THE EFFECT OF MORTGAGE FINANCE ON GROWTH OF REAL ESTATE FIRMS IN NAIROBI

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DECLARATION

This project has not been submitted to any other University for the purpose of examination.

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This research project has been submitted for examination with my approval as the University Supervisor.

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Faith without action is dead. It's through the Almighty God and Christ the Saviour I present thanks and gratitude to Him for enabling me to accomplish this project. Without his mercy and kindness for granting me a good health and sufficient energy, completing this project would be a tall ladder to climb.

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To you all, May God Shower His Blessings on You.

DEDICATION

To My Parents, My Sister Belinda and My Brother Wisdom.

LIST OF ABBREVIATIONS

CBK	Central Bank of Kenya
GDP	Gross Domestic Product
KNBS	Kenya National Bureau of Statistics
KBA	Kenya Bankers Association
NSE	Nairobi Securities Exchange
REITs	Real Estate Investment Trusts

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ABSTRACT

The Real Estate industry has increasingly attracted the attention of investors in the recent past. With such increase, it has been expected that the industry will significantly grow and thus fulfill its role in provision of substantive returns as well as the basic need of housing in Kenya. This has not been the case and thus this study sought to establish the effect of macro-economic variables on growth of real estate firms in Kenya given they are key in the growth of the industry. The study followed a descriptive research design. The study used secondary data on annual real estate investments growth as computed from the Hass Consult, KNBS and Central Bank of Kenya. The data sets covered the period between 2011 and 2016. The study established a strong positive relationship between the independent variables; Exchange Rate fluctuations, Growth in Diaspora Remittances, Growth in Money Supply, Inflations, and GDP Growth since R-Square was 93.17% respectively. Correlation analysis was undertaken to determine the degree of association between the study variables. The findings indicate a positive correlation between growth in Real estate investments and growth in mortgage financing as indicated by the positive correlation value of 0.04; positive correlation between growth in Real estate investments and growth in inflation rate as indicated by the positive correlation value of 0.39; positive correlation between growth in real estate investments and growth in money supply (M3) as indicated by the positive correlation value of 0.17; a weak negative correlation between growth in real estate investments and growth in GDP growth as indicated by the weak negative correlation value of -0.22; a positive correlation between growth in real estate investments and growth in diaspora remittances as indicated by the positive correlation value of 0.01; a positive correlation between growth in Real Estate Investments and growth in exchange rate fluctuations as indicated by the positive correlation value of 0.79. This study does conclude that the independent variables and growth of real estate bear a strong positive relationship. This study concludes that growth in; exchange rate, diaspora remittances, money in circulation, inflation rate, and real GDP growth do individually influence the growth of real estate in the country.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Growth and development in an economy is either indicator by the surge or booming the real estate industry. Real estate industry constitutes the building and construction and rent capitalization or collection services (Carey, 2001). Sabri (2001) notes that immovable assets are created that have value, capital intensiveness is occasioned in investment and labour supply and demand is common as majority of the projects are commenced until completion. Real estate is never statistic as growth of population increases and demand for better shelter is experienced by citizens. This leads to increased commercial establishments to accommodate the demand for housing as there are ready consumers for the units.

Real estate financing is occasioned by the periodic repayments and length maturity with an increase in pricing of units. Saxton (2007) argues that high pricing of housing units makes it unaffordable for buyers to purchase. Sabri (2001) notes high pricing of credit facilities albeit with flexible repayment plans enables buyers of house units. However, this is challenged by the high defaulters and losses incurrences during the repayment periods. Mortgage financing is such model of financing where there exist subprime markets that enable more home owners than tenants. This model of financing allows clients to have a flexible payment plan and avoid defaulting through provision of grace periods.

In Kenya, there is slow pace of mortgage financing (Hass Consult, 2014). Majority homeowners in Nairobi prefer using already owned securities and chattels as the route to acquire alternative means of financing that would enable one own a real estate proper. Limited information flow on the mortgage financing and fear for default limits majority homebuyers from accessing mortgages (Arvanitis, 2013). Real estate is instrumental in contributing to the economic performance and growth. Limited government facilitation and inflow of small real estate firms in the industry providing alternative means of home ownership have seen the sector grow however, with slow returns on investments. The real estate in Kenya is a subject of lagged returns as most mortgage finances are subject to the existing inflation rate and interest rate changes (Cytton Investments, 2016).

1.1.1 Mortgage Finance

Mortgage financing is a credit facility aiming at facilitating property ownership. Mortgage financing is a source of job creation, improved economic performance and growth of financial institutions through returns gained and satisfaction met by consumers. Mortgage financing enables multiple property ownerships provide there is a positive credit refund record between the borrower and lender (Arvanitis, 2013). Rodenholm & Dominique (2013) opines that real-estate is an avenue for streams of revenues. Subsidized provisions by the lenders with unique preferences for the borrowers boost the intake of mortgage intake. The housing sector requires intensive subsidization in order to grow the numbers of home owners. Rodenholm & Dominique (2013) suggests that this is a possibility with institutions an organizations providing provisions or schemes to enable home ownership.

Various methods of mortgage ownerships are available for interested home owners (Arvanitis, 2013). One of the methods is purchasing an already finished house through mortgage financing, while another is procuring a project for commencement of a house of the buyers' desires through mortgage financing (Arvanitis, 2013). These methods involve stiff project formulas, cash flows estimations and risk assessment. The techniques of mortgage financing also involve the present value and future value estimations (Abdelgalil, 2005). Mortgage financing is measured by the interest imposed on credit facilitations.

1.1.2 Real Estate Growth

Players who invest in the real estate expect a return on the mortgages taken to invest in the sector. Real estate is the property development that encompasses construction and building of housing units for residential and commercial usage. Rental properties earn rental income whose risks are measured by the variance of incomes (Abdelgalil, 2005). Rental incomes are taxable and constitute part of the national income earnings (KRA, 2015). The real estate industry witnesses profitability and improved liquidity through intake of mortgage loans with limited default rates (Golob, Bastic & Psunder, 2012).

Saxton (2007) opines that dues to evolvement of financial markets, various sectors in the economy have experienced growth coupled with increased credit extension to borrowers. Golob, Bastic & Psunder (2012) adds that the financial markets sectors has witnessed improved job creation, presence of intermediaries and reduced costs of processing credit.

A bust in the real estate sector is witnessed in situation there are majority of homeowners willing to take mortgage loans however, experience incapacity of repayment. This causes market fear and lagged returns from the real estate projects (Golob, Bastic & Psunder, 2012).

1.1.3 Mortgage Finance and Real Estate Growth

The demand for home ownerships does call for availability of mortgage financing (Muthee, 2012). This may be flexible, subsidized or premium based depending on the type of home the borrower or buyer wishes to won (Golob, Bastic & Psunder, 2012). Prevailing affordable rates of mortgage financing would enable buyers to acquire most properties (Garmaise and Moskowitz, 2003). The selection mode for mortgage financing keeps changing with changes in the economic growth, remittances from diaspora and income per capita of buyers. Proper information on the buyers would enable them avoid intermediaries (Golob, Bastic & Psunder, 2012). Golob, Bastic & Psunder, (2012) opines further that this reduces the process, costs or period of owning a home.

According to Abdelgalil (2005) who undertook a close investigation on the existing relationship between the growth of real estate and financial sector lending, did establish that the real estate growth is presented by both micro and macro factors existing at the time of taking mortgage financing. The public and private sector is heavily engage in the sector, with the private sector targeting commercial and residential buyers as the public targets mainly the residential buyers (Muthee, 2012). Investment mortgages mainly are meant to finance real estate projects that are purely for investments and in most cases are premium based. Real estate sector is a perfect competition market type thus availability of financial resources capable of financing interested home buyers.

The central bank rate influences greatly the lending of mortgage loans to borrowers. Mortgage loans are expensive with high rate of interests and when provided for a short period of time as converse is true. Lenders maximize returns through interest earnings. However, mortgage financing to premium firms that enjoy economies of scale, are mainly subjects of low interest rates vis-à-vis individual or small scale firms (Abdelgalil, 2005). The project scope and returns from a real estate project are critical in the calculation of the mortgage interest rate. This applies to the repayment plan and the contractual project estimation agreements (Muthee, 2012).

1.1.4 Real Estate Growth in Nairobi County

Nairobi City has witnessed growth in the real estate sector. The growth and developments both residential and commercial surpass combined East Africa region developments. This is attributed by the growth in demand for better housing and private ownership. Financial sector ad insurance sector as contributed to growth in the real estate. The amendment of the Banking Act of Kenya has boosted the intake of mortgage loans. This have further led to increased levels of homeownerships however, not to reduce the demand for better housing. In lieu of this, real estate firms have continued investing in the sector with new project developments target the premium based, medium and low class residents. This however has not been the case for commercial establishments that have witnessed exclusive premium based investors in the sector. Nairobi City County has inadequate proper housing that meets the required international standards.

High rental fees both in residential and commercial have placed majority real estate tenants to consider intake of mortgage financing. This is aimed at owning a property or residential home. For residential and commercial properties banks offer up to 80 per cent financing whereas this require insurance cover in case defaulting is the case. Real estate owners in Nairobi are few as compared to those demanding top own homes. Over KES 115.5 billion has been extended to real estate sector as mortgage finance with 70% being developments based in Nairobi City (CBK, 2016). Kenya has the National Housing Corporation that steers the development for affordable housing (Ministry of Housing, 2014). The agency is established to facilitate availability and construction of affordable hoes for civil servants and other interested home owners. Nairobi is viewed as among the developing cities in Sub-Saharan Africa. Slum upgrading projects are among the projects meant to provide affordable housing to majority residents in Nairobi. The UN Habitat in conjunction with the Government of Kenya has spearheaded the projects however with minimal interest from the private sector players.

1.2 Research Problem

Price changes have a drastic effect on the economy causing imbalances (Komal, 2009). Market imperfections cause changes in prices of real estate sector. Saxton (2007) observes minimal information about the sector is a major concern to interested home owners. Over supply of housing units is witnessed in situations where the construction and building experiences a time overrun or lag. This leads to increase in prices or reductions thus slowing the returns in the sector. Economic bubble cycles are mainly contributed by the market imperfections (Nzalu, 2012).

Kenya in the recent times has occasioned a high demand for housing units. This has occurred in urban centres and rural areas as it is presented by high demographic growth. Changes in income earnings for the working population have contributed to a high demand for individual units of housing. Enterprise growth, particularly, the small enterprises have increased the demand for housing units for commercial business interests. Increased demand for housing units requires financing, whereby; mortgage financing is a common means. The variance in income earnings determines the amount of mortgage one can qualify for a housing unit. Increase in real estate firms registered signifies an increase in demand and need to supply adequate units. Masika (2010) notes a minimal supply of housing units compared to a high demand. KNBS (2015) submits that currently, Kenya requires over 200,000 housing units per year whereby the available supply is unattainable of the quarter of demand.

Mortgage financing has been a subject in the real estate industry and financial operations (Makena, 2012). Komal (2009) opined that real estate is among the greatest economic development contributors in a country given the influence it possess on the interests rates of credit facilitates, inflation rates, and general pricing. Arvanitis (2013) submits that real estate is an avenue for illegal monetary practices such as money laundering thus may lead to increased money supply in the economy. However, the study fails to provide in depth evidence on the influence mortgage financing has on growth of real estate by the inflow of money into the economy that ends up with the financial institutions.

Locally, studies have been conducted to explain the relationship between mortgage financing and growth financing. Karimi (2010) studied real estate projects that are financed through securities mortgages in Kenya. She opines increased levels of investment in the property marker despite the slow returns witnessed. The study fails contextual test evidence on the growth of real estate firms in Nairobi as influenced by mortgage finance. According to a study by Arvanitis (2013), the private sector contribution is to provide cheap housing to interested buyers however, with low incomes in the sector, this has not succeeded. This study fails to provide any evidence about the growth of real estate firms in Nairobi despite providing evidence on the sectorial change by the mortgage finance. The low demonstration from the mortgage market to managing the demand for housing units indicates presence of unidentifiable factors that require this study to answer the question: what is the effect of mortgage finance on growth of real estate firms in Nairobi County?

1.3 Research Objective

To establish the effect of mortgage finance on growth of real estate firms in Nairobi County.

This study was further guided by the following specific objectives:

(i) To examine the effect of exchange rate on growth of real estate firms in Nairobi County;

(ii) To determine the influence of inflation rate on growth of real estate firms in Nairobi County;

(iii) To establish how money supply influenced growth of real estate firms in Nairobi County;

(iv) To determine the relationship of economic performance and growth of real estate firms in Nairobi County;

(v) To find out how diaspora remittances influenced growth of real estate firms in Nairobi County.

1.4 Value of the Study

In completing the study, it will contribute to the policy making process in Kenya and provide insights ion impediments towards affordable housing. This study seeks to benefit the National and County Governments and other international institutions concerned with access to housing. This study will contribute in the understanding of factors that limit mortgage intake in Kenya and solutions that are required for implementation.

This study will contribute in theory and principles regarding mortgage finance and the real estate concepts. This study will further provide recommendations, knowledge gaps will be filled and evidence of the influence of mortgage financing and performance or growth of real estate.

As a reference text, this study will contribute greatly in the scholarly world. The findings from this study could be beneficial for adoption and further research. Key areas for further research will be discussed.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter outlines the theoretical review of relevant theories and empirical review of past conducted studies. This chapter further outlines the determinants for real estate growth and illustrates a conceptual framework. This chapter closes with a summary of research.

2.2 Theoretical Review

This section sought to explain the theories that are related to this study. The theories are lien theory, title theory and intermediary theory. This section presents the relevance of each theory to this study.

2.2.1 The Lien Theory

Mortgage properties have duo owners. The lender of a mortgage acquires lien whereas the borrower is entitled to mortgage property. The lender is protected and legally can institute recovery of the property in cases of a default. Borrowers acquire their titles when they sign mortgage properties. Medley (2011) argues that under this theory, the borrower owns the land, title and property thus making it difficult for the repossession process by the lender in situations whereby there is a default. However, Denise and Wheaton (1992) opined that this theory creates a lien on the ownership of the land where the borrower obtains the title of the land and the lender retains the security of the property for the period of the mortgage finance. Property repossession is a difficult process as there is creation of a lien already.

This theory is the choice of this study owing to the ownership buyers' gain from the accessed mortgage finances. The commitment by the buyer and the mortgage financer in the current real estate projects is clear rights held by both parties. Therefore, the borrower with rights over ownership of the property until the payments are completed is explained by the lien theory.

2.2.2 The Title Theory

This theory argues that the mortgage financier has the full legal ownership of the property until that time the loan is fully paid. In this case, the lender is the legally entitled entity of the property and the borrower has rights to rent the property and possess without selling it to another party. In situations of a default, the mortgage financier is entitled to repossess the property subject to the balance of the mortgage finance. Full ownership of the property is when the signing of documents is undertaken. In the period of repayment, the borrower has not tittle of the property. With sufficient utility on meeting mortgge utilities, the lender has the rights to submit the deed to the lender (Denise & Wheaton, 1992). Some mortgage firms apply the title theory in terms of mortgage loans and this protects the lender since he has the right to repossess of the mortgage property.

Medley (2011) noted that mortgage loans are considered as conveyance of the title to the mortgagee. Through this, mortgagor acquires full title of the property upon full payment of the mortgage loan. Since the title vests on the mortgagee, he has the right to repossess the mortgaged property anytime but this can only happen if the mortgagor defaults on the repayment terms. In case the borrower sells the property during the mortgage period, then the title transfers to the new buyer upon receipt of payment by the mortgage institution. This theory relates well with this study owing to the fact that real estate borrowers never have the full legal ownership of the properties they have sought mortgage for.

2.2.3 The Intermediate Theory

Intermediary theory is a combination of the title and lien theory. Medley (2011) opines that the intermediary theory comes into application when there is a default for which title theory applies and converse is true for lien theory. The title theory holds that the mortgage finance is paid until when the lender submits the deed thus requires clear terms for the situations of a default. Therefore, title theory under this theory implies the mortgage institutions are holders of properties on behalf of the borrowers and have full authority for transfer of property to a trust to a third party.

Medley (2011) documented that for lien under intermediate theory, there is creation of protection by the lender since the borrower can’t sell the property until the borrower has fully paid up the mortgage loan. Mortgage instrument is used to place lien on the mortgage property. Until the borrower completes paying off the mortgage loan, the property is a pledge for the mortgage institution. Both parties own the property with the mortgage institution holding the security and borrower being the property user until when the loan is fully paid. Existence of intermediaries in the real estate presents the intermediate theory as relevant by the way the borrower and property seller are financed by the financial institutions. Therefore, financial institutions are intermediary parties in this case.

2.3 Empirical Review

This section presents studies conducted by various researchers on the influence of real estate by mortgage financing globally and locally. Real estate investments, property ownerships and related project activities in the sector contribute to growth of the sector. Financial sector collaborates with the sector through financing to borrowers. Therefore, this section critically discusses reviewed studies and noting the knowledge gaps to be filled by this study.

A study by Cheong', Olshansky and Zurbruegg (2011) on market volatility as influenced by the risks involved in the real estate between 1990 and 2010 in the UK, found out that market volatility positively corresponds to real estate volatility. Further, the study notes that volatility of interest rates in the financial sector has an influence in causing a financial crisis. The study falls short to present how the volatility in the financial sector affects the mortgage financing and the real estate in general.

According to Kigige and Messah (2011) in their study about pricing of properties in Meru District of Kenya, location of a property, income earning of an individual and housing units did affect the pricing f house units. The study further found out that the processing fees involved in land purchase and sell did influence the growth of price units for houses. The study fails to point out how mortgage financing does influence the growth of real estate.

Turkmen and Demirel (2012) looked into the economic factors that affect financial ratios. The study findings indicated Real Estate Investment Trusts (REITs) in Istanbul Stock Exchange between the years of 20007 and 2010 presented financial ratios are used by managers to predict the economic volatilities. This makes them to take immediate actions to safeguard the financial sector. The study does not provide a contextual influence caused by mortgage financing on real estate performance despite noting the financial ratios indifferences by the economic factors.

Arvanitis (2013) posits that Kenya's aim to provide subsidized housing units to low and middle income earners are capable of addressing the supply and demand available. The study notes overpricing of house units to target premium buyers and lack of development of the real estate, creates market imperfections that necessitates lack of clear growth forecast in the sector. The study finds, time lag in construction projects and high costs involved as attributes for high pricing. This study adds to conceptual thoughts however, is limited to conceptual evidence in explaining the relationship between mortgage finance and real estate performance.

Waithaka (2013) observed that Kenya was steps behind its counterparts in the Sub-Saharan region in the financial sector charged with mortgage financing. The study noted that few top banks owned the real estate market. These banks are KCB group under S&L division, CFC Stanbic Bank, Housing Finance Company of Kenya, Stan Chart Ltd, and Co-operative Bank of Kenya. These banks controlled 71 per cent of the mortgage financing in the sector. The study fails to indicate how the control of the mortgage financing affects the real estate sector.

Mburu and Owiti (2013) observed that stock and savings returns were indirectly proportional to mortgage financing and inflation rates. concluded that return on stock and savings are inversely related to mortgage uptake in Kenya while interest rate and inflation are significantly related to mortgage uptake in Kenya. MacOloo (1994) established that the Kenya construction industry has adhered to 1968 Kenya Building Code which is out-dated. It mandates contractors to follow the rules which lead to delay in construction process. Time spend to construct eventually pushes the prices of houses higher since contractors strive to maintain their profitability level. The Kenya mortgage market need mortgage financing to enable households to acquire residential properties at affordable rates. Moreover, Jumbale (2012) concluded that significant direct association exists between prices of houses and real estate financing in Kenya.

2.4 Determinants of Growth of Real Estate Firms

Klimczak (2010) professes, on the capital market, one of important criteria for investment decision is the issue of selecting sources, possibilities and methods of raising the value of the investment object. Familiarity with sources of value as well as factors of which determine the value and impact upon the attractiveness of a capital market segment in question, allows capital owners to make effective and rational investment decisions. Issues concerning economic and physical properties of the estate that constitute its value are of great importance for prospective investors on the real estate market.

Survival of real estate firms is dependent on availability of sufficient funds to finance their projects, customer base to purchase the housing units and sustainable political, economic and social climate their growth (Otwoma, 2012). Real estate firms are subject of conveyance, mortgage financing, auditing and institutional structures (Jumbale, 2012). These are core to facilitating the expansion and growth of firms. This section seeks to discuss in depth what determines growth of real estate firms.

2.4.1 Exchange Rate

O'Sullivan and Sheffrin (2003) notes exchange rate is the value of one currency for the purpose of conversion to another. It is the price of a nation's currency in terms of another currency. An exchange rate thus has two components, the domestic currency and a foreign currency, and can be quoted either directly or indirectly. Foreign currencies are expressed in domestic currencies and vice versa thus the buying and selling of currencies (Mongeri, 2011). Exchanging currencies that have no domestic currency implies there is a cross currency that necessitates a cross rate. Real estate firms are affected by the fluctuation in exchange rates as project financiers use different currencies.

Investors have motives when investing and closely watch the movements of the exchange rates. This guide real estate investor's when it's appropriate to invest and when not appropriate to invest in the market. A country's exchange rates are providing by the Central Bank with a limit to which each party exchanging should not exceed. Exchange rates and interest rates volatility is related (Otwoma, 2012). The US Dollar is used as the base currency whereas other currencies are counter currencies. However, the euro used in the European Union, the Australian Dollar used in Australia and New Zealand Dollar that are part of the commonwealth currencies are exempted from the base currency (Mongeri, 2011).

2.4.2 Inflation Rate

Increase of pricing of goods and services within a given time would lead to inflation (Kimani and Mutuku, 2013). Inflation is measured on per cent basis annually and greatly has an influence on the lending of credit. Inflation measurement is impossible with an increase in price of one product. With an increase in inflation, currencies held by investors buy fewer goods or services.

Economic effects arising from inflation are diverse, negative and positive. Negative induce a decrease in the value of money this creates uncertainty in the market (Blanchard, 2000). The uncertainty further leads to diverse investment motives and hoarding of properties with high pricing of units available (Kimani and Mutuku, 2013).

2.4.3 Money Supply and Income Per Capita

Money supply is defined as the total asset base that is available in the economy at a given time (Cummings, 2010). Money supply is measured indifferent forms mainly M1, M2 and monetary base. Monetary base is defined as the cumulative amount of currency in circulation within the economy and reserve amounts. Money supply has an influence on the economic growth of a country. Increase in money supply causes an increase in inflation rate leading to an increase in interests' rates and converse is true.

Agénor and Alper (2012) argues that the Central Banks employ policies that control the flow of money, inflation and interest rate in the economy. Low money supply like high as an effect to the economy and in situations of lack of clear information, it would cause panic and induce unclear motives that would affect the lending to and growth of real estate.

2.4.4 Economic Performance

Economic performance is measured by the real output or Gross Domestic Product and adjustment of prices. Economic inputs are significant for ensuring performance of the economic is stabilized. These mainly are dependent on the sectors involved. Outputs are equated in quantities. Negative net output occurs whereby there quantity is an input to the productivity as converse is true.

National output fluctuation is a concern to majority financial players. Growth of national output would be attributed by the changes in factors of productions. This would involve be adjustments in labour, capital, limited enterprises and productivity. Central Bank of Kenya keeps watch of the economic growth and performance, guiding the motives in the real estate sector (Moss, 2007).

2.4.5 Diaspora Remittances

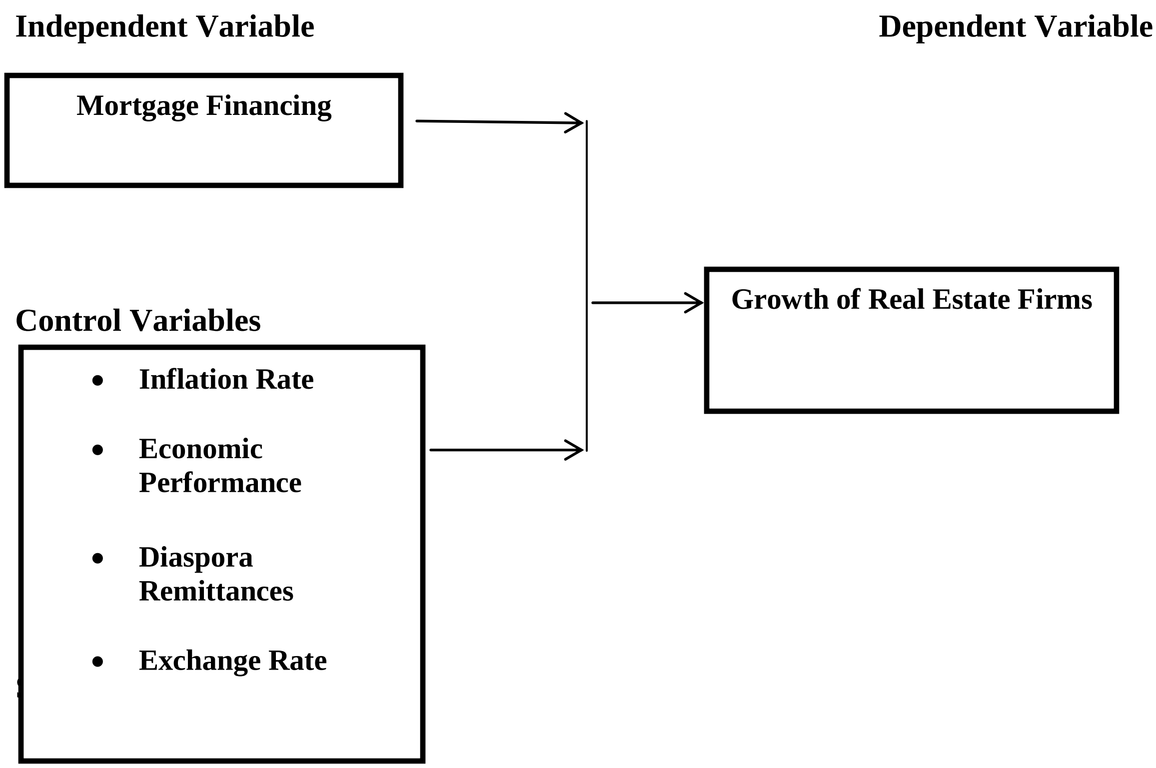
Individuals living abroad do send funds to facilitate purchases of goods and services. With high growth of remittances sent, authorities take concern this as a major contributor to the economic growth and development. Central Bank of Kenya publishes monthly reports detailing the remittances sent from diaspora zones. In the recent times, remittances have grown to USD 117.1 million from 112.8 million between 2013 and 2016. The increase in remittances from diaspora is an indication of increase in growth of purchasing power among the domestic and senders.

Real estate has been a subject of remittances with majority of the senders targeting profit earning establishments. Majority of Kenyans living abroad undertake many investments thus requiring high remittances inflows. Central Bank of Kenya monitors the inflows to ensure limited or no involvement of money laundering and money supply in the economy. Economic boom is an attribute of both foreign and domestic investment and growth in purchasing power as well as the income per capita of residents or citizens.

2.5 Conceptual Framework

This study will seek to investigate the influence of mortgage financing on the growth of real estate in Nairobi City County. This study will cover exchange rate, Mortgage financing, inflation rate, and economic performance and diaspora remittances as the independent variables and growth of real estate as the dependent variable as illustrated on Figure 2.1 below.

Figure 2. 1 Conceptual Model



Source: Researcher (2017)

2.6 Summary of Literature Review

To acquire a real estate property, advancement of finances from a lender amounts to a mortgage finance. The riskier mortgage finance is the profitable it is to the lender. In this, majority complex projects are known to rely on mortgage finance as they are insured for losses. Tough conditions are imposed for mortgage financing. Government debuted REITs being as an investment, made amendment to RBA Act all aimed at boosting the real estate sector and growth of private sector. Market destabilization lack of clear information and influence the external cash flows causes the sectorial prices to increases.

Unclear evidence on the growth of real estate unit prices, domestic purchases and real information on financing. Limited information on the capitalization rate influence on increasing real estate value is a task for this study to fill. The presence of social capital, limited information availability about the real estate growth creates a gap for this research. The ability of residents to purchase the real estate units, occupancy levels and process of acquiring mortgage financing are conceptually covered with lack of clear contextual focus.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter presents the research design adopted by this study, study population this study will cover for data collection, data collection methods and procedures to be followed and data analysis to mainly discuss the procedure of analysing data and findings.

3.2 Research Design

According to Gall et al. (2006) research design is a detailed outline on how the research was undertaken. It specifies the methods and procedures used to collect and analyse the data. The study seeks to establish effect of mortgage finance on growth of real estate in Nairobi County. Descriptive research method describes the variable relationships by systematically obtaining empirical outcomes for a given field study (Sekran, 2014). The choice of the method is motivated by the number of real estate units and quantitative data this study considered for use in the analysis.

3.3 Study Population

A study population is the number of items, units, identities that are covered by the study in order to generate data for use in analysis. 120 registered real estate companies in Nairobi as at 2016 constituted the target population for this study (Hass Consult, 2016). This study targeted real estate firms registered in Kenya with operational activities in Nairobi for the data collection. This is because they have higher influence in the real estate market.

3.4 Sample

This study used stratified sampling designs. This is mainly because it allows the researcher to investigate on a matter with depth that the breath. The technique will enable the researcher create strata. Owing to population of this study, 50 firms as samples represented the entire population. The researcher grouped Nairobi real estate firms into 50 strata to represent 50 samples from the study population.

This study conducted a random sampling of the real estate firms in Nairobi that feature in annual KNBS and CBK reports. The researcher sampled randomly 50 firms' indices and will be used for this study. This study compiled their relevant performance, mortgage financing and number of projects they are undertaking or have been completed since 2011.

3.5 Data Collection

Flick (2009) opines that data collection is the process of answering questions through summed information and measured for the purposes of a research outcome. This study used quantitative data. Secondary data was obtained from the Hass Consult reports published annually and include indices from the CBK and KNBS annual reports. This study sought to capture data from reports concerning the exchange rate, money supply, inflation rate, and economic performance and diaspora remittances.

3.6 Data Analysis

3.6.1 Diagnostic Tests

Collected data was analysed to find out the response findings of this study. This study used descriptive and inferential statistics to analyse collected data. This was facilitated by the use of Statistical Package for Social Sciences (SPSS).

3.6.2 Analytical Model

This study obtained secondary data from CBK, KNBS and market performance reports published online. This study adopted the following linear model:

$$\mathbf{Y=\alpha+\beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_4X_4+\beta_5X_5+\ \beta_6X_6\varepsilon}$$

Where **Y** is the growth of real estate in Nairobi;

α is the autonomous function;

β is the slope of the function;

$\mathbf{X_1}$ = Mortgage financing

$\mathbf{X_{2=}}$ is the inflation rate;

$\mathbf{X_{3=}}$ Money supply

$\mathbf{X_{4=}}$ is the real output/economic performance;

$\mathbf{X_{5\,=}}$is the Diaspora remittances;

$\mathbf{X_{6=}}$ is the exchange rate and **ε** is the error of estimation.

3.6.3 Test of Significance

The researcher used inferential statistics such as The Pearson Product Moment-correlation coefficient R^2 and the coefficient of determination R of the data set.

3.6.4 Operationalization of Variables

Table 3. 1 Operationalization of Variables

Variables	Type of Variable	Operationalization	Measurement
Mortgage Financing (X_1)	Independent	• Money Supply	Nominal
Inflation Rate (X_2)	Independent	• Price index	Ratio Scale
Money supply (X_3)	Independent	• Annual Sector Input	Nominal
Real Output/Economic Performance(X_4)	Independent	• Annual Sector Input	Nominal
Diaspora Remittances (X_5)	Independent	• Number of units purchased	Nominal
Exchange Rate (X_6)	Independent	• Purchasing USD/KES Price Currency	Ratio Scale
Growth of real estate firms (Y)	Dependent	• Growth Real investments	Ratio Scale

Source: Author (2017).

CHAPTER FOUR: DATA ANALYSIS AND PRESENTATION OF FINDINGS

4.1 Introduction

This chapter presents analysis and findings of the study as set out in the research objective and research methodology. The study sought out to find the effect of mortgage finance on growth of real estate firms in Nairobi County. This chapter presents the analysis and findings of the study as set out in the research methodology. The research data was collected exclusively through secondary data.

4.2 Descriptive Statistics

The study sought out to find the effect of mortgage finance on growth of real estate firms in Nairobi County. Secondary Data on Average Annual Growth in Real Estate Investments , Annual growth rate in Mortgage financing portfolio, Average Annual Inflation Rate, Average Annual Growth in Money Supply (M3), Average Annual GDP Growth, Average Annual Growth in Diaspora Remittances and on the Average Annual Exchange Rate fluctuations was collected analyzed . The changes in growth are for the study variables were subjected to descriptive statistics analysis .This was measured through a summary statistics of the pre-determined. Below is a summary statistics. The obtained data spanned the period between years 2011 to 2016. The secondary data was organized in excel spread sheets and analyzed using SPSS version 20.

Table 4.1 Descriptive statistics

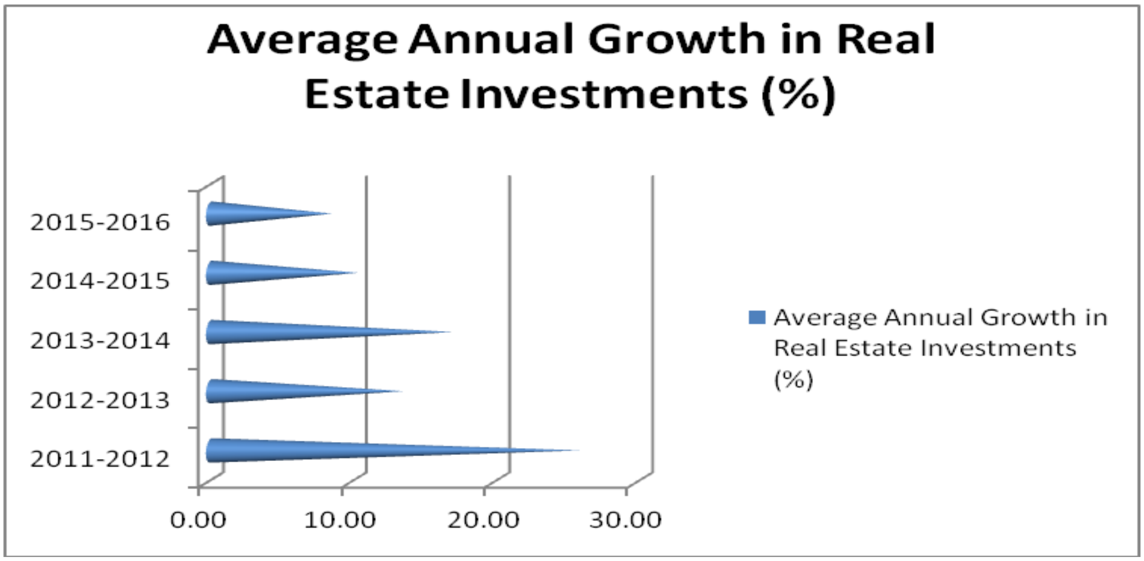
	Growth in Real Estate Investments (%)	l growth rate in Mortgage financing portfolio	Average Annual Inflation Rate (%)	Annual Growth in Money Supply (M3) (%)	Annual GDP Growth (%)	Annual Growth in Diaspora Remittances (%)	Annual Exchange Rate fluctuations (Ksh/USD) (%)
Mean	15.02	0.20	8.60	21.67	5.14	20.29	5.80
Standard Error	0.57	0.01	0.23	3.13	0.11	2.08	0.51
Median	12.86	0.20	6.07	22.11	5.81	41.43	3.71
SD	9.03	0.08	3.70	49.50	1.79	32.90	8.05
Sample Variance	81.57	0.01	13.66	2450.24	3.21	1082.31	64.78
Kurtosis	0.79	-0.31	-1.72	220.73	-1.42	-0.90	-1.36
Skewness	1.16	0.14	0.46	14.41	-0.06	-0.83	-0.10
Range	45.96	0.46	8.45	773.80	4.91	87.50	21.45
Minimum	6.05	0.00	5.41	3.80	2.75	-36.26	-6.07
Maximum	52.01	0.47	13.86	777.60	7.66	51.24	15.38
Sum	3754.08	51.16	2150.28	5416.38	1286.00	5073.43	1449.57
Count	250	250	250	250	250	250	250

The findings indicate that the annual average growth rate for the five year in Real Estate Investments was 15.02% with a standard deviation of 9.03. the annual average growth rate for the five year in Mortgage financing portfolio was 20% with a standard deviation of 0.08. the annual average growth rate for the five year in Inflation Rate was 8.6% with a standard deviation of 3.70. the annual average growth rate for the five year in GDP Growth was 5.14% with a standard deviation of 1.79. The annual average growth rate for the five year in Money Supply was 21.67% with a standard deviation of 49.50. The annual average growth rate for the five year in Diaspora Remittances was 20.19% with a standard deviation of 32.90.The annual average growth rate for the five year in Exchange Rate fluctuations was 5.8% with a standard deviation of 8.05

4.2.1 Growth in Value of Real Estate Investments

The study sought to establish growth in value of Real Estate Investments by real estate firms in Nairobi Kenya. The growth period measured was between the year 2011 to 2016 over the study period, and established the trend as depicted by figure 4.1 below. From the diagram, the findings reveal that real estate investments growth as fluctuated each year throughout the period.

Figure 4.1 Growth in value of Real Estate Investments



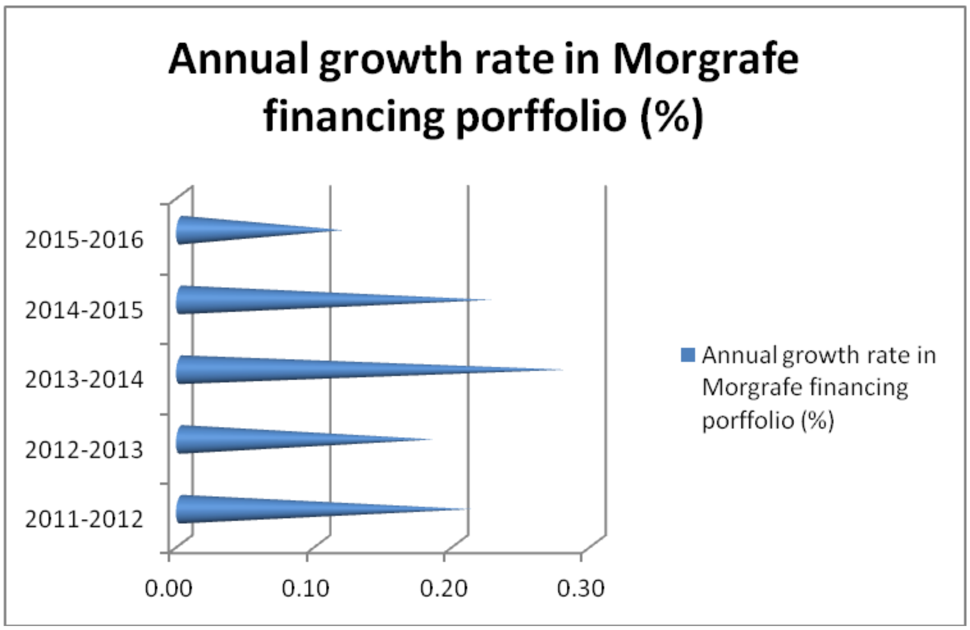
Source: KNBS (2017)

The findings indicate that between the years 2011-2012 the average annual growth rate in real estate investment grew by 25.85%. Between the years 2012-2013 the average annual growth rate in real estate investment grew by 13.50%. Between the years 2013-2014 the average annual growth rate in real estate investment grew by 16.97%. Between the years 2014-2015 the average annual growth rate in real estate investment grew by 10.30%. Between the years 2015-2016 the average annual growth rate in real estate investment grew by 8.47%.

4.2.2 Annual Growth rate in Mortgage Financing Portfolio

The study sought to establish growth of real estate firms in Nairobi Kenya over the study period, and established the trend as depicted by figure 4.2 below. From the diagram, the findings reveal that real estate investments growth as fluctuated each year throughout the period.

Figure 4.2 Annual growth rate in Mortgage financing portfolio

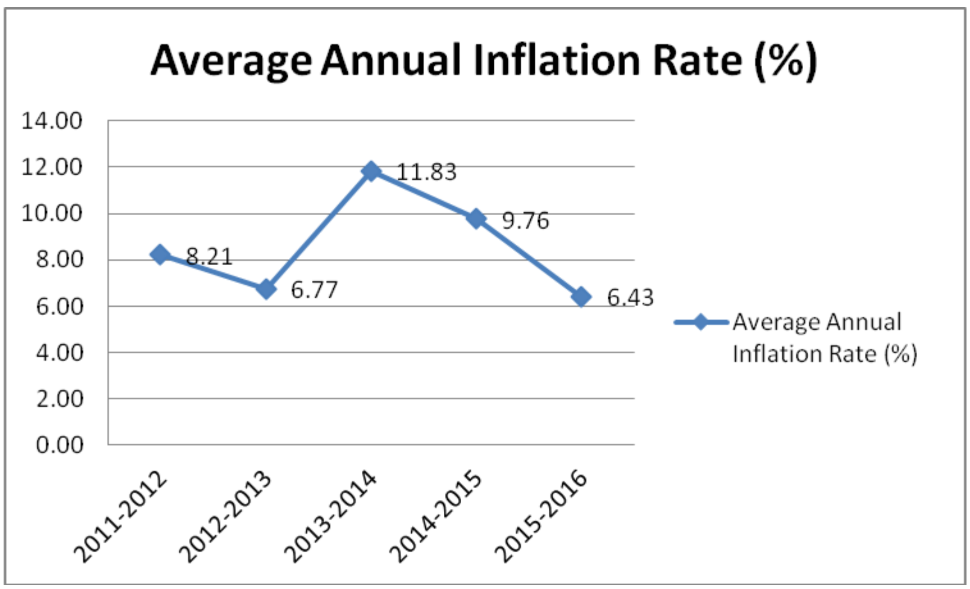


The findings indicate that between the years 2011-2012 the average growth rate in mortgage financing portfolio increased 21 percent. The findings indicate that between the years 2012-2013 the average growth rate in mortgage financing portfolio declined to 18 percent. The findings indicate that between the years 2013-2014 the average growth rate in mortgage financing portfolio increased to 28 Percent. The findings indicate that between the years 2014-2015 the average growth rate in mortgage financing portfolio was declined to 23 percent. The findings indicate that between the years 2015-2016 the average growth rate in mortgage financing portfolio declined to 12 percent.

4.2.2 Inflation Rates Trends

The researcher sought to establish the trend of inflation rates in Kenya over the study period. The data results are shown in figure 4.3 below. The study results show that the average annual inflation has been fluctuating from one period to another as shown by the graph shown below.

Figure 4.3 Inflation Rates Trends



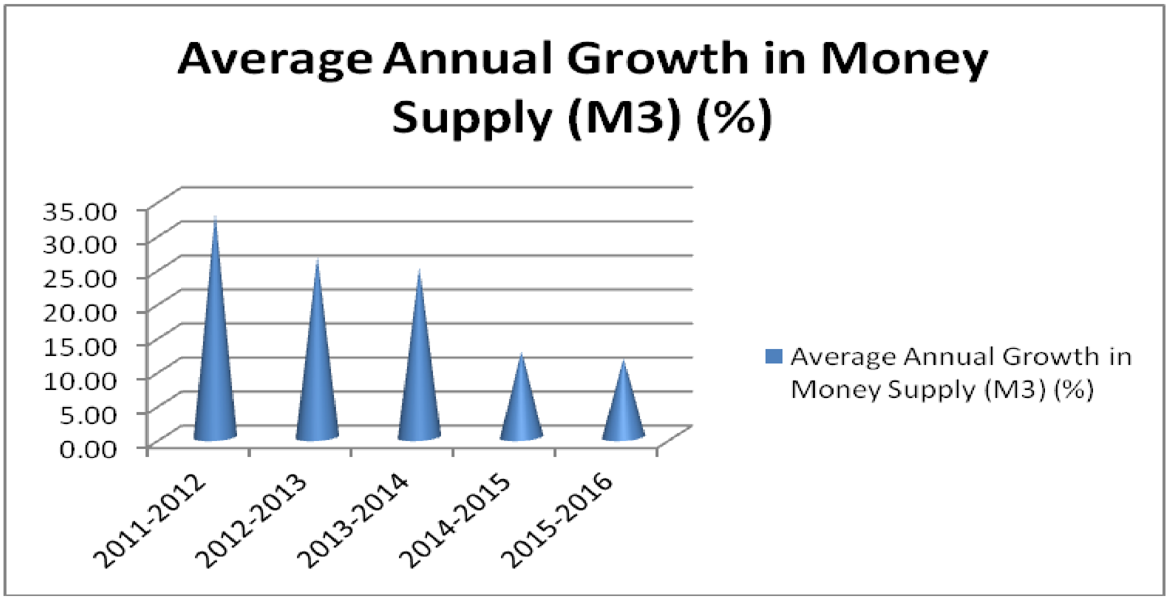
Source: Central Bank of Kenya 2017 report.

The findings indicate that the average annual inflation rate for the year 2011-2012 grew by 8.21percent. The findings indicate that the average annual inflation rate for the year 2012-2013 grew by 6.77%. The findings indicate that the average annual inflation rate for the year 2013-2014 grew by 11.83%. The findings indicate that the average annual inflation rate for the year 2014-2015 grew by 9.76%. The findings indicate that the average annual inflation rate for the year 2015-2016 grew by 6.43%.

4.2.3 Growth in Money Supply

The researcher sought out to establish the money supply influence on the growth of real estate firms in Nairobi. The study findings indicated fluctuations during the study period as illustrated on Figure 4.4

Figure 4.4 Growth in Money Supply



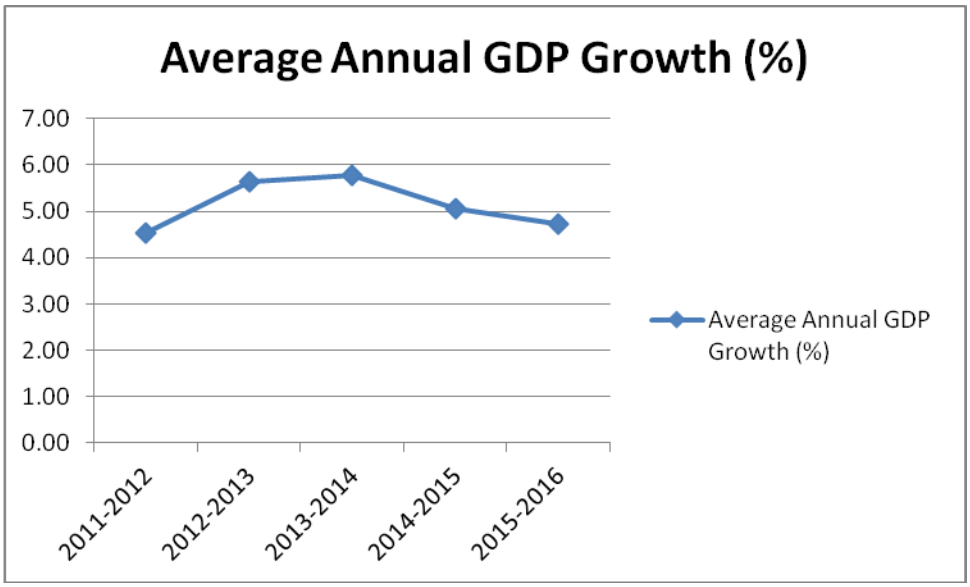
Source: Central Bank of Kenya

The findings indicate that the average annual growth rate in money supply between the year -2012 grew by 32.79% while between the year 2012-2013 money supply grew at a rate of 26.43%.between the year 2013-2014 money supply grew at a rate of 24.95%. While between the years 2014-2015 money supply grew at a rate of 12.62%. Between the year 2015-2016 money supply grew at a rate of11.55%. Based on findings, the average annual growth in money supply fluctuated with a high of 13.68% in 2014 and a low of 2.88% in 2013. The study findings present a drastic reduction in money supply in 2016.

4.2.4 Real GDP Growth

The researcher sought to establish the performance of the economy based on real GDP growth reported over the 2011-2016 periods and how it affects the growth of real estate firms in Nairobi. Figure 4.4 illustrates the reported GRD Growth rates on annual and average basis.

Figure 4.5 Real GDP Growth rate



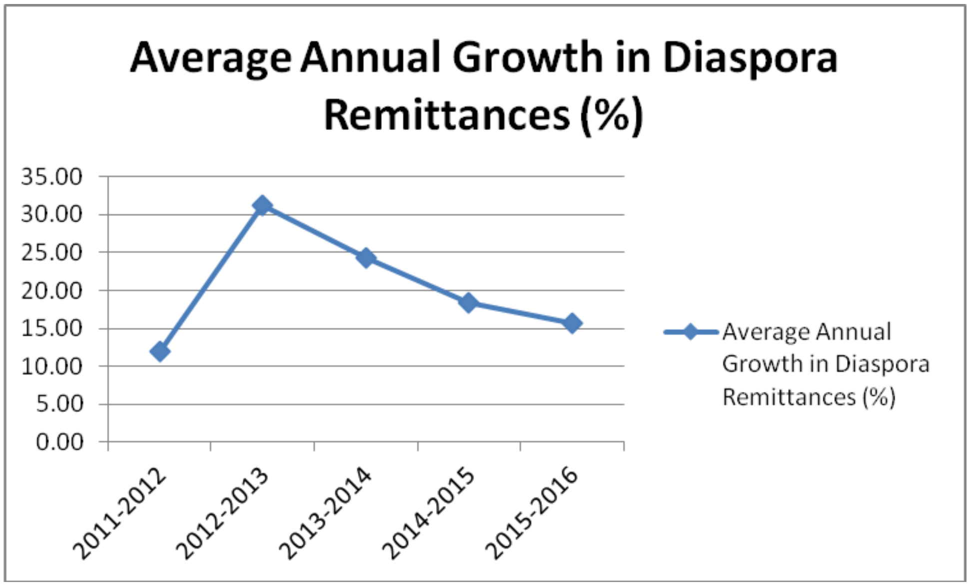
Source: Kenyan National Bureau of Statistics

The findings indicate that the average annual growth rate GDP between the year -2011-2012 was 4.54% while between the year 2012-2013 GDP grew by 5.63%. Between the years 2013-2014 GDP grew by 5.78% while between the years 2014-2015 GDP grew by 5.05%. Between the year 2015-2016 GDP grew by 4.72%.

4.2.5 Growth in Diaspora Remittances

The research sought out to establish diaspora remittances growth from 2011 to 2016. The study findings reported in Figure 4.5 indicate fluctuations over the study period.

Figure 4.6 Average growth in Diaspora Remittance



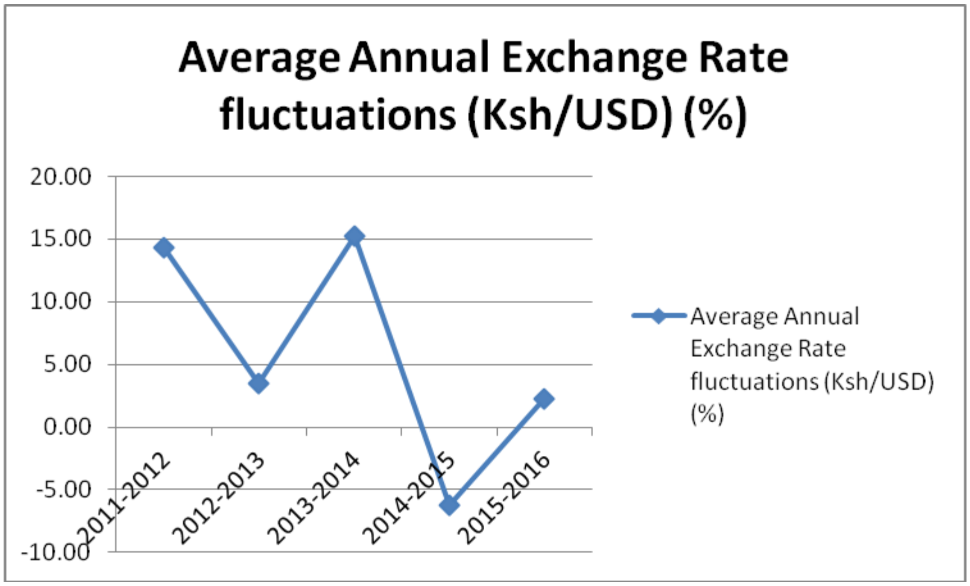
Source: Central Bank of Kenya

The findings indicate that between the year 2011-2012 average annual growth rate in Diaspora remittance grew by 11.99%. Between the years 2012-2013 average annual growth rate in Diaspora remittance grew by 31.13%. Between the years 2013-2014 average annual growth rate in Diaspora remittance grew by 33%. Between the years 2014-2015 average annual growth rate in Diaspora remittance grew by 18.38%. Between the years 2015-2016 average annual growth rates in Diaspora remittance grew by 15.63%.

4.2.6 Exchange Rate Fluctuations

The study sought out to find the exchange rate fluctuations between 2011 and 2016. The results of the findings are illustrated on Figure 4.6.

Figure 4.7 Exchange Rate Fluctuations



Source: Central Bank of Kenya %.

The findings indicate that between the years 2011-2012 average annual exchange rate fluctuations increased by 14.31%. Between the years 2012-2013 average annual exchange rate fluctuations increased by 3.52%. Between the years 2013-2014 average annual exchange rate fluctuations increased by 15.19%. Between the years 2014-2015 average annual exchange rate fluctuations increased by -6.26%. Between the years 2015-2016 average annual exchange rate fluctuations increased by 2.23%.

4.3 Correlation Analysis

Correlation analysis was undertaken to determine the degree of association between the study variables. This was important because it clearly shows the nature of the relationship between growth investment in real estate and growth in mortgage financing. The findings are presented in the table below. Further discussions on the findings of the correlation analysis are presented below the table.

Table 4.2: Correlation Analysis.

	Real Estate Investments	Mortgage financing	Inflation Rate	Money Supply (M3)	GDP Growth	Diaspora Remittances	Exchange Rate fluctuations
Real Estate Investments	1						
Mortgage financing	0.04	1					
Inflation Rate	0.39	0.52	1				
Money Supply (M3)	0.17	-0.13	-0.02	1			
GDP Growth	-0.22	0.45	-0.24	0.13	1		
Diaspora Remittances	0.01	0.66	0.01	0.14	0.93	1	
Exchange Rate fluctuations	0.79	-0.14	-0.11	0.16	-0.2	-0.02	1

The findings indicate a positive correlation between growth in Real Estate Investments and growth in Mortgage financing as indicated by the positive correlation value of 0.04. The findings indicate a positive correlation between growth in Real Estate Investments and growth in Inflation Rate as indicated by the positive correlation value of 0.39. The findings indicate a positive correlation between growth in Real Estate Investments and growth in Money Supply (M3) as indicated by the positive correlation value of 0.17. The findings indicate a weak negative correlation between growth in Real Estate Investments and growth in GDP Growth as indicated by the weak negative correlation value of -0.22. The findings indicate a positive correlation between growth in Real Estate Investments and growth in Diaspora Remittances as indicated by the positive correlation value of 0.01. The findings indicate a positive correlation between growth in Real Estate Investments and growth in exchange rate fluctuations as indicated by the positive correlation value of 0.79.

4.4 Regression Analysis

The researcher conducted a regression analysis to determine the relationship between independent variables and dependent variable. The study had 5 predictor variables mainly: average annual inflation, average annual growth in money supply, average annual growth in real GDP, average annual growth in diaspora remittances and average annual exchange rate fluctuations. The researcher undertook the study using a 5% confidence level. Using $\alpha = 0.05$ and corresponding probability value, the researcher sought out to find out if the predictor variables are significant. In this case, if the probability level was less than α, it implies the predictor variable is significant as for these case findings.

4.4.1 Model Summary Statistics

The researcher sought out to determine the variation invariables as indicated on the below

Table 4. 3 Model Summary Statistics

Regression Statistics	
Multiple R	0.9652
R Square	0.9317
Adjusted R Square	0.9299
Standard Error	2.3896
Observations	250

Source: Research Findings

Based on the findings, the variation percentage of dependent variable is explained by the independent variable using the coefficient of determination. Reported findings on table indicate that the 5 predictor variables contributed to 92.9% of a change in growth of real estate firms in Nairobi as clearly confirmed by the adjusted R^2=0.9299. This study finds that there is a strong relationship between the independent and dependent variable.

4.4.2 Analysis of Variance

The researcher sought to test the significance of the model thus conducted an Analysis of Variance as reported in findings shown on table 4.2 below.

Table 4.4 Analysis of Variance

ANOVA

	Df	*SS*	*MS*	*F*	*Significance F*
Regression	6	18924.17	3154.028	552.3563	0.0000162
Residual	243	1387.562	5.710133		
Total	249	20311.73			

Source: Research Findings (2017)

From the ANOVA results, the probability value of 0.0000162 was obtained implying that the regression model was significant in predicting the relationship between Real Estate firms' growth and the predictor variables as it was less than α=0.05.

4.4.3 Model Coefficients

This section provides results of the analysis obtained the model coefficients and corresponding statistics as shown in table below.

Table 4. 5 Model Coefficients

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	-42.48	4.27	-9.95	0.00000	-50.89	-34.07
Mortgage financing	9.63	4.83	-1.99	0.04718	-19.14	-0.12
Inflation Rate	-2.29	0.08	27.54	0.00000	2.13	2.45
Money Supply	0.00	0.00	-1.19	0.23551	-0.01	0.00
GDP Growth	7.71	0.72	10.69	0.00000	6.29	9.13
Diaspora Rem.	0.37	0.04	-8.66	0.00000	-0.45	-0.28
Exchange Rate fluctuation	-1.32	0.04	31.79	0.00000	1.24	1.40

Source: Research Findings (2017)

Based on the findings of the regression analysis conducted, predictor variables and growth of real estate firms in Nairobi is positive and clearly shown as follows.

$\mathbf{Y}$=-42.48+ 9.63$\mathbf{X_1}$ -2.29 $\mathbf{X_2}$ **+** 0.00 **2**$\mathbf{X_3}$+7.71$\mathbf{X_4}$+0.37$\mathbf{X_{5-}}$1.32$\mathbf{X_6}$**+e**

From the regression model obtained above, with all other factors constant, growth in real estate firms would be 42.48. Unit increase in Mortgage financing would lead to an increase in real estate investment by 9.63. Unit increase in Inflation Rate would lead to a decrease in real estate investment by 9.63. A Unit increase in Mortgage financing would lead to an increase in real estate investment by 2.29.AUnit increase in Money Supply (M3) would lead to an increase in real estate investment by 0. A unit increase in GDP Growth would lead to an increase in real estate investment by 7.71. A unit increase in Diaspora Remittances would lead to an increase in real estate investment by 0.37. A unit increase in Exchange Rate fluctuations would lead to a decrease in real estate investment by 1.32.

4.5 Interpretation of the Findings

Based on the findings, 2013 and 2016 being electioneering years witnessed a minimal growth in real estate growth.. It implies that growth of real estate firms and investments is greatly influenced by the political effects in the country. In addition, lack of confidence would be attributed as the cause of low investment and firms' growth in Nairobi area. High prices as indicated by high inflation rates implicate high value for property in Nairobi.

However, with high pricing, property sales are affected therefore lowering the growth of real estate firms. With high prices in property that results to low sales means, individual purchasing power is least to afford property prices during these periods as converse is true. This also implies, high inflation rates would clearly affect intake of mortgage financing owing to high interest rates pegged on credit products.

Contrary to Macharia (2013) findings in measuring the relationship between global financial performance and inflation rates, she found out an insignificance outcome which deeply affected the mortgage lending in Kenya. Mortgage financing measured by Money supply witnessed fluctuations throughout 2011-2016. Increase in money supply is attributed with changes in interest rates and pricing of goods. For instance, based on the findings witnessed high levels of money supply. Incidentally, this would have been caused by changes in inflation rates. This is contrary to findings of Monica (2014) who studied how macro-economic variables influence the growth of real estate investment in Kenya.

The findings of the research were insignificant compared to the findings of this study that indicate mortgage financing based on the money supply in the economy does influence growth of real estate firms. However, findings of this study sided with Kitavi (2013) findings who studied on the development in real estate sector in Nairobi City County by mortgage loans. Kitavi (2013) findings indicate number of housing financed by mortgages were equal to the number of allocated units for sale. This is an indication, mortgage financing has positive significance with the performance or growth of real estate firms in terms of rolled out real estate investments.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary, conclusions and recommendations of the study. Section 5.2 summarizes the key results found, while section 5.3 draws the conclusions. Section 5.4 notes the recommendations from the findings of the study. Section 5.5 outlines the limitations of the study while section 5.6 gives suggestions for further research.

5.2 Summary

The study sought out to find the effect of mortgage finance on growth of real estate firms in Nairobi County. Secondary Data on Average Annual Growth in Real Estate Investments , Annual growth rate in Mortgage financing portfolio, Average Annual Inflation Rate, Average Annual Growth in Money Supply (M3), Average Annual GDP Growth, Average Annual Growth in Diaspora Remittances and on the Average Annual Exchange Rate fluctuations was collected analyzed . The changes in growth are for the study variables were subjected to descriptive statistics analysis .This was measured through a summary statistics of the pre-determined

The findings indicate that the annual average growth rate for the five year in Real Estate Investments was 15.02% with a standard deviation of 9.03. The annual average growth rate for the five year in Mortgage financing portfolio was 20% with a standard deviation of 0.08. The annual average growth rate for the five year in Inflation Rate was 8.6% with a standard deviation of 3.70. The annual average growth rate for the five year in GDP Growth was 5.14% with a standard deviation of 1.79.

The annual average growth rate for the five year in Money Supply was 21.67% with a standard deviation of 49.50. The annual average growth rate for the five year in Diaspora Remittances was 20.19% with a standard deviation of 32.90.The annual average growth rate for the five year in Exchange Rate fluctuations was 5.8% with a standard deviation of 8.05

The study sought to establish growth in value of Real Estate Investments by real estate firms in Nairobi Kenya. The findings indicate that between the years 2011-2012 the average annual growth rate in real estate investment grew by 25.85%. Between the years 2012-2013 the average annual growth rate in real estate investment grew by 13.50%. Between the years 2013-2014 the average annual growth rate in real estate investment grew by 16.97%. Between the years 2014-2015 the average annual growth rate in real estate investment grew by 10.30%. Between the years 2015-2016 the average annual growth rate in real estate investment grew by 8.47%.

The study sought to establish growth of real estate firms in Nairobi Kenya over the study period The findings indicate that between the years 2011-2012 the average growth rate in mortgage financing portfolio increased 21 percent. The findings indicate that between the years 2012-2013 the average growth rate in mortgage financing portfolio declined to 18 percent. The findings indicate that between the years 2013-2014 the average growth rate in mortgage financing portfolio increased to 28 Percent. The findings indicate that between the years 2014-2015 the average growth rate in mortgage financing portfolio was declined to 23 percent.

The findings indicate that between the years 2015-2016 the average growth rate in mortgage financing portfolio declined to 12 percent. The researcher sought to establish the trend of inflation rates in Kenya over the study period. The findings indicate that the average annual inflation rate for the year 2011-2012 grew by 8.21percent. The findings indicate that the average annual inflation rate for the year 2012-2013 grew by 6.77%. The findings indicate that the average annual inflation rate for the year 2013-2014 grew by 11.83%. The findings indicate that the average annual inflation rate for the year 2014-2015 grew by 9.76%. The findings indicate that the average annual inflation rate for the year 2015-2016 grew by 6.43%.

The researcher sought out to establish the money supply influence on the growth of real estate firms in Nairobi. The findings indicate that the average annual growth rate in money supply between the year -2012 grew by 32.79% while between the year 2012-2013 money supply grew at a rate of 26.43%.between the year 2013-2014 money supply grew at a rate of 24.95%. While between the years 2014-2015 money supply grew at a rate of 12.62%. Between the year 2015-2016 money supply grew at a rate of11.55%. Based on findings, the average annual growth in money supply fluctuated with a high of 13.68% in 2014 and a low of 2.88% in 2013. The study findings present a drastic reduction in money supply in 2016.

The researcher sought to establish the performance of the economy based on real GDP growth reported over the 2011-2016 periods. The findings indicate that the average annual growth rate GDP between the year -2011-2012 was 4.54% while between the year 2012-2013 GDP grew by 5.63%. Between the years 2013-2014 GDP grew by 5.78%

while between the years 2014-2015 GDP grew by 5.05%. Between the year 2015-2016 GDP grew by 4.72%.

The research sought out to establish Diaspora remittances growth from 2011 to 2016. The findings indicate that between the year 2011-2012 average annual growth rates in Diaspora remittance grew by 11.99%. Between the years 2012-2013 average annual growth rate in Diaspora remittance grew by 31.13%. Between the years 2013-2014 average annual growth rate in Diaspora remittance grew by 33%. Between the years 2014-2015 average annual growth rate in Diaspora remittance grew by 18.38%. Between the years 2015-2016 average annual growth rates in Diaspora remittance grew by 15.63%.

The study sought out to find the exchange rate fluctuations between 2011 and 2016 The findings indicate that between the years 2011-2012 average annual exchange rate fluctuations increased by 14.31%. Between the years 2012-2013 average annual exchange rate fluctuations increased by 3.52%. Between the years 2013-2014 average annual exchange rate fluctuations increased by 15.19%. Between the years 2014-2015 average annual exchange rate fluctuations increased by -6.26%. Between the years 2015-2016 average annual exchange rate fluctuations increased by 2.23%.

Correlation analysis was undertaken to determine the degree of association between the study variables. This was important because it clearly shows the nature of the relationship between growth investment in real estate and growth in mortgage financing.

The findings indicate a positive correlation between growth in Real Estate Investments and growth in Mortgage financing as indicated by the positive correlation value of 0.04.

The findings indicate a positive correlation between growth in Real Estate Investments and growth in Inflation Rate as indicated by the positive correlation value of 0.39. The findings indicate a positive correlation between growth in Real Estate Investments and growth in Money Supply (M3) as indicated by the positive correlation value of 0.17.

The findings indicate a weak negative correlation between growth in Real Estate Investments and growth in GDP Growth as indicated by the weak negative correlation value of -0.22. The findings indicate a positive correlation between growth in Real Estate Investments and growth in Diaspora Remittances as indicated by the positive correlation value of 0.01. The findings indicate a positive correlation between growth in Real Estate Investments and growth in exchange rate fluctuations as indicated by the positive correlation value of 0.79

The researcher conducted a regression analysis to determine the relationship between independent variables and dependent variable. The study had 5 predictor variables mainly: average annual inflation, average annual growth in money supply, average annual growth in real GDP, average annual growth in diaspora remittances and average annual exchange rate fluctuations. The researcher undertook the study using a 5% confidence level. Using $\alpha = 0.05$ and corresponding probability value, the researcher sought out to find out if the predictor variables are significant. In this case, if the probability level was less than α, it implies the predictor variable is significant as for these case findings.

Based on the findings, the variation percentage of dependent variable is explained by the independent variable using the coefficient of determination. Reported findings on table indicate that the 5 predictor variables contributed to 92.9% of a change in growth of real estate firms in Nairobi as clearly confirmed by the adjusted R^2=0.9299

5.3 Conclusions

The analysis results revealed an existence of a strong positive relationship between independent variables and growth of real estate firms. Further, the coefficients corresponding to the independent variables; Exchange Rate fluctuations, Growth in Diaspora Remittances, Growth in Money Supply, Inflations, and GDP Growth were positive. This implies all the four variables do influence the growth of real estate firms in Nairobi.

This study does conclude that the independent variables and growth of real estate bear a strong positive relationship. This study concludes that growth in; exchange rate, diaspora remittances, money in circulation, inflation rate, and real GDP growth do individually influence the growth of real estate in the country. This is in line with Otwoma (2013) who determined a positive relationship between interest rates on property prices in the Kenyan real estate market. Another study by Walace (2013) on impact of Population Shifts and Demographic changes on the Real Estate Market in Kenya established money in circulation did determine the pricing of house units in the Mount Kenya region.

5.4 Policy Recommendations

The study recommends that the Central Bank of Kenya (CBK) and other regulators should plan in advance and influence the macro-economic variables in the right direction. For instance the economy should have sufficient money supply to ensure that there is enough money to conduct trade in the economy.

In addition, exchange rate and inflation should be managed to ensure that property prices are stable, because if investors incur more costs they would pass over the costs to property buyers by increasing property prices. The government should also aim to grow the country's real GDP as this would enhance the growth of real estate investments in the economy as established by the study.

During electioneering year, real estate market and more son selected independent variables faced sudden fluctuations owing to the investment scare by politics. Therefore, there is need to ensure confidence in the real estate market in order to maintain operations of real estate firms in Nairobi.

With introduction of County Governments in Kenya and a working National Government through respective agencies, should work closely to enhance credit intake and enhance real estate growth in Kenya and regional wise. This is possible through review of polices and interest capping imposed on loans extended to customers. Therefore, there's urgency to reconsider interests, enhance ease of processing mortgage loans and approvals. In addition, transfer and conveyance processes should be enhanced to real estate ownership. The agencies should inform the public about importance of mortgage loans and industrial performance of the sector.

5.5 Limitations of the Study

Coding and general processing of data may have been faced with minor errors. These errors may have been part of the research results. In addition, extracting data from published reports involved a lot of time with some requiring extension into midnight to mine. In addition, lack of clear published data on sales performance or housing unit sales for each firm proved a challenge. However, information from KNBS reports greatly aided in contribution.

5.6 Suggestions for Further studies

Future studies should concentrate on studying determinants that affect each of the above variables and connect how they influence performance of the real estate industry. In addition, it would be essential to carry out a study on the economic growth, real estate performance with a specific focus on the strengths that aid the sector performance. Regional markets influence domestic or municipal real estate performance; therefore, future studies would concentrate in assessing how regional wise performance affects individual state performance of the real estate sector. The duration taken to sell properties that have been financed by mortgage finance and customer preference for mortgage financing influences the performance of the real estate sector.

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APPENDICES

APPENDIX I: Population of Study

1. Azizi Realtors
2. Dinara Developers
3. Hass Consult Ltd
4. Homescope Properties Ltd
5. Homes Universal Ltd
6. Knight Frank Kenya (KFK)
7. Lloyd Masika Limited
8. Ryden International LTD
9. Suraya Property Group Ltd
10. Villa Care Ltd
11. FriYads Real Estate
12. Galvin Agencies & Real Estate
13. Garden Real Estate Development Ltd
14. Kisima Real Estate Limited
15. Smart Property Group
16. Garun Real Estate Investment Ltd
17. Raju Estate Agency Limited (REAL)
18. Ardhiworth (Real Estate) Limited
19. Daphen Real Estate Ltd
20. Gakuyo Real Estate Ltd

Source: www.biznakenya.com