the home over several decades by making reasonable monthly payments. Mortgages vary widely in terms of their interest rates and overall cost.

**Property index**
an analytical tool for estimating changes in the rates of mortgage, defaults, prepayments and housing affordability.

**Real estate property**
any property that is attached directly to land, as well as the land itself.

**Monetary policy**
the actions of a central bank, currency board or other regulatory committee that determine the size and rate of growth of the money supply, which in turn affects interest rates.
<table>
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<tr>
<th>Abbreviation</th>
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<tr>
<td>CBK</td>
<td>Central Bank of Kenya</td>
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<tr>
<td>CPI</td>
<td>Consumer Price Index</td>
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<td>KNBS</td>
<td>Kenya National Bureau of Statistics</td>
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<td>LTV</td>
<td>Loan to Volume ratio</td>
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<td>PPI</td>
<td>Property Price Index</td>
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<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
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ABSTRACT

Mortgage financing has as profound an effect on the value of income-producing real estate as on any investment vehicle, as it influences an individual's ability to purchase residential or commercial properties. The current competitive Real estate business has forced financial institutions to scrutinize their mortgage lending variances because of the important role credit market plays in the overall performance of the industry. The aim of this paper was to study the effect of mortgage financing on the performance of Real estate industry in Kenya. The following aspects were the specific objectives of the study; to examine the effect of interest rate, loan terms, mortgage risks, and inflation on performance of Real estate industry in Kenya. The population of interest in this study comprised of 182 real estate firms in Nairobi licensed and registered in accordance with the Estate agents Act. The study used both primary and secondary sources of data from published and audited annual reports of investments for the population of interest, C.B.K, KNBS and property price index from property consultants. Primary data was obtained from questionnaires that were administered to Real estate firm managers through the drop and pick later method. Data analysis was done using SPSS (Statistical Package for Social Sciences) and summarized using descriptive statistics. The results of the analysis were presented in tables, percentages, graphs and charts. From the findings on the effect of mortgage financing on financial performance of the Real estate industry, the study found that mortgage financing had positive influence on financial performance of Real estate. The study further revealed that interest rate affected the Real estate performance to a great extent as mortgage prices are principally determined by real interest rates. Prompt authorization and approval process of mortgage loans improves on loan terms and therefore Real estate performance. From the findings on the extent to which inflation influences investment decisions, the study found that inflation negatively affected investment decisions to large extent. However, default risks brought about when the market value of the property falls below the market value of the mortgage, and non occupancy risks, limited the willingness to invest. The study thus recommends that the management develops better mitigation strategies such as mortgage insurance to improve performance.
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CHAPTER ONE

INTRODUCTION

1.1 Background of the study

The real estate market worldwide is increasingly dominated by institutional investors. This presents a challenge to private real estate investments because individual properties are not bought and sold on a regular basis like stocks and bonds (Fisher, 2005). Unlike the developed countries that use stocks and bonds, financing of real estate in Kenya is predominantly through mortgage financing.

Mortgage financing refers to a loan secured by collateral of some specified real estate property that the borrower is obliged to pay back with predetermined set of instalments. (Bienert & Brunauer, 2006). The loan is usually for the purchase or construction of housing estates by individuals or companies. Kenyans have realized that with the ever increasing rental costs, it would be more beneficial to take a mortgage and acquire property as one would be assured of invariable monthly payments due to fluctuations (Isagayita & Kiyingi, 2008). According to Pittman, (2008), obtaining a mortgage in today’s mortgage market is a complicated process as it involves many procedures like identifying the best service provider with the best interest rates. The real estate sector in Kenya has seen Property developers who have recently entered the market and have innovatively teamed up with a number of local and international banks present in Kenya to extend mortgage services to a number of Kenyans. By keeping the rental fees consistently high, it is obvious that property owners run the risk of affecting demand and alienating potential and existing tenants.

Most Kenyans take out mortgages to finance their homes so the interest charged on these mortgages represents the cost of their borrowing. If the cost of borrowing rises, then this deters potential buyers from the market, and vice versa. Duca, Muellbauer, & Murphy, (2008), argue that the interest rates charged by financiers are a reflection of the levels of inflation in the economy and other macro-economic factors in the economy. There are many factors that determine the mortgage rate financiers charge and no one bank can afford to price them out of the market because it is a competitive environment. According to a report done
by Hass Consult, banks are shying away from lending to real estate firms in effort to reduce their exposure to rising defaults especially in high end residential market.

Much academic and policy work has focused on the role of mortgage rates and other credit market conditions in great boom-bust cycle. One common explanation for the boom is that easily available credit, perhaps caused by a “global savings glut,” led to low real interest rates that substantially boosted housing demand and prices (Chen, Hao, & Turner, 2009). Others have suggested that the nature of housing supply provides another reason why interest rate effects need not be large, at least in some markets. If supply is highly elastic in the relatively short run, then house prices should be pinned down by fundamental production costs, as suggested by (Kelly, 2012). In that case, any demand shifter, whether interest rate-related or not, simply provokes sufficient new production to keep prices from rising above the level where developers can cover all production costs and earn a normal entrepreneurial profit.

Kennedy and McQuinn,(2011), argue that unlike other investments, real estate is dramatically affected by the condition of the immediate area where the property is located. - hence the well-known real-estate maxim, "location, location, location." With the exception of a national or global recession, real estate values are affected primarily by local factors such as the availability of jobs, crime rates, school quality and property taxes. Most purchases of residential real estate require the buyer to obtain a mortgage from a bank or other lending institution. The lending institution receives a security interest on the real estate, which means that if the borrower defaults in paying back the mortgage, the institution can obtain title to the property and resell it to pay off the mortgage debt administrative and processing charges.

The development of real estate industry is important for the overall development of a country. It contributes to employment, the development of commercial banking and ultimately to the development of capital markets. Most importantly, it increases the well-being of households by providing superior shelter and helping establish personal wealth which that can be leveraged for creation of more wealth.

In the last decade, Kenya’s real estate has been anything but robust. The real estate boom survived the 2008 Post Election Violence and global economic downturn that crippled other
sectors such as tourism and agriculture. The construction sector is approximated to have created 82,000 private sector jobs in 2010.

Contrary to expectations, reports from central bank of Kenya indicate that the high level of activities in the real estate property sector is at variance with the low level of borrowing to finance the sector. Since independence Kenya has slightly under 20000 mortgage accounts notwithstanding the fact that several banks offer mortgage lending. The booming real estate sector could be one of the key beneficiaries of the ongoing money laundering and other related activities in the country, especially given the mismatch between the mortgage uptake rate and the rate at which new properties are shooting up everywhere in the city. However Regent management reports argue that the high interest which keep fluctuating were to blame as most Kenyans prefer to borrow from Saccos and build their homes slowly or simply talk to a developer o pay 50 per cent deposit and agree on a more friendly way to settle the balance.

Although reduction in lending rates by commercial banks was expected to spur further growth of the property market and help support an upward movement of house prices, mortgage finance is still accessible to only a small majority of the Kenyan population a report by ventures Africa stated, quoting the 2010 World Bank research that found that only 11 per cent of Kenyans can afford an average mortgage loan (Sh6.6 million)

In the development of real estate, key things are necessary which include; defined property rights and the ability to transfer title of real estate; a legal system that supports the enforcement of contracts as well as support the ability of lenders to foreclose on defaulted loans and efficiently seize and resell collateral; and stable macroeconomic environment that is favourable to long term real estate development and subsequently mortgage market. The availability of liquidity facilities and credit risk management programs are very instrumental in development of real estate’s programs (Kelly & McQuinn, 2013).

1.1.1 Overview of Mortgage Financing

A mortgage is a debt with income producing property such as retail space, office, hotel or multifamily building as collateral (Xudong, 2008). Similar to the former, MC Donald & Thornton, (2008), define a mortgage as a particular type of loan for real estate. Furthermore, a mortgage can be both the instrument that pledges real estate as a security for an obligation and the process of pledging real estate as security (Hassanein & Barkouky, 2008). Unlike the
above scholars who define a mortgage in regards to real estate, Tuma, (2005) generally defines a mortgage as it occurs when owners pledge interest as security or collateral for a loan. This means that a mortgage can apply to any sort of property say a car, land or even a building. It is any encumbrance, charge, debenture or loan agreement, whether legal or equitable, that constitutes a charge over an estate or interest in Uganda and is registered under the Registration of Titles Act.

The mortgage market comprises of primary mortgage market and secondary mortgage market. Primary mortgage market is the market which involves origination and servicing of mortgage loans secured by real estate (Hassanein & Barkouky, 2008). Mortgage secondary market on the other hand allows mortgage originators to sell mortgages that they do not wish to hold in their portfolio and allows ultimate investors to hold mortgages assets without becoming involved in the mortgage origination and servicing.

There are a number of different types of mortgages, but the most common are the fixed rate mortgages and the adjustable rate mortgages. Fixed rate mortgages are those where the creditor/investor assumes the interest risk while there is typically no prepayment penalty for the borrower (Yuying An, 2004); adjustable rate mortgages, hybrid mortgages or interest only mortgages. Fixed rate mortgages are advantageous because the monthly repayment is constant for the term of the mortgage and regardless of the behavior of the market interest rates, the interest rate paid by the borrower is the same for the life of the loan (MC Donald & Thornton, 2008). However, with adjustable rate mortgages, the interest rates are lower than on otherwise equivalent fixed rate mortgages.

1.1.2 Real Estate Market Analysis in Kenya

Real estate has been one of Kenya’s fastest growing sectors over the last decade, fuelled by a burgeoning middle class with higher disposable incomes. Returns on investments in the sector have easily outpaced those of equities and government securities. In 2012, the value of Nairobi’s prime real estate grew by 25% while at the Kenyan coast it went up by 20% outdoing other major cities like Miami (19.1%), London (12.1%), Moscow (9.8%), New York (3.1%), Shanghai (-3.4%) and Singapore (-4.7%).

According to a recent property survey by Hass Consult, property prices rose by 30 percent from 2006 to 2011, Mortgage financier Housing Finance which plans to expand operations to
other East African countries, says real estate growth in Kenya is favoured by one major thing: higher returns at a minimum cost. Industry reports indicate that, better government regulation and proper investment vehicles enhanced by availability of capital are some of the factors that put Kenya ahead of the rest in terms of property investment. Kenya besides having a stable economy offers investors higher returns due to high demand of housing.

Other property reports indicate that the country derives its housing edge on cost effectiveness and quick returns to the investors in the sector. Compared to Uganda, Muzungu adds, Kenya's democratic space attracts more investors unlike Uganda's investment which is under the mercy of the president. With now 38 per cent of the new housing coming to market reachable for mortgage buyers, and mortgage offerings having ballooned in recent years, the mortgage market offers the chance of home ownership to tens of thousands of Kenyans,” said Carole Kariuki, Managing Director of The Mortgage Company. “But potential buyers have been hampered by scant information.

The cost of mortgage loans is out of reach for the majority of middle-class Kenyans and compares poorly with peer countries in Africa, a new report by the Centre for Affordable Housing Finance in Africa (CAHF) has showed. The Africa Housing Finance Yearbook 2012 by CAHF, a non-governmental organisation, says that owning a house is still a pipe dream for a majority of middle class Kenyans. Only about 11 per cent of Kenyans earn enough to support a mortgage. This means that most middle-income earners cannot afford an average mortgage necessary to buy an entry-level house,” says the report. Kenya has about 16,000 mortgage loans which is a drop in the ocean compared to the population and size of the economy. The mortgage market in Kenya is largely untapped. We see this as a growth area,” says Faida Investment Bank’s report. Over the last ten years, the government has spearheaded a wide range of measures aimed at promoting the growth in housing sector. These measures include the review and formulation of housing sector policies, legislative interventions and investment in infrastructure development.

The middle and lower income segments of the market are very much pegged to the interest rates. Developers in those markets have to borrow, meaning activities slow down when interest rates go up. In the upper market, the off-plan model allows developers to use the buyers’ money to build, thus developers find it easier in that market. The margins in the lower and middle income segments are also tight. Developers therefore have to be creative to
make profits. They have to look for cheap credit and cheap land that requires as little as possible additional infrastructural expenses. These segments, however, have big volumes and potential for a lot of profits. Vision 2030 estimates 200,000 units are required yet only 35,000 are produced. Demand of low income residential housing in Nairobi outstrips the supply as prices of housing & prime land have skyrocketed

1.1.2 Mortgage Financing and performance of Real estate
According to Loic and Lea, 2007, Mortgage finance improves the operation of the housing market and the economy in a number of ways, both directly by facilitating transactions and indirectly by improving the environment in which transactions take place. Mortgages can provide good collateral. Mortgages are usually the lowest-cost way for households to finance general borrowing for consumption, non-housing investment, or business formation. Housing investors (e.g., for rental housing) use leverage to increase the returns on investment, as well as to expand and diversify their investment opportunities.

Mortgage financing has a stronger effect on consumption expenditures than do other forms of savings (Krainer & Laderman, 2011). The mortgage finance sector creates employment directly and indirectly particularly to the construction industry and indirectly to other sectors. House-price increases can lead to stronger increases in consumer demand than do rising stock markets, with the result that housing market trends may be more closely related to overall macroeconomic cycles. As mortgage markets deepen, there are greater opportunities for households to access this wealth. In particular, the ability to refinance allows families to spend the capital gains realized on rapid house-price increases. Furthermore, Mortgage finance makes it possible for people to acquire affordable housing as they have the option to own their homes and pay for them in affordable installments over time (Kibirige, 2006).

Countries that have experienced greater liberalization of mortgage markets have also suffered the greatest price volatility. Booms in the price of housing assets in each of these countries coincided with large expansions in mortgage loans. The rate that is relevant to housing demand is the long-term mortgage rate, which reflects expectations of future short-term rates over the period of homeownership. Mortgage rates significantly affects property-level costs and thus influences values as reflected in the work developed by (Sparks, & Ingpen, 2008)
1.2 Statement of the problem

Empirical studies done on the area of mortgage financing regarding their effect on real estate industry have not been conclusive on the nature of the relationship. Researchers have different perspectives and there has been a gap among findings. Previous researchers conducted many studies that were useful for investors, policy makers, home buyers and sellers. McGibany & Nourzad, (2004) reported that mortgage rate is one of the key components of property affordability and performance index, and the rise in mortgage rate decreases the index and vice versa. Debelle (2004) also indicated that most property investments are very sensitive to changes in interest rates, in the countries with variable mortgage rates like Sweden, because of their greater indebtedness in the past two decades. Similarly, Vries and Boelhouwer (2005) concluded that interest rates, mortgage risks and expected prices are determinants of property prices.

Previous research on the relationship between mortgage financing and real estate performance shows mixed findings. Some have suggested that mortgage financing has little effect on Real estate investment and prices. Joe Wong, Eddie Hui, & Seabrook (2003) found that lower mortgage rates were accompanied by higher house prices and lower investment during the inflation period. However; during deflationary period, lowering interest rate did not have impact on falling real housing prices. Contrary to this, McGibany & Nourzad (2004) found out that there was no short-term effect of mortgage financing on house price changes, but rather the relationship was found to be long-term. They also argue that empirical studies do not provide accurate enlightenment regarding the relationship between mortgage financing and performance of Real estate investment. In Kenya property reports indicate that mismatch between the mortgage uptake rate and the rate at which new properties are shooting up everywhere in the city.

This leads to revaluation of the link between housing markets and credit market conditions, to determine if there is compelling conceptual or empirical reasons to believe that changes in credit conditions can explain the past decade’s housing market experience in Kenya. For credit markets to be able to explain the large recent price movements, there must have been a substantial change in credit market conditions during the periods when housing prices were booming and busting, and credit markets must influence house prices.

House prices in the various European countries continued growing after 2005 even as real mortgage financing increased. In the US, house prices started to fall by early 2007, even as
house prices in these other countries were still rising. Clearly variances in mortgage financing lending cannot explain the most recent behavior of house prices. However, differences in economic growth must also have played a role. The above pieces of evidence, fail to show the nature of the relationship between interest rate, loan terms, mortgage risks and inflation and performance of Real estate industry. Since the importance of mortgage lending cannot be over-emphasized, this prompted the researcher’s interest to establish the relationship of mortgage financing with performance of Real estate industry in Nairobi Kenya.

1.3 Objectives of the study

1.3.1 General objective
The main purpose of this research paper was, to study the effect of mortgage financing on performance of Real estate industry in Kenya.

1.3.2 Specific objectives

i. To determine how the interest rate affects the performance of real estate industry in Nairobi, Kenya.

ii. To study the effect of loan terms on the performance of real estate industry in Nairobi, Kenya.

iii. To assess how mortgage risks influence the performance of real estate industry in Nairobi, Kenya.

iv. To investigate the effect of inflation on performance of real estate industry in Nairobi, Kenya.

1.4 Research questions
The study sought to answer the following research questions

i. How does the interest rate affect the performance of real estate industry in Nairobi, Kenya?

ii. What is the effect of loan terms on performance of real estate industry in Nairobi, Kenya?

iii. What influence do mortgage risks have on performance of real estate industry in Nairobi, Kenya?

iv. How does Inflation affect performance of real estate industry in Nairobi, Kenya?
1.5 Significance of the study
The findings of this study will be useful to the following:-

The Government: To have better information on some of the challenges facing real estate investors and provide the required incentives since the real estate investment is a high contributor to the economy.

Potential investors: It is anticipated that the data and study will trigger discussions amongst would be investors and stakeholders who in turn will come up with appropriate strategies of channelling financial aid to the real estate business in a manner that will ensure that the investors get due profits ultimately.

Central Bank: There is a controversy about the role played by the evolution of real interest rates in the formation of a bubble in the housing market in certain countries. It also provides additional evidence to assess whether it is appropriate to include the price of certain assets in the central bank's objective function.

The public: will benefit from the information on the real estate investment, an eye opener on the lucrative opportunities in real estate.

Scholars who are interested in further research in this field will be able to investigate any research gap in the study not researched or be under researched by the researcher in the course of providing the evidences supporting the research topic and research problems.

1.6 Scope of the study
The scope of this study was mainly confined to identifying the effects of mortgage financing on performance of Real Estate in Nairobi, Kenya. The study focused on registered Real estate investment firms in Nairobi where massive real estate development is being experienced.

1.7 Limitations of the study
Some firms hide information from students who desire such information in order to maintain the company’s secrecy thereby making it difficult for students to gather information for their research. However, this was be curbed through acquisition of letter of data collection from the university. Feedback was viewed as confidential information: The feedback especially from the Management was compromised due to the sensitivity of the subject which may be viewed as confidential information.
CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This Chapter outlines the various theories and opinions propagated by various writers and authors of corporate finance and financial management. It also outlines the various studies done in the discipline of mortgage financing by different scholars or researchers leading to the conceptual framework of the study.

2.2 Theoretical Framework

2.2.1 Simulation theory

The theory was developed by Laibson 1998; it examines the extent to which markets enable the provision of housing finance across a wide range of countries. Housing is a major purchase requiring long-term financing, and the factors that are associated with well-functioning housing finance systems are those that enable the provision of long-term finance. The theory further states that countries with stronger legal rights for borrowers and lenders (through collateral and bankruptcy laws), deeper credit information systems, and a more stable macroeconomic environment have deeper housing finance systems. These same factors also help explain the variation in housing finance across emerging market economies such as Kenya. Across developed countries, which tend to have low macroeconomic volatility and relatively extensive credit information systems, variation in the strength of legal rights helps explain the extent of housing finance. To a certain extent, a statistical comparison of the loan-to-value and loan-to-income ratios can provide a good indication of the risks that owner-occupiers run in financing their own home. At the same time, this kind of comparison ignores the causes of the risks, namely the volatility or uncertainty of future interest rates, house prices and changes in income (Adler & Lehmann, 2012). It also disregards the main mortgage characteristics, the cost of taking out a mortgage, and the direct and indirect subsidies, including interest deductibility, factors that have a big influence on the real costs and risks for homeowners.
2.2.2 The classical theory

This theory applies the classical theory of economics to determining interest rates, and compares the supply of savings with the demand for borrowing. Using supply and demand curves the equilibrium rate is calculated by determining the curves intersection point. Thus if savings are greater than investments the interest rate drops until they reach equilibrium and vice versa, if savings are less than investment the interest rate increases until the reward for savings encourages increased savings rates causing the market to again reach equilibrium (Krainer, 2009). However the classical theory of interest rates fails to account for factors besides supply and demand that may affect interest rates such as the creation of funds, the importance of income and wealth and changes in the primary borrowers in an economy.

2.2.3 Liquidity Preference theory

A second method of determining interest rates is the liquidity preference theory. Liquidity preference theory asserts that economic units have a preference for liquidity over investing. Applying this theory explains the premium offered in forward rates in comparison to expected future spot rates. This premium is used as payment for the use of scarce liquid resources. The preference for liquidity can be accounted for by the fact that economic units need to hold certain levels of liquid assets for purchase of goods and services and the fact that these near term future expenditures can be difficult to predict. Liquidity theory is limited by its short-term nature, the assumptions that income remains stable, and, like classical theory, only supply and demand for money are considered (Boehm & Schlottmann, 2007).

2.2.4 Loanable funds theory

Interest rates are determined by supply of loanable funds and demand for credit. In loanable funds theory the demand of loanable funds originates from domestic business, consumers, governments and foreign borrowers. While the supply is generated by domestic savings, dispersion of money balances money creation in the banking system and foreign lending (Kennedy & McQuinn, 2011). With these factors determining long-term interest rates, short term interest rates are decided by financial and monetary conditions in the economy. The many factors considered in loanable funds theory mean that equilibrium will be reached only when each of the factors is in equilibrium.
2.2.5 Structural-Form theory

This theory was formulated by Pottow in the year 2007. It documents the evolution of mortgage finance in SSA (Sub-Saharan Africa) to determine what steps need to be taken to extend it to the middle-class, to enable them to address their housing needs to the extent of their affordability. The theory revealed that there have been a number of problems when it came to the delivery of formal housing finance amongst most, if not all the countries, These problems are a record of macroeconomic instability, an adverse institutional, legal and regulatory environment which has resulted in inefficient, collateralization of housing assets, a poor record of public sector housing banks, building societies and other specialist housing lenders in that most have been destroyed due to poor management and a lack of funds and limited availability of long-term funding sources to carry out intermediation that would spread the cost of a house over a relatively long period of time (Levy-Yeyati & Sturzenegger, 2005).

Arising out of this dismal history is a move to revive and introduce mortgage lending into a number of countries. Moreover, as part of the move to straighten out financial markets, a number of consultants have been sent into SSA countries to begin documenting the specific problems of each country as well as to make recommendations on how to address them. Development agents, in particular, are also putting forth recommendations on what is required to ensure financial market development and capital market investment necessary to entice the private sector into the delivery of housing finance.

2.3 Empirical review

2.3.1 Interest rate and Performance

The Central Bank of Kenya, also known as the CBK, uses its power to change certain key interest rates as a way of controlling economic growth. When the CBK raises the prime rate, often to curb inflation and slow the growth of the economy, mortgage rates rise as a result. On the other hand, when the CBK slashes interest rates to stimulate growth, mortgage rates have a tendency to drop, making them more affordable to investors, thus increasing investment. “Interest rates are the single most critical factor in driving the mortgage market and access to more middle income housing, (Doms, Furlong, & Krainer, 2007)“ The high rates have had a major impact in the short term on both supply of new-build and uptake of
mortgages,” By influencing the interest rate structure that prevails in Kenya’s financial system, changes in monetary policy therefore affect the interest rates that prevail in the mortgage market. Lenders are able to blend funds and partly use their deposit bases, capital and other funding sources to achieve a lower cost of funds, but over the long term the net interest margin will have to reduce if financial access is to improve. (Levy-Yeyati & Sturzenegger, 2005)

If the cost of borrowing to fund the purchase of property rises, then this deters potential buyers from the market, and vice versa. Housing is very sensitive to interest rates indeed residential building is arguably the most interest rate sensitive sector of the Kenyan economy (Allen, Amano, Byrne, & Gregory, 2006). Interest rates are the most critical factor in driving the mortgage market and access to more middle income housing (Ngugi, 2001). Developers and buyers are struggling to meet financing costs occasioned by the high interest rates triggered by aggressive tightening of monetary policy to counter the weakening of the shilling and high inflation. The biggest impact of the high interest rates is in the middle income market where developers rely largely on mortgage financing from commercial banks. The impact (high interest rates) on real estate has fallen entirely on the supply side.

Government-issued bonds affect mortgage rates on another level. Investment firms use mortgages as an investment product, selling a stake in home mortgages (known as securities) to investors who will profit from homeowners paying interest each month. However, government bonds offer a similar long-term investment opportunity. Because bonds and mortgage securities compete for the same investors, the performance of the bond market can drive investors away from, or toward, the mortgage security market, changing how much money is available for mortgage lending and, indirectly, the rates that mortgage lenders charge.

2.3.2 Loan terms and Performance

According to MC Donald & Thornton, (2008) Mortgage repayment is the same as amortization which derives from the Middle English for “Kill”. It refers not to the borrower’s murder, but to “killing off” the mortgage by paying it down over time. Repayment schedule
is simply how the loan is to be repaid over a given period of time. The loan is repaid in fixed periodic payments usually monthly. The repayment period usually varies from country to country. For example in the USA; it could be between 15-30 years, (Scanlon & Whitehead, 2004) UK can be between 15-20 years. The mode of paying back the mortgage can be scheduled mortgage payment, prepaying through refinancing or resale, delinquency, and foreclosure (Liu et al, 1997). In Kenya one of the most important factors considered in appraising viability of a mortgage application is the capability of the borrower to repay their mortgage.

2.3.3 Mortgage risks and Performance

In mortgage financing, there are different customers from different backgrounds, and this exposes a lot of risk to both the borrower and the lender (Scanlon & Whitehead, 2004). The major risks include Credit risk (default risk) to the lender that the borrower will default on loan obligations and investment risk where the owner-occupier that the value of the home will fall, and with it the value of the owner-occupier’s equity (Lewis & Neave, 2008). J.Lea, 1990, defines default risk as that risk brought about when the market value of the property falls below the market value of the mortgage. Further there is Interest-rate risk to either party to a loan that the interest rate will move against them and finally prepayment risk to the lender that the borrower will repay a loan (particularly a fixed-rate loan) before the end of its term. In Kenya, real estate is also faced with the risk of unoccupancy (Agaba et al, 2009)

2.3.4 Inflation and Performance

Ramchander, Simpson and Webb (2003), show a significant relationship between inflation expectations and the level of real estate investment, in the U.S. Claessens & Laeven, (2004) show similar evidence for Germany. Moderate levels of interest rates are associated with a strong growth performance and steady inflation rates. The authors show how in these countries long-term rates are particularly sensitive to changes in long term inflation expectations that affect the willingness of investors to invest in the real estate sector.

High inflation reduces the value of money and thereby loss of purchasing power. This makes future prices less predictable. Sensible spending and saving plans are harder to make. People increasingly fear that their future purchasing power will decline and erode their standard of
living. Inflation causes a loss in the real value of savings, meaning that the savings can buy lesser goods and services than it would have bought before inflation. Individuals with fixed Businesses do not venture into long term productive investments as they are not sure whether the prices will continue rising or will drop at a future date. This causes misallocation of resources by encouraging speculative rather than productive investments.

Variation in expected real returns is caused by the variation in expected inflation. Equilibrium expected real returns vary directly with capital expenditures in order to induce equilibrium allocations of resources between consumption and investment. This positive relation between expected real returns and real activity combines with a negative relation between expected inflation and real activity, which is traced to the monetary sector, thus inducing the negative relation between expected inflation and expected real returns.

Businesses do not venture into long term productive investments as they are not sure whether the prices will continue rising or will drop at a future date. This causes misallocation of resources by encouraging speculative rather than productive investments.

2.3 5 Real Estate performance Measurement

Performance measurement enables stakeholders to hold organizations accountable and to introduce consequences for performance (Ross, Westerfield, Jafee, & Jordan, 2008). It helps citizens, customers judge the value that company creates for them, and it provides managers with the data they need to improve performance.

(Giovannini, 1995) asserts that the key to ensuring a profitable cash flow in real estate investment is predicated first and foremost upon buyers’ ability to select lucrative properties for purchase. Before making the decision to buy, he suggests gathering data from as many sources as possible, including current leases, recent property tax bills, recent utilities bills, and even pertinent sections of the seller’s tax returns. He also suggests doing some market
analysis by looking at comparable sales in the area, estimating operating costs in the neighborhood, and researching local capitalization rates.

**Loan-to-Value Ratio** calculation helps investors estimate the relationship between the amount of mortgage financing for a property and the property’s appraised value or selling price.

\[
(LTV) = \frac{\text{Loan Amount}}{\text{Lesser of Property’s Appraised Value or Actual Selling Price}}
\]

**Rate of return** is a measure of profitability; it measures the cash that a project will generate vs. the cash that you have to put into the project. The author asserts that the calculation used to estimate internal rate of return is one of the most widely credited estimates of cash flow in the real estate industry. It measures not only the amount worth of investment, but also the scale and impact of property value over time.

Rental income has been the most preferred measure by investors, (Kohnstamm, 1995)

Gallinelli offers the Profitability Index calculation as an alternate means of assessing investment return. It is closely related to Net Present Value, although it is expressed in a ratio format.

Thus, on review of the financial performance measures of Real Estate investment, LTV ratio ROR and number of projects and investment income will be considered as a general measure of real estate profitability.

### 2.4 Research Gaps

From the studies conducted, there is mixed evidence about the effect of mortgage financing on performance of Real estate investment. It is therefore, important for mortgage financiers, investors, the government and researchers to understand how mortgage financing affects the Real estate investment. Hence, the researcher’s main purpose in this proposal was to fill this significant gap by providing systematic analysis of the effect of mortgage financing on performance on Real estate in Kenya. To achieve this goal, the researcher analyzed the statements from selected Real estate firms and annual supervision reports from property consultants, Central Bank and KNBS.

Few researches have been conducted on the area of mortgage financing especially on real estate investment in Kenya and mostly have showed mixed findings on the nature of
relationship between interest rate, loan terms, mortgage risks, and inflation and the Real estate investment and thus this motivated the researcher to fill this gap in the literature.

The study also suggests that further detail investigation on house price dynamics is crucial for monetary policy.
2.5 Conceptual Framework

Conceptual framework is a schematic diagram of the independent variables and the dependent variables. The independent variables in this research were interest rate, loan terms, mortgage risks, and inflation. The dependent variable of the study was performance of Real estate property which was indicated by number of projects and return on investments.

![Conceptual Framework Diagram]

**Figure 2.1: Conceptual framework**, Source: (Author, 2013)
CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction
This chapter describes the procedure used to conduct the empirical research. This included how the data was collected, the determination of the sample to be used and how the information was analyzed, interpreted and presented.

3.2 Research Design
Research design is the ultimate blueprint for the collection, measurement and analysis of data (Kothari, Ramanna, & Skinner, 2010). The study used descriptive research design. Cooper & Schindler, 2006 describes this method to be a detailed description of events, situations and interactions between people and things. Secondary historical unbiased data available to the public was retrieved from the property indices, reports from KNBS and CBK, while primary data was collected through administering of questionnaires to the Real estate firms. The conclusion drawn was taken to be true for all the observations hence a generalization specific to the Real estate industry in Nairobi.

3.3 Target Population
Mbwesa (2006) defines population as an entire group of individuals, events or objects having common observable characteristics. The population of interest in this comprised of the 182 Real estate property firms that are licensed registered in Nairobi in accordance to the Estates Act.

3.4 Sampling Design
Purposive sampling technique was used in this study. A sample of top real estate firms in Nairobi with in-depth information on Real estate business were selected from the available real estate companies’ directory. The sample included six 32 Real estate firms, which have existed in the study period of 15 years from 1997 to 2012 since in the last 15 years. Out of these companies the managing directors were selected as the key respondents since they are best knowledgeable concerning the challenges that face the industry. They were issued with questionnaires which were filled and formed the basis of the data.
Table 3.1: Sampling frame

<table>
<thead>
<tr>
<th>Time Frame</th>
<th>Total</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997-2002</td>
<td>34</td>
<td>8</td>
</tr>
<tr>
<td>2002-2007</td>
<td>72</td>
<td>12</td>
</tr>
<tr>
<td>2007-2012</td>
<td>76</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>182</td>
<td>32</td>
</tr>
</tbody>
</table>

3.5 Data collection
The researcher used self-administered questionnaires for primary data through drop and pick method to Real estate managers. The study used secondary sources of data from published annual reports of accounts for the population of interest, C.B.K, KNBS.

3.6 Data analysis
The study used both qualitative and quantitative data. Qualitative data was analyzed using interpretive approach which includes sorting and coding raw data and use of Statistical Package for Social Sciences (SPSS). Quantitative data was analysed using regression technique as shown in the regression model below. A linear regression model was used to indicate the extent to which each independent variable affected Real estate investment in Kenya. The model is as below

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon \]

Where \( Y \) presents performance of firms the depended variable, \( \beta_0 \) is a constant term, \( X_1 \)-interstrate, \( X_2 \)-loan terms, \( X_3 \)-mortgage risks and \( X_4 \)-Inflation are the independent variables and \( \epsilon \) is the disturbance term.

3.7 Validity and Reliability
Validity aims at ascertaining the extent to which the research instruments collects the data intended. Reliability aims at ascertaining consistency of responses collected by the instruments. Questionnaires were designed and pre-tested before the actual survey was conducted to enhance their validity and reliability. Pre-testing also helped in ensuring that the right concepts were measured in addition to making the instruments more clear and focused. Pilot testing (test-retest) involves conducting a preliminary test of data collection tools and procedures to identify and eliminate problems, allowing programs to make corrective changes or adjustments before actually collecting data from the target population.
CHAPTER FOUR
DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction
This chapter entails analysis and findings of the study with the guidance of the research objectives. The results are mainly presented in the form of demographic information of the study respondents, analysis of descriptive statistics and regression results that test the relationship between Real estate performance and the independent factors affecting it.

4.1.1 Overview of analyzed data
The data was collected by use of questionnaires. The questionnaires were administered to the respondents during working hours and picked later. Drop and method was preferred for the exercise. Out of the 32 respondents targeted, only 24 responded. This represents a response rate of 75% which was significant to give reliable findings for this study. The findings are shown in the table 4.1

Table 4.1: Response Rate

<table>
<thead>
<tr>
<th>Non Respondent</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual respondents</td>
<td>24</td>
<td>75%</td>
</tr>
<tr>
<td>Target population</td>
<td>32</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: (Field data, 2013)

4.2 Demographics

4.2.1 Gender of the respondents
Findings indicate that majority (62.2%) of the respondents were females while males formed (37.8%) of the respondents as shown in the figure 4.1:
4.2.2 Education level of the employees

Majority of the employees (43.9%) had attained degree level education, 39.0% of the employees had diploma level of education, and 9.8% had attained certificate level of education, while 7.3% of the employees had post graduate level of education. The findings are shown in the figure 4.2:
4.2.3 Length of Time Worked in the Organization

As illustrated in figure 4.3, about 54 percent of the respondents have been in the firm for less than five years. This is followed by about 28 percent of employees who have worked between 5 and 10 years. This can explain why most of the staff are young, implying that most of them have been employed in the past few years. Only a total of about 20 percent of the employees have worked in the Real estate industry for more than 10 years with only about 3 percent having worked over 15 years.

Figure 4.3: Length of tenure in company
Source: (Field data, 2013)
Findings related to the Research Objectives

4.3 Effect of Interest rates on Real estate performance

4.3.1 Loan affordability

Findings showed that majority (40%) of the managers disagreed that banks interest rates in Kenya are affordable. 25% agreed that banks interest rates in Kenya are affordable, while 25% strongly disagreed that they are affordable. The findings are shown in the figure 4.4:

![Banks interest rates for mortgages in Kenya are affordable](image)

Figure 4.4: Loan affordability

Source: (Field data, 2013)

4.3.2 Interest rate

The managers were given statements on effect of interest on Real estate performance. Their response was measured in a scale of 1 to 5 where 1 represented strongly disagrees and 5 represented strongly agree. Table 4.2 shows the responses:
Table 4.2 Interest rates

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government taxes, planning, policies and regulations affect availability of investment funds</td>
<td>4.00</td>
<td>.324</td>
</tr>
<tr>
<td>constant mortgage interest rates are more preferred</td>
<td>4.20</td>
<td>.523</td>
</tr>
<tr>
<td>investors ask for more unit prices when interest rates go high</td>
<td>4.30</td>
<td>.733</td>
</tr>
<tr>
<td>high mortgage prices are associated with declining sales</td>
<td>4.45</td>
<td>.510</td>
</tr>
</tbody>
</table>

Source: (Field data, 2013)

From the findings, the managers agreed that availability of investment funds was affected by government taxes, planning policies and regulations (4.00 mean score), constant mortgage interest rates are more preferred to variable rates (4.20 mean score), unit prices are highly affected by changes in interest rates (4.30 mean score), and high mortgage prices are associated with declining sales (4.45 mean score).

4.3.3 Extent to which interest rate influences decisions on mortgage uptake

From the findings on the extent to which interest rate influences decisions on mortgage uptake, the study found that 70.3% of the respondent indicated to a very large extent, 20.8% of the respondent indicated to a large extent whereas 0.9% of the respondent indicated to a moderate extent, this is an indication that interest rate influences decisions on mortgage uptake to a very large extent.
Table 4.3: Extent to which interest rate influences decisions on mortgage uptake

<table>
<thead>
<tr>
<th>Extent</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very large extent</td>
<td>17</td>
<td>70.3</td>
</tr>
<tr>
<td>Large extent</td>
<td>5</td>
<td>20.8</td>
</tr>
<tr>
<td>Moderate extent</td>
<td>2</td>
<td>0.9</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: (Field data, 2013)

4.4 Effect of loan terms on Real estate performance

Findings indicated that majority of the managers reported that processing a mortgage is simple (3.30 mean score), authorisation and approval of mortgage loans are promptly done (3.85 mean score), monthly repayments are required (3.40 mean score), the employees disagreed repayment period favours customers (2.50 mean score), that adequate information while processing the loan as acquired (2.85 mean score) and further disagreed that disbursements always fit in the clients plans (2.75 mean score). The findings are shown in the table 4.4:

Table 4.4 Loan terms

<table>
<thead>
<tr>
<th>Loan terms</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>process of getting a mortgage in a bank is simple and short</td>
<td>3.30</td>
<td>.923</td>
</tr>
<tr>
<td>authorisation and approval of mortgage loans are promptly done</td>
<td>3.85</td>
<td>.933</td>
</tr>
<tr>
<td>banks require clients with mortgages to pay monthly repayments until</td>
<td>3.40</td>
<td>.754</td>
</tr>
<tr>
<td>loan is cleared</td>
<td></td>
<td></td>
</tr>
<tr>
<td>repayment period favours customers</td>
<td>2.50</td>
<td>.946</td>
</tr>
<tr>
<td>adequate information while processing the loan as acquired</td>
<td>2.85</td>
<td>.933</td>
</tr>
<tr>
<td>disbursements always fit in the clients plans</td>
<td>2.75</td>
<td>.851</td>
</tr>
</tbody>
</table>

Valid N (listwise)

Source: (Field data, 2013)
4.5 Effect of mortgage risks on Real estate performance

4.5.1 Duration of holding property before disposing
The findings show that majority (58.6%) of the managers dispose their property in 22-4 years, 17.1% of the managers dispose their property after more than 7 years, 16.2% managers dispose their property in less than 2 years, 8.1% managers dispose their property between 5-7 years. The findings are shown in the figure 4.6 below:

Figure 4.5: Duration of holding property

Source: (Field data, 2013)
4.5.2 Financial institutions

From the findings, the study found that 70.8% of the respondents agreed that Mortgage institutions alone provide enough credit for investment, while 29.2% disagreed. This was shown in Table 4.5

<table>
<thead>
<tr>
<th>Mortgage institutions alone provide enough credit for investment</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>17</td>
<td>70.8</td>
</tr>
<tr>
<td>Disagree</td>
<td>7</td>
<td>29.2</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: (Field data, 2013)

4.5.3 Mortgage risks

The findings lenders are reluctant to lend to new customers without a good credit history (4.10 mean score), majority of them reported that the risk of housing units not being occupied as a result of high rental fees deters investment (4.55 mean score), investments in superior locations are less risky in generating a future stream (4.50 mean score), managers preferred mortgages that amortize faster (3.85 mean score), Managers however disagreed that risk involved in real estate investment is minimal compared to other businesses in Kenya (2.50 mean score). The findings are shown in the table 4.6:
Table 4.6: Mortgage risks

<table>
<thead>
<tr>
<th>Risk Description</th>
<th>Mean</th>
<th>Std dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk involved in real estate investment is minimal compared to other businesses in Kenya</td>
<td>2.50</td>
<td>1.670</td>
</tr>
<tr>
<td>Lenders are reluctant to lend to new customers without a good credit history</td>
<td>4.10</td>
<td>.308</td>
</tr>
<tr>
<td>Risk of housing units not being occupied as a result of high rental fees detering investment</td>
<td>4.55</td>
<td>.510</td>
</tr>
<tr>
<td>Investments in superior locations are less risky in generating a future stream</td>
<td>4.50</td>
<td>.513</td>
</tr>
<tr>
<td>Mortgages that amortize faster are preferred</td>
<td>4.75</td>
<td>.444</td>
</tr>
</tbody>
</table>

Valid N (listwise)

Source: (Field data, 2013)

4.6 Effect of inflation on Real estate performance

4.6.1 Extent to which inflation influences investment decisions

From the findings on the extent to which inflation influences investment decisions, the study found that 48.6% of the respondent indicated to a very large extent, 32.4% of the respondent indicated to a large extent whereas 18.9% of the respondent indicated to a moderate extent, this is an indication that inflation influences investment decisions to a very large extent. This was indicated in table 4.7

Table 2: Extent to which inflation influences investment decisions

<table>
<thead>
<tr>
<th>Extent</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very large extent</td>
<td>12</td>
<td>48.6</td>
</tr>
<tr>
<td>Large extent</td>
<td>8</td>
<td>32.4</td>
</tr>
<tr>
<td>Moderate extent</td>
<td>4</td>
<td>18.9</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: (Field data, 2013)
4.6.2 Inflation aspects

The employees agreed that in times of economic instability less investments are made (4.45 mean score), long term inflation expectations affect the willingness to invest (4.30 mean score), property prices increase as cost of living increases (4.40 mean score), speculations on rise of price levels slows down investments (4.40 mean score), increasing investments costs deter real estate development (4.05 mean score), and ineffective management (3.24 mean score).

As indicated in the table 4.8:

Table 4.8: Inflation

<table>
<thead>
<tr>
<th>Inflation Aspect</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>in times of economic instability less investments are made</td>
<td>4.45</td>
<td>.510</td>
</tr>
<tr>
<td>long term inflation expectations affect the willingness to invest</td>
<td>4.30</td>
<td>.470</td>
</tr>
<tr>
<td>property prices increase as cost of living increases</td>
<td>4.40</td>
<td>.503</td>
</tr>
<tr>
<td>speculations on rise of price levels slows down investments</td>
<td>4.40</td>
<td>.503</td>
</tr>
<tr>
<td>increasing investments costs deter real estate development</td>
<td>4.05</td>
<td>1.146</td>
</tr>
</tbody>
</table>

Source: (Field data, 2013)

4.7 Performance/Growth

From the findings on the performance/growth of Real estate property, the study found that there was an increase in number of units constructed and disposed ranging between 39% to 68%. There was an increase in number of employees ranging between 16 to 52 employees between year 2009 and 2012. On the growth of number of clients between year 2009 and year 2011, the study found that the increase ranged between 75 to 300 clients, the study further revealed that increase in asset value of the firm ranged between 24% to 55% between year 2009 to year 2011. This shows that there was growth in the number of employees in the industry, there was increase in the number of clients, number of units disposed and increase in the asset value of the firm which is an indication on overall growth of Real estate industry in Kenya.
4.7.1 Income trend from investment

The findings show that majority (70.0%) of the managers reported a rising income trend from investment, 25.0% of the managers indicated stable income trend from investment, while 5.0% managers reported a declining income trend from investment. The findings are shown in the figure 4.6 below:

Figure 4.6: Income trend from investment

Source: (Field data, 2013)

4.8: Inferential statistics on various factors

The study used inferential statistics in trying to reach conclusions that extend beyond the immediate data alone. Inferential statistics was used to infer from the sample data what the population might think or to make judgments of the probability that an observed difference between groups is a dependable one or one that might have happened by chance in this study.
4.8.1 Regression Analysis

The researcher conducted regression analysis to determine the effects of interest rates, loan terms and mortgage risks as well as inflation on performance of real estate property in Nairobi, Kenya. The regression equation was: 

\[ \text{Performance} = a_0 + a_1 x_1 + a_2 x_2 + a_3 x_3 + a_4 x_4 + \varepsilon \]

Whereby \( a_0 \) is the regression constant, \( a_1 \ldots a_4 \) are regression coefficients, \( Y \) = performance of real estate industry in Nairobi, Kenya.

\[ x_1 = \text{Interest rates} \]
\[ x_2 = \text{Loan terms} \]
\[ x_3 = \text{mortgage risks} \]
\[ x_4 = \text{Inflation} \]

Whereas \( \varepsilon \) = Error term

### Table 4.9: Goodness of Fit Model

<table>
<thead>
<tr>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>.761(^a)</td>
<td>.632</td>
<td>.600</td>
<td>.321</td>
</tr>
</tbody>
</table>

\(^a\) Predictors: (Constant), Inflation, Mortgage risks, Interest rate, Loan Terms

Source: (Field data, 2013)

The findings showed a correlation value of 0.761 as this illustrates a linear relationship between the dependence and independent variables. An R-square value of 0.632 was established and adjusted to 0.600. This coefficient of determination shows that interest rates, loan terms, mortgage risks and inflation affects performance of real estate property at rate of 63.2\% the remaining 36.8\% of variations are brought about by factors not captured in the objectives.
4.8.2 Analysis of Variance

Analysis of Variance (ANOVA) was further carried out to test the significance of the regression model in relations to the differences in means of the dependent and independent variables.

Table 4.10: Analysis of Variance (ANOVA)

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>5.44</td>
<td>6</td>
<td>2.71</td>
<td>32.043</td>
<td>.000a</td>
</tr>
<tr>
<td>Residual</td>
<td>3.32</td>
<td>21</td>
<td>0.235</td>
<td>12.003</td>
<td>.002</td>
</tr>
<tr>
<td>Total</td>
<td>8.76</td>
<td>27</td>
<td>2.945</td>
<td>44.046</td>
<td></td>
</tr>
</tbody>
</table>

Source: (Field data, 2013)

a. Independent variable: interest rates, loan terms, mortgage risks and inflation
b. Dependent Variable: performance of real estate industry

The findings ANOVA test produced an f-value of 32.043 which was significant at p<0.001. This illustrates that the regression model is significant at 95% confidence level. That is, has less than 1% probability of misrepresentation.
Table 4.11: Regression Coefficients

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
</tr>
<tr>
<td>(Constant)</td>
<td>0.332</td>
<td>.460</td>
<td></td>
</tr>
<tr>
<td>Interest rates</td>
<td>-0.432</td>
<td>.123</td>
<td>-0.712</td>
</tr>
<tr>
<td>Loan terms</td>
<td>0.223</td>
<td>.058</td>
<td>0.415</td>
</tr>
<tr>
<td>Mortgage risks</td>
<td>-0.042</td>
<td>.077</td>
<td>-0.553</td>
</tr>
<tr>
<td>Inflation</td>
<td>-0.334</td>
<td>.033</td>
<td>-0.479</td>
</tr>
</tbody>
</table>

Source: (Field data, 2013)

The regression equation therefore becomes:

Real estate performance = 0.332 - 0.712X₁ + 0.415X₂ - 0.553X₃ - 0.479X₄ + e

p<0.001

From the above regression model, when aggregate independent variables assume null value; performance of real estate would be equal to 0.332. A drop in terms of interest rates would yield a 0.712 increase in real estate property performance. An improvement in loan terms would result to a 0.415 increase in real estate property performance; A reduction in mortgage risks would yield 0.553 increase in real estate property performance. While a reduction in inflation rate would also have a 0.479 increase on real estate property performance. Interest rate had the greatest effect on Real estate performance, followed by mortgage risk, then inflation of the fund while loan terms had the least effect on performance. All the variables were significant (p<0.001).
CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter discusses overall findings with the aim of answering the research questions. The chapter also presents the conclusions and recommendations from the current study based on the effects of mortgage financing on the performance of Real estate industry. The specific objectives of this study were to establish the effect of Interest rate, loan terms, mortgage risks and inflation on the performance of Real estate industry.

5.2 Summary of Findings

In regard to the effect of interest rates on performance of real estate industry, the findings indicated that over 70.8% of the managers’ decisions on mortgage uptake were affected by interest rates to a very large extent. 20.8% preferred making investments when interest rates are low. They argued that low interest rates imply a higher mortgage uptake to boost their estate development. This clearly indicates that there exists a strong relationship between interest rates and performance of Real estate.

The study established that concerning the effects of loan terms on Real estate performance, majority (65%) of the employees agreed that processing of loans is simple and authorisation and approval prompt. However, there was a general feeling that repayment period does not favour customers. Only 18.3% indicated that disbursements always fit in the clients plans.

In regard to the effect of mortgage risks on Real estate performance, 82% of the managers reported that they preferred mortgages that amortize faster are preferred. Majority agreed that investments in superior locations are less risky in generating a future stream, while a small percentage (17%) reported that risk involved in real estate investment is minimal compared to other businesses in Kenya.
On the effects of inflation on Real estate performance, majority (78%) of the managers agreed that long term inflation expectations affect the willingness to invest, and that speculations on price level changes affect investment.

5.3 Conclusion
The purpose of this study was to establish the effects of mortgage financing on the performance of Real estate industry.

The first objective was to ascertain the effect of interest rate on the performance of real estate industry. The findings revealed that access to mortgage financing was greatly influenced by interest rates and this was found to be significantly correlated to performance of real estate. Managers preferred investing when interest rates were relatively low as this influences availability of credit.

The second objective was to find out how loan terms affect the performance of real estate industry. Majority of the managers reported that promptness of the authorization and approval process of mortgage loans, appropriateness of the approval process, bank employee’s knowledge and competence to answer customer specific queries and requests greatly influenced access to mortgage financing and hence affected the performance of real estate.

The third objective was to determine how mortgage risks affect the performance of real estate industry. The various statements tested revealed that in regard to credit/default risks managers were adversely affected by strict measures of financial institutions that involve checking credit history. Majority agreed that Real estate business is highly risky in terms of non occupancy rate and this in turn affects performance of the industry.

In regard to the inflation, the findings indicated that few investments are made when inflation rates go up, and that speculations greatly affect performance of the industry. Majority argued that inflation greatly affects the willingness to acquire mortgage financing thus affecting performance.
5.4 Recommendations

On the basis of the findings of the study the following recommendations can be made:

The government through CBK should implement policies that reduce on the interest rates that financial institutions charge on mortgages. This would encourage more investments in the Real estate industry.

Banks that offer mortgages should ensure promptness of the authorization and approval process of mortgage loans and appropriateness of the approval process.

The study recommends that there is need for the management of financial institutions to mitigate default risk and for the Real estate firms to manage non occupancy risk.

The Government should ensure political stability which is one of the factors that affect inflation which greatly influences the real estate performance.

5.5 Suggestions for further research

A study can be designed to find out what factors to consider in determining duration of holding on to property. This will give an indication on the effects of duration of holding property on Real estate performance.

From the findings and conclusion, the study recommends and in-depth study to be carried out on the relationship between inflation and time duration of property development. This will help to allow more insight on the impact of inflation on Real estate performance.

It would be important to carry out a study with a bias to determining the relationship between country economic growth and Real estate performance. This will assist more knowledge on the strength of impact of economic growth and development on Real estate performance.

In order to better understand the aspects of mortgage pricing it would be interesting to carry out a study to determine the factors that determine mortgage pricing and their effect on Real estate performance.
REFERENCES


APPENDICES

Appendix 1: Cover letter

Ruth Mbula Mackenzie
Department of accounting and finance
School of Business, Kenyatta University
P.O BOX 43844-00100
Nairobi; Kenya
Email:mblmackenzie@gmail.com

Dear informants,

I am currently conducting a study on “effect of mortgage financing on performance of real estate industry in Nairobi Kenya”. The purpose of the study is to justify the effect of mortgage financing on performance of Real estate investment.

Participating in this survey is voluntary and the job of the participant will not be affected by filling the questionnaire or not filling it. The activity takes 20 minutes to complete. Additional information is encouraged to make the study more meaningful. All provided information will be treated with utmost confidentiality.

I appreciate your time and support in completing this study, a final copy will be availed upon request.

Yours faithfully,

Ruth Mbula (0727-386446)
Appendix 2: Questionnaire

Instructions: Please tick where appropriate (/)

Section A: Demographic information

1. What is the name of your firm? 

2. Gender
   Male () Female ()

3. Highest level of qualification achieved
   Diploma () Degree () Masters () PhD ()
   Others (Please specify) 

4. For how long have you been in the real estate business?
   1-5 years () 6-10 years () 11-15 years () 16-20 years ()
   Others (please Specify) 

Section B: Interest rate

5. Rank the following statements with the following labels

<table>
<thead>
<tr>
<th></th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Banks interest rates for mortgages in Kenya are affordable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Government taxes, planning policies and regulations affect availability of investment funds</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Banks interest rates that remain constant for the whole period of the mortgage are more preferred.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Investors ask for more prices for units when interest rates</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
go high.

10 High mortgage prices are associated with declining sales

11 Banks require clients with mortgages to pay monthly repayments until the loan is cleared.

SECTION C: LOAN TERMS

12. Rank the following statements with the following labels

<table>
<thead>
<tr>
<th>5 Strongly agree ()</th>
<th>4. Agree ( )</th>
<th>3. Neutral ( )</th>
<th>2. Disagree ( )</th>
<th>1. Strongly Disagree ( )</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 The process of getting a mortgage in a bank is simple and short</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 Anyone can qualify for a mortgage in a bank as long as you have collateral security</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 The repayment period given by the banks favors customers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16 Banks require clients with mortgages to pay monthly repayments until the loan is cleared</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17 Customers are satisfied with the way the bank handles their mortgage requests</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 Authorization and approval of mortgage loan are promptly done</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19 The disbursements always fit in the clients plans</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 Adequate information while processing the loan is acquired</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION D: MORTGAGE RISKS

21. How many financing institutions does your company borrow from?

.................................................................
22. Do mortgage institutions alone provide you with enough credit for development of your property?

Yes ☐ No ☐
23. Rank the following statements with the following labels


<table>
<thead>
<tr>
<th></th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 The risk involved in real estate investment is minimal compared to other businesses in Kenya</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 Lenders are reluctant to lend to new customers without a good credit history</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26 The risk of the house not being occupied as a result of high rent in Kenya deters investment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27 Investments in superior locations are less risky in generating a future stream</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28 Mortgages that amortize faster are preferred</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION E: INFLATION

29. For how long do you hold property before disposing it?

- 0-2 years [ ]
- 3-6 years [ ]
- Over 7 years [ ]

Rank the following statements with the following labels

5. Strongly agree ( ) 4. Agree ( ) 3. Neutral ( ) 2. Disagree ( ) 1. Strongly Disagree ( )

<table>
<thead>
<tr>
<th></th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 In times of economic instability lesser investments are made</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31 Long term inflation expectations affect the willingness to invest</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32 Property prices increase as cost of living increases</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33 Fewer buyers are in times when there is increase in purchasing power</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
34. Speculations on rise of price levels slows down investment

35. Increasing investment costs deter Real estate development.

Section F: Performance/Growth of Real Estate property

36. What is the income trend from investment?
   Rising ( )   Declining ( )   Stable ( )

<table>
<thead>
<tr>
<th>Performance/ Growth</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>37. What was the number of housing units constructed?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38. How many units were disposed?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>39. What was the number of clients in your firm?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40. What was the asset value for the firm?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>41. What was the number of employees?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42. Number of offices outside Nairobi</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>