THE EFFECT OF MACROECONOMIC FACTORS ON THE FINANCIAL PERFORMANCE OF THE REAL ESTATE SECTOR IN KENYA

BY

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DECLARATION

I hereby declare that this research Project is my original work and has not been presented in any other university or institution of higher learning before.

Signed…… Date……

Kennedy Ndegwa **D63/81040/2015**

This research Project has been submitted for examination with my approval as University of Nairobi Supervisor.

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DEDICATION

To my dear wife, **Rachael Muthoni.**

Your unending encouragement and support made the task a delightful experience.

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ABBREVIATIONS

ANOVA: Analysis of Variance

EADB: East African Development Bank

GDP: Gross Domestic Product

HPI: Housing Property Index

IHFI: International Housing Finance Institutions

KBA: Kenya Bankers Associations

MPT: Modern Portfolio Theory

OECD: Organisation for Economic Co-operation and Development

OLS: Ordinary Least Squares

PTA: Preferential Trade Area

QTM: Quantity Theory of Money

ROA: Return on Assets

SPSS: Statistics Package for Social Sciences

SSA: Sub-Saharan Africa

TGL: Thika Greens Limited

VAR: Vector Auto Regressive Model

VECM: Vector Error Correction Model

ABSTRACT

The macroeconomic variables, both real and financial have a significant effect, positive as well as negative, on the performance of the commercial sector of the economy. The real estate sector in Kenya contributes approximately 9% of GDP, according to a Real Estate Report by Cytonn Investments. However, the sector has experienced increased competition both in residential and commercial properties with prices edging up by only 1.14% in the last three months of the year 2015 according to the housing price index released by the Kenya Bankers' Association. This is an indication that the real estate industry has not been performing well as expected. The research objective was to establish the effect of macroeconomic factors on the financial performance of the real estate sector in Kenya. This study used a descriptive research design. The population for this study comprised 455 registered real estate firms in Kenya. The study utilized secondary data where it was collected from documentation from previous studies, property reports and magazines, journals, data from Housing Finance Corporation, Central Bank of Kenya, Kenya National Bureau of Statistics and Hass Consult Limited. The study covered a 20-year period from year 1997 and 2016. Data was entered into SPSS for generation of frequency tables, charts, correlations and regressions which helps in the analysis. The regression model was a multivariate model. Analysis of variance (ANOVA) was used to test the significance of the model at 95% confidence interval. The study concluded that inflation not only lessens the level of business investment, but also the efficiency with which dynamic factors are put to use. The study also concludes that high lending rates has a negative effect on the financial performance of the real estate sector. The study concludes that un-standardized exchange rates has a negative effect on the performance of the property business and that a unit increase in real GDP will lead to an increase in economic growth which stimulates investment in real estate sector thus the gross domestic product affects the performance of the real estate business in a positive way. The study recommends use of fiscal policies by the Government to control interest rates, inflation rate and exchange rates. This will stimulate investment in the real estate business in Kenya.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Macro-economic factors are used as the basis for judging the economic performance of an economy (Ooi and Liow, 2014). The variables include Gross Domestic Product (GDP), exchange rates, inflation rate, consumer price index, stock market index and interest rates as well as government spending among other government's activities such as political activities. These are important factors in economics as they largely determine the welfare of the economy. Hence, many policy makers at both the micro and macro level hope that these variables will remain constant so as to facilitate business growth. Lynn (2007) noted that due to the interconnection between macro-economic variables, the effect of every economic element causes a ripple effect across the whole economy. Macro-economic variables influence the real estate sector just like all other sectors in the economy. These variables include, inflation levels, GDP and interest rates (Kipkirui, 2015). Omare (2015) posits that measuring the effect of macroeconomic variables is usually a difficult endeavor.

The Keynesian Economic theory, Modern Portfolio theory, Quantity theory of Money, and McKinnon and Shaw theory will guide the study. Keynesian theory postulates that domestic final demand does not necessarily equal the productive capacity of the economy. It indicates that domestic final demand is influenced by a host of factors and sometimes behaves erratically, affecting production, employment, and inflation. Modern Portfolio theory attempts to model the benefits of establishing diversification strategies for portfolio

investments. Quantity theory of money assumes that inflation increases with increase in money supply.

Hass consult (2014) indicated that in 2015 house prices increased marginally due to a decline in marked prices for high end market detached houses. According to HPI (2016) the average housing prices rose by 1.14% with inflation increasing by 6.6 percent. In 2016, interest rates decreased to 4.8 percent from 11.24 percent in 2015. Inflation increased to 7.0 percent in 2017.

1.1.1 Macroeconomic Factors

Macroeconomics has been defined by Romer (2012) as the study of the economy as a whole. Macroeconomic variables are important in the broad economy at either the local or national level. Maghyereh (2012) argues that macroeconomic environment is the sum total of elements and dynamics of an economy, they include: output, income, and the correlation among various economics sectors. Macro-economic variables refer to factors that are relevant to the whole economy at both the regional or national level and affect a large population instead of a small number of select individuals (Khalid et al., 2012). Macroeconomic factors namely the economic output, unemployment, inflation, savings and investment are crucial indicators of economic performance.

Inflation is well-defined as a persistent or continued increase in the prices of services and goods in the long term (Aguiar & Broner, 2006). This is caused by a rise in earning which is not proportional to the increase in production of products and services. This results in more money chasing few goods and services which leads to a substantial decrease in disposable income. The purchasing power of low-income earners is also reduced. Since the

low-income earners comprise the majority of a country's population the reduction in purchasing power leads to lower levels of savings which ultimately affects the performance of Securities exchange.

According to Fischer (1993), interest rate is the cost expressed as a proportion of the amount borrowed that is charged by the lender to the borrower for lending the money. To the borrower, the interest is a cost while to the lender it is a source of revenue. Doumpos and Gaganis, (2012) indicated that interest rates are usually charged per month or annum and proportional to the risk levels of the borrower. Thus, the sum borrowed need to be spent in activities or expenditure that creates more return than the lending rate in order to improve the economic effect.

According to Schiller (2008), exchange rate is the value of local currency required to buy a unit of a foreign currency. The exchange rate is determined by capital account balance, trade balance, current account balance and demand and supply of foreign currency. The exchange rate is prices of one currency expressed in terms of another. The exchange rates can be expressed as either a direct or indirect quotation (Samuelson & Nordhaus, 2010). Ncube & Ndou (2011) indicates that exchange rate plays a vital role in the open economy framework, which is a crucial part of the monetary transmission mechanism.

Schiller (2008) defines Gross Domestic Product (GDP) as the market value of all recognized goods and services produced within a country in a given period of time. He notes that GDP per capita is a key indicator to country's growth. It is a good measure for economic recession and the recovery thereafter. It also shows the economy's broad monetary ability to address externalities. According to Mwangi (2013), GDP is the most

universally applied macroeconomic indicator to measure total economic activity within an economy; the growth rate of the GDP reflects the state of the economic cycle. GDP is measured either with the income approach or the expenditure approach. GDP is considered the broadest indicator of economic growth and economic output.

1.1.2 Financial Performance

According to Yahya (2015), financial performance is the degree to which financial objectives are met or have been met. Financial performance subject to how effectively a firm uses its assets from its principal role of conducting business and its subsequent generation of revenues (Kajirwa, 2015). According to Khrawish (2011) financial performance is the financial well-being of a firm over time. Return on Assets (ROA) is a proportion of the net revenues to its total assets. It assesses the efficiency of the entity management to administration to create revenues by maximizing the resources availed to them by the company.

Nzalu (2015) notes that financial performance focuses on financial statements or reports of a firm. These include dividend growth, sales turnover, capital employed, asset base among others about the firm. Firms stakeholders are mostly interested in the firm's performance as far as finance is concerned (Nyamita, 2014). Financial performance of a firm has several major characteristics, possibilities of the business, expresses competitiveness, economic intents of the company's management and dependability of present or future contractors (Desaro, 2012; Roberts, 2014).

Measurement of financial performance involves financial ratios such as liquidity ratios, activity ratios, profitability ratios, and debt ratios (Levine, 2013). The perspectives of

financial performance measurement include solvency, profitability and liquidity (Kangogo, 2011). Rodenholm & Dominique (2013) indicate that financial performance is measured using accounting-based methods like Return on Equity, Return on Assets, and Gross profit margin.

1.1.3 Macroeconomic Factors and Financial Performance

The relationship between macroeconomic factors and performance has gotten generous thought in the available literature. (Kemal, 2011; Chan, Lee & Lin, 2009; Baum & Crosby, 2012). The macroeconomic variables, both real and financial have a significant influence, positive as well as negative, on the performance of the business sector of the economy (Flannery & Protopapadakis, 2012). In their study, Ongore (2013) explored the effects of macroeconomic environment on the financial performance and established that foreign exchange, interest rate and rate of inflation have considerable influence on the performance of firms in the construction and manufacturing sectors in Kenya. Mishkin and Eakins (2015) explored the impact of macro-economic and micro-economic variables on capital structure and financial performance of Indonesia Food and Beverage Companies and revealed that macro-economic and micro-economic variables had a substantial adverse influence on financial performance.

Hines (2015) established that low interest rates together with limited economic growth, low equity market performance and high inflation negatively affect insurance profitability. Siew and Shaikh (2015) studied the impact of nominal GDP and inflation on the financial performance of Islamic banks and found that nominal GDP has significant and positive

impact on financial performance whereas inflation rate has an insignificant negative correlation with financial performance.

1.1.4 The Real Estate Sector in Kenya

The property business has been growing spontaneously in Kenya. The sector has surpassed returns from government securities and equities (Klimczak, 2013). The sector contributes to 9% of GDP in Kenya, as per the real estate report by Cytonn Investments (Cytonn Investments, 2016). According to Taylor (2014) the real estate industry growth is critical for the aggregate development of a country. According to a study carried out by Hass consult (2015), house prices increased marginally by the end of the year, this was due to a decline in marked prices for high end market detached houses. Accordingly, these prices fell by 0.3% and 2.1% on a year earlier (Omare, 2016).

According to Omare (2016) house prices rose faster due to increased rents in 2015. This led to marginal falls in yields by between 2.0 per cent. Research has shown that real estate accounts for a large stake of wealth since most people in Kenya and worldwide prefer to invest in real estate. Real estate business in Kenya entails buying a house, and it is one of the safest ways to invest your money in Kenya. This is mostly due to the fact that assets like land and houses in Kenya have tended to almost always appreciate (Muchoki, 2013).

The Hass Property Index (2015) has indicated that the upper end of the market is exceedingly saturated, and the price growth may not be sustainable in the future. Some of the big projects include Thika Greens Limited (TGL); a golf estate with planned 4,000 housing units when complete which is situated on 1,135 acres of land in Thika with a value of $650 million and Migaa; a project developed by Home Afrika Ltd featuring 2,500 homes

and an 18-hole golf course situated on a 774 acres of land in Kiambu. Real estate industry in Kenya is very competitive and therefore having competitive advantage is key for survival.

1.2 Research Problem

The macroeconomic variables have a great correlation with financial performance in that they may expose firms to critical dangers of loss and capital unsustainability (Flannery & Protopapadakis, 2012). Golob, Bastic and Psunder (2012) indicated that price level shocks have an adverse effect on prices of assets. The modern portfolio theory presupposes that the returns of a firm are correlated to some factors related to the aggregate economy. Yahya (2015) indicated that the arbitrage pricing theory also explains that macroeconomic forces are the major underlying risk sources for most firms. Therefore, the behaviour of macroeconomic variables, both internal and external, have an effect on the financial performance of firms (Taylor, 2013).

In Kenya, the estate sector contributes 9% of the country GDP though the sector is experiencing increased competition both in residential and commercial properties. As evidenced by the latest house price index (HPI), the real estate market performance looks more fragile than what was expected. Housing prices rose by only 1.14% according to the Kenya Bankers' Association HPI report released in January 2016. This is an indication that the real estate industry has not been performing well as expected (KBA, 2016).

O'Sullivan and Sheffrin (2013) study in Sweden on the effect of macroeconomic factors on financial performance of real estate firms observe that, a country's state of the economy determines the financial performance of real estate firms. In essence, the most influential

macro-economic variables are Gross Domestic Product, exchange rates, interest rates, inflation and market risk. Moss (2014) states that, insurance industry similar to any other industries is affected by various macroeconomic variables for instance unemployment, interest rate, inflation, Gross Domestic Product (GDP), fluctuations in exchange rates and money supply.

Locally, Murigu (2015) research on relationship between macroeconomic variables and financial performance of the insurance industry in Kenya established that inflation, exchange rates and interest rates had an effect on the performance of insurance industry. Rotich (2016) evaluated the effect of selected macroeconomic variables on the financial performance of firms listed at Nairobi Securities Exchange and determined that there was a strong positive relationship between interest rates, inflation, money supply, GDP (per capita) and performance while exchange rate was inversely related and significant. None of these has addressed the problem of whether macroeconomic factors affect the financial performance of the real estate sector in Kenya, thus this study tries to fill the gap by addressing the following question; what is the effect of macroeconomic factors on the financial performance of the real estate sector in Kenya?

1.3 Research Objective

To establish the effect of macroeconomic factors on the financial performance of the real estate sector in Kenya.

1.4 Value of the Study

The study will assist in theory as the Keynesian Economic theory will influence monetary policy actions by the central bank of Kenya and financial policy actions by the government, with the aim of stabilizing output over the business cycle. Portfolio theory will help investors add value in real estate investment as a vehicle in an existing portfolio returns. McKinnon and Shaw theory will help increase investments, safeguard economic growth as well as reduce inflation. Quantity theory of Money considers increase in money supply as a leading factor to financial performance of firms.

The findings on the study will be beneficial to the stakeholders and players in the real estate industry as it will disclose the connection between the macroeconomic factors and the performance of the real estate sector. The study will promote informed decisions by individuals as well as consider the impact of the macroeconomic variables on the performance of the sector.

The findings of this study will be useful to the Kenyan government and other policy makers as it will guide in creation of policies that are worthwhile in the development of real estate sector in the country. The government as the regulator of real estate sector would benefit with the findings of this study as it would be enlightened on the impact to sector by any change of the various microeconomic variables.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter will review past studies relating to macroeconomic factors and performance. The chapter gives the theoretical review, determinants of performance, empirical review and the conceptualization.

2.2 Theoretical Review

Theoretical review refers to the theoretical foundation of a study. A theoretical research has its findings based on existing theories and hypothesis; there is no practical application in the research. The increasing interest in the real estate investment in recent years has naturally caught the interest of academicians. The theoretical review will focus on major theories namely; Keynesian Economic Theory, Modern portfolio theory, McKinnon and Show theory and Quantity theory of money.

2.2.1 Keynesian Economic Theory

Keynesian Economic Theory was developed by John Maynard Keynes in the 1930s. According to the theory, aggregate demand does not essentially equal the productive capability of the economy; instead, it is influenced by a multitude of factors and occasionally behaves intermittently, affecting production, employment, and inflation. In the short run economic output is intensely influenced by aggregate demand. Keynesian theory contends that private sector decisions at times lead to unproductive macroeconomic outcomes which calls for active policy reactions by the public sector. According to the

theory, policies concentrate on the immediate needs and how economic policies can make prompt corrections to a nation's economy. The theory supports an alternative structure that includes direct government control of investment and advanced that financial deepening can occur due to an expansion in government expenditure.

Since higher interest rates reduces private savings, an upsurge in government expenditure stimulates investments and lowers private investments. The theory is relevant to the study since financial performance in the real estate sector is influenced by a host of economic decisions both monetary and fiscal set by the government so as to stimulate economic growth which in turn affect firms' performance. This is because Keynesian believes that the government is seen as the only force to end financial and economic recessions through monetary or fiscal policies, and providing aggregate demand to increase the level of economic output, facilitated through a stable financial system that can spur continued economic stability

2.2.2 Modern Portfolio Theory

Modern Portfolio Theory (MPT) was postulated by Harry Markowitz in his paper Portfolio Selection 1952. The theory modeled the benefits of establishing diversification strategies for portfolio investments. The model is a single-period model, where an investor builds a portfolio at the start of the period. The investor's aim is to maximize the portfolio's expected return, subject to an acceptable level of risk.

Every investor will consider adding real estate investment vehicles in an existing portfolio returns if it will result to increase in expected portfolio returns while maintaining or lowering the portfolio risk (Bruggerman & Fisher, 2008). The theory is relevant to the

study since Modern Portfolio theory endeavors to maximize portfolio expected return for an identified amount of portfolio risk, or equivalently minimize risk for a given level of expected return, by prudently choosing the proportions of various assets through diversification. In real estate, a portfolio may consist of offices, apartments, retail and industrial buildings hence the players in the sector should diversify their markets to enhance financial performance. The theory will help investors in real estate companies reduce the portfolio‘s total risk and improve overall asset allocation efficiency. Investors pursuing stability should give special attention to apartments owing to the attractive returns for every level of risk on a long-term perspective.

2.2.3 McKinnon and Shaw Theory

The McKinnon and Shaw Theory was developed by McKinnon and Shaw in 1973. They argued that governments ought to eliminate interest rate ceilings and allow real interest rates to be determined by the market. This leads to growth in savings and hence investment as well as reducing inflation leading to economic growth in the long run. Founded on this hypothesis, many emerging countries liberalized their interest rates with some realizing significant speeding up in economic growth rates however, in some cases this policy was associated with exceptionally high and volatile real interest rates as well as stagflation (Green& Wachter, 2015).

According to the theory, increase in demand for investment but not the actual investment can occur, if real interest rates are kept below the market equilibrium. Low interest rates are inadequate to generate savings; it can even diminish savings particularly if substitution effects dominate the income effect for households. Capital accumulation is discouraged by

the fact that for a high inflation rate, nominal interest rates are set too low and thus real interest rates could be negative.

The theory is relevant to the study since savings and investments are crucial in enhancing the financial performance in the real estate sector. The theory states that a stifled financial sector discourages both saving and investment since the rates of return are lower than what could be attained in a competitive market which in turn lowers performance. In such a system, financial intermediaries do not function at their full capacity and fail to channel saving into investment efficiently. This impedes the growth of the overall economic system. The theory rests on the assumptions that saving is a growing function of real rate of interest on deposits and real rate of growth in output and investment is a diminishing function of the real loan rate of interest and an increasing function of the growth rate.

2.2.4 Quantity Theory of Money

The theory of quantity theory of money (QTM) was developed by Simon Newcomb, Alfred de Foville, Irving Fisher, and Ludwig von Mises in late 1990s. The historical foundations of the quantity theory broadly consisted of a hypothesis that the stock of money equals price times real income to be combined with a concept of velocity. However, these components can each be given a number of different meanings which must be made to correspond. However, Keynes (1936) challenged the theory in the 1930s, by contending that rise in money supply leads to a reduction in the velocity of circulation and that real income, the flow of money to the factors of production, increased. Therefore, velocity could vary in response to variations in money supply.

Keynes (1936) identify that money supply has a significant impact on inflation rate. Further, inflation has a significant impact on interest rates, which further affects housing prices. For most monetarists, therefore, any anti-inflationary policy will stem from the basic concept that there should be a steady reduction in the money supply. Monetarists consider that instead of governments constantly changing economic policies it is healthier to let non-inflationary policies lead an economy to full employment. The modern quantity theory is a development of the Cambridge cash balance formulation of the quantity theory. The theory is relevant to the study since the quantity theory of money states that there is a direct relationship between the quantity of money in an economy and the level of prices of goods sold hence the level of money in the economy will influence financial performance of real estate firms.

2.3 Determinants of Performance

This part of literature explores determinant factors that contribute to performance. The main factors identified in this study are macroeconomic factors, leverage, liquidity, size of company and age of the company in business.

2.3.1 Macroeconomic Factors

Macroeconomic factors are major factors that influence financial performance of a firm. They include inflation, interest rate exchange rate and Real Gross Domestic Product (real GDP). Inflation has an effect on the financial performance of firms in that an increase in the rate of inflation could have at first negative consequences on financial sector performance through credit market frictions before affecting economic growth (Blanchard, 2014). The trend of GDP affects financial performance, during the declining GDP growth

the demand for credit falls which in turn negatively affect the profitability of firms. Fluctuations in interest rate expose firm's financial position to this interest rate risk and since most individuals purchase real estate products through credit, in times of high interest rates the demand for credit is low which in turn affect financial performance. Wild fluctuations in interest rate pose very critical dangers to an association's profit and capital base changes (La Ferara, 2013). Firms that face foreign exchange risk as a result of fluctuations face financial crisis which results to negative financial performance (Hinchberger, 2013). Fluctuations of foreign exchange affect foreign capital which is crucial to the sector.

Inflation occurs when the prices of goods and services increase over time (Kimani & Mutuku, 2013). The negative effects are however most pronounced and comprise a decrease in the real value of money as well as other monetary variables over time (Blanchard, 2014). Butler et al., (2011) advances that if inflation is volatile, lenders will suffer high interest rate risk if they lend at a fixed rate. Boamah (2014) says that a macro-economic environment of low inflation is an crucial ingredient of a successful mortgage market as it will lead to low and stable interest rates. Bett, (2013) contends that times of low inflation boosts the growth of the property market, as interest rates on loans equally decrease.

Another determinant of performance of a firm is interest rate. This is the price paid by borrower to consume resources now (La Ferara, 2013). Samuelson (2015) pinpoint interest rate risk as a key risk facing the growth of mortgage markets. Boleat (2013) maintains that long term loans are not probable when interest rates are high and volatile and there must also be general economic stability. He further argues that the ideal state of borrowing would

be at an interest rate of three to four percent above the cost of funds, but in most emerging markets the actual spread is five to eight percent and in developed markets it is under two percent. Green and Wachter (2015) lay emphasis on the availability and cost of mortgages as key determinants in the functioning housing markets across nations.

The other macroeconomic factor acting as a determinant to performance is exchange rate. According to Boamah (2014) currency that is stable is crucial in mortgage market success as stable exchange rates attract long-term foreign capital. Lwali (2012) stated that the demand for housing in Sub-Saharan Africa has outdone the supply. In an effort to meet this demand a number of International Housing Finance Institutions (IHFI) have come into play. These comprise Shelter Afrique, overseas private investment corporation, East African Development Bank (EADB) and PTA bank among others. Akinwunmi (2015) ascertain currency risk as one of the major risks in the formation of a mortgage market in emerging countries.

Another macroeconomic factor related to performance is real GDP. This is the value of economic growth adjusted for price changes like inflation or deflation (OECD, 2012). Quigley and Raphael (2014) contends that periods of economic progress have some essential features that impact the mortgage market. Economic growth creates a genuine expectation among buyers and investors of sustained economic development. Higher demand for money puts mounting pressure on interest rates throughout the economy (Moss, 2014). Ngumo (2012) studied the effect of mortgage loans on the residential prices, GDP per capita and interest rate in the demand for mortgage loans.

2.3.2 Leverage

Leverage is a key determinant to financial performance. Leverage indicates how much a business has borrowed compared to its equity. If a firm is unable to pay back as a result of high leverage, a company will stand a risk of being declared bankrupt. Moreover, may lose opportunities for future and new lending. However, Leverage has its good side as it boosts the shareholders' return on their investment and secure tax advantages associated with borrowing (Kakani et al., 2001). An increase in leverage improves performance (Neri, 2001). This happens through improved management incentives creating motivation to invest optimally.

2.3.3 Liquidity

Liquidity refers to ease of converting an asset to cash and thus maintain working capital at recommended institutional level. A more liquid firm is safe since it can manage unexpected contingencies and other commitments hence there will be no effect on performance (Liargovas & Skandalis, 2008). Liquidity is a measure of manager's ability to fulfill immediate obligations of their creditors without having to increase investment activities and liquidate financial assets (Chen & Wong, 2004). There is also a danger of a firm being highly liquid in that managers will tend to invest in projects having negative present value. They may also undertake unnecessary exaggerated perquisite expenditures hence increasing agency costs.

2.4 Empirical Literature

Zulfiqar and Din (2015) studied the relationship between macroeconomic variables and firm performance with textile industries in Pakistan using panel regression analysis. In their

study, they ascertained that an insignificant positive relationship existed between the rate of inflation and firm's financial performance. The data set was time series and thus the suitable analysis tool was Vector Error Correction Model (VECM) to examine the long-term relationship between macroeconomic variables and firm performance.

Robin and Dominique (2013) investigated macroeconomic effects on securitized real estate markets; a comparative study of Sweden and Switzerland. Bivariate regressions were conducted for the macroeconomic factors; all share stock index, exchange rates, unemployment, inflation, term structure, money supply and real GDP per capita, to examine the marginal effect of each variable. The results showed that the macroeconomic effects on real estate stock prices vary among small economies and are inconsistent in a pre-crisis and crisis period.

Oleka, Sabina and Ebue (2015) studied inflation and firm performance in Nigeria. Judgmental sampling technique was used to pick commercial banks in Nigeria. Secondary data from annual published financial statements from 2000 to 2014 was used. The study employed ordinary least squares (OLS) regression analysis technique and results indicate positive insignificant relationship between both earnings per share which was used as proxy measure of financial performance and return on equity. OLS data analysis tool was not suitable for a time series data, thus Vector Auto Regressive Model (VAR) should have been employed instead.

Wabita (2013) studied macroeconomic variables and financial performance of aviation industry in Kenya. Macroeconomic variables used were real exchange rate, GDP growth, money supply, interest rate and inflation on financial performance. The period of study was

between 2008 to 2012. The study employed descriptive, correlation and multiple regression analysis tools and established that the companies ROA in the aviation industry had a weak positive correlation with GDP and annual changes in money supply.

Juma (2014) investigated the influence of macro-economic variables on growth in real estate investment in Kenya. The study followed a descriptive research design. The study used secondary data on annual real estate investments growth as computed from the Hass Consult. These results were supported by both P-Value and F-test statistics. The study concluded that there is a strong positive relationship between the macro-economic variables and real estate investment growth. Also, the study concluded that growth in; exchange rate, diaspora remittances, money in circulation, inflation rate, and real GDP growth do not individually influence the growth in real estate investment in the country, but the combination effect of the change of the macro-economic variables do influence real estate growth.

Ariemba, Kiweu and Riro (2015) investigated macro-economic factors and mortgage market growth in Kenya. Panel data was collected for a period of 30 years from 1984 to 2013 on the unpaid real estate loan portfolio as the dependent variable and the macro-economic variables. Regression analysis was used and the study found no indication of significant influence of inflation, average GDP growth rate, treasury bill rate and national savings rate on entire real estate loan portfolio. However, the study finds evidence of relationship between informal sector employment, the per capita income and exchange rate. The model exhibited that 81% of the disparity in the dependent variable could be explained by the independent variables.

2.5 Summary of Literature Review

Macroeconomic factors are major factors that influence the performance of a firm. They include inflation, interest rate exchange rate and real GDP. Inflation has an effect on the financial performance of firms in that an increase in the rate of inflation could have at first negative consequences on financial sector performance through credit market frictions before affecting economic growth. The trend of GDP affects financial performance, during the declining GDP growth the demand for credit falls which in turn negatively affect the profitability of firms. Fluctuations in interest rate expose firm's financial position to this very real risk. Firms that face foreign exchange risk as a result of fluctuations face financial crisis which results to negative financial performance.

From the above literature review; it is clear that there are quite a number of studies carried out on the effect of macroeconomic factors on the financial performance. However, the evidence seems so inconclusive or outright conflicting from one researcher to another. There is therefore need to carry additional research to try and resolve the above inconsistencies hence the need for the above study on the effect of macroeconomic factors on the financial performance of the real estate sector in Kenya.

2.6 Conceptual Model

Conceptual framework is a scheme of concept (variables) which the researcher operationalizes in order to achieve the set objectives (Mugenda & Mugenda, 2008). According to Blanchard (2014) macro-economic factors can and does affect financial performance of firms. The independent variables in the study are the inflation rate, interest rate, exchange rate and the GDP growth rate while the dependent variable is the financial performance.

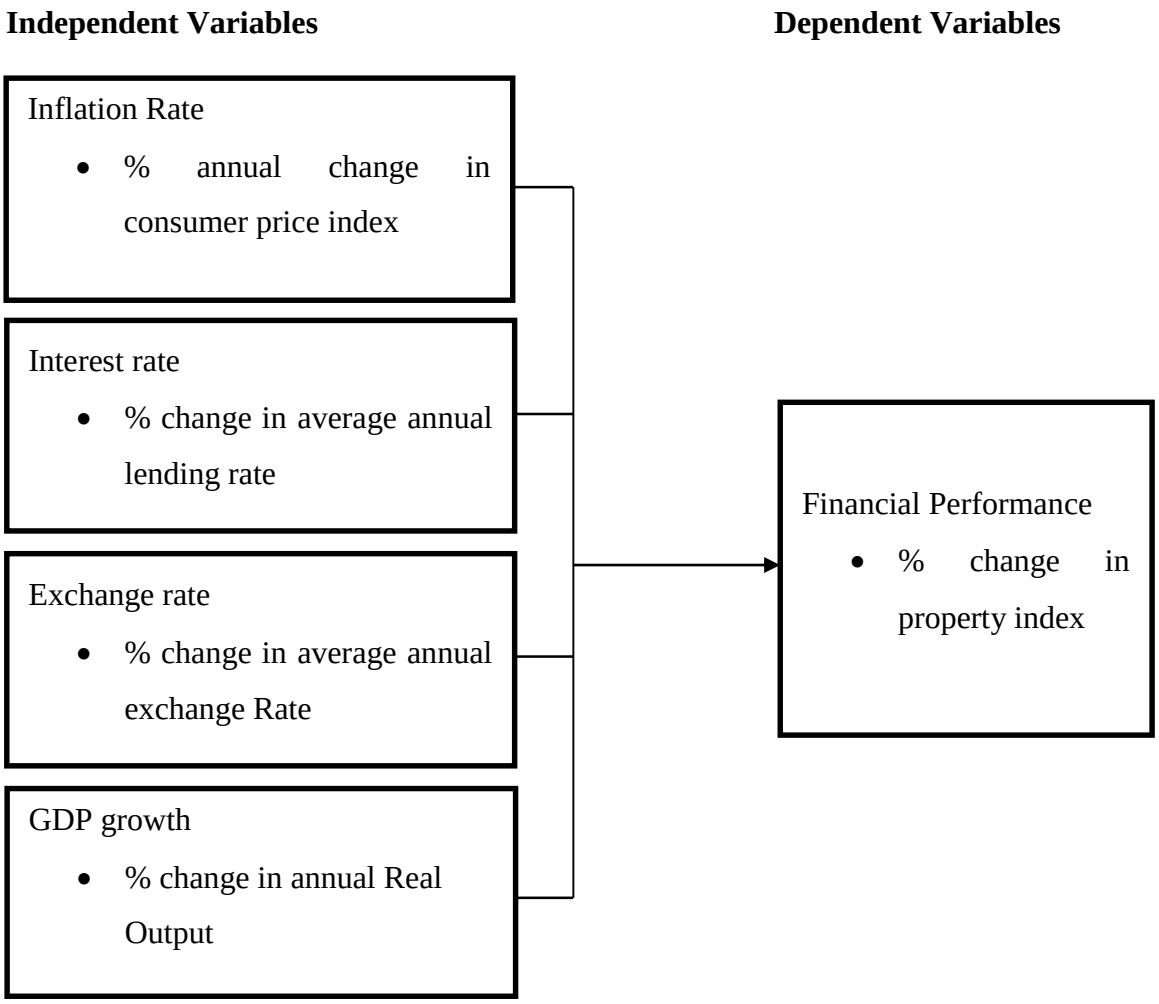

Figure 2.1: Conceptual Framework

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlined the overall methodology that was used in the study. It encompasses the research design, target population, data collection methods and data analysis methods that the researcher used in conducting the effect of macroeconomic factors on the performance of the real estate sector in Kenya.

3.2 Research Design

According to Kothari (2014) research design is a plan, a roadmap and blueprint strategy of investigation conceived so as to obtain answers to research questions. A descriptive study was used and it was preferred in this study since it allows for analysis of micro economic variables and financial performance at the same time. This study used a descriptive research design to establish effect of macroeconomic factors on the performance of the real estate sector in Kenya.

3.3 Population

A population is a well-defined set of people, services, elements, events and group of things or households that are being investigated (Kothari & Garg, 2014). The population for this study comprised the 455 registered real estate firms and agents in Kenya and data was obtained from year 1997 to 2016 and the house property index was obtained from these firms.

3.4 Data Collection

The study utilized secondary data. Secondary data was collected from documentation from previous studies, property reports and magazines, journals, data from Housing Finance Corporation, Central Bank of Kenya, Kenya National Bureau of Statistics and Hass Consult Limited. The study covered a 20-year period from year 1997 and 2016.

3.5 Data Analysis

Analytical tools of data analysis aim to address the research questions of the study which is the effect of macroeconomic factors on the performance of the real estate sector in Kenya. Data that was collected from the study was sorted, edited and corded to have the required quality and accuracy. It was then entered into SPSS for generation of frequency tables, charts, correlations and regressions which helps in the analysis. The regression model was a multivariate model.

The regression function to be used includes the dependent variable and independent variables as written below;

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$

Where:

Y= Financial Performance of real estate; measured by % change in growth rate of property index

β0 - Y intercept

$\beta_1 – \beta_4$ = Measure of the sensitivity of variable X to changes in real estate performance

X_1 – Inflation rate; measured by % change in inflation rate

X_2 – Interest rate; measured by % change in interest rate

X_3 –Exchange rate; measured by % change in foreign exchange rate

X_4 = GDP growth; measured as % change in annual GDP

ε - Error term

3.5.1 Test of Significance

Analysis of variance (ANOVA) was used to test the significance of the model at 95% confidence interval. It is essentially a procedure for testing the difference among various groups of data for homogeneity. It solves the difficulty that arises with t-test when examining the significance of the difference amongst more than two samples at the same time. The test was to confirm whether any linear statistical relationship exists between a dependable variable and the predictor variable.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND INTERPRETATION

4.1 Introduction

This chapter presents analysis and findings of the research. The objective of this study was to determine the effect of macroeconomic factors on the financial performance of the real estate sector in Kenya.

4.2 Descriptive Statistics

Descriptive Statistics is the analysis of data that is used to describe, illustrate or summarize a set of data in a meaningful manner such that patterns might emerge from the data. This study sought to explore the descriptive statistics of inflation rate, interest rate, exchange rate and GDP growth

Table 4.1: Descriptive Statistics on Inflation Rate

	N	Minimum	Maximum	Mean	Std. Deviation
Inflation Rate	80	- 4.950	7.370	3.720	3.108
Interest Rate	80	3.980	16.830	8.964	4.021
Exchange Rate	80	5.770	18.000	9.406	2.850
GDP Growth	80	-11.560	13.750	0.724	3.806

Descriptive results assessing the inflation trend in the twenty-year period recorded a mean average of 3.720 with the highest inflation rate recording at 7.370 and the lowest at -4.950. The mean average value for Interest rate recorded at 8.964 with the highest recording at 16.830 and the lowest at 3.980. The mean aggregate value for exchange rate recorded at 9.406, with the highest recording at 18.00 and the lowest at 5.770. The mean aggregate

value for GDP growth rate recorded at 0.724, with the highest recording at 13.750 and the lowest at -11.560.

4.3 Correlations Analysis

The Pearson product moment correlation coefficient was used to measure the strength of association between the dependent and predictor variables at 95% confidence level and the results are as presented in the table below.

Table 4.2: Correlations Analysis

		Performance of the real estate sector (Y)	Inflation rate (X1)	Interest rate (X2)	Exchange rate (X3)	GDP growth. (X4)
Performance of the real estate sector (Y)	Pearson Correlation	1	-.625**	-.644**	-.477**	.522**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	80	80	80	80	80
Inflation rate (X1)	Pearson Correlation	-.625**	1	.237*	.174	.288**
	Sig. (2-tailed)	.000		.021	.093	.005
	N	80	80	80	80	80
Interest rate (X2)	Pearson Correlation	-.644**	.237*	1	.470**	.290**
	Sig. (2-tailed)	.000	.021		.000	.005
	N	80	80	80	80	80
Exchange rate (X3)	Pearson Correlation	-.477**	.174	.470**	1	.069
	Sig. (2-tailed)	.000	.093	.000		.507
	N	80	80	80	80	80
GDP growth (X4)	Pearson Correlation	.522**	.288**	.290**	.069	1
	Sig. (2-tailed)	.000	.005	.005	.507	
	N	80	80	80	80	80

The correlation study of the variables established a negative correlation coefficient between performance of the real estate sector and Inflation rate, as revealed by the correlation factor of -0.625. This strong association was found to be statistically substantial as the significant

value was 0.000 which is less than 0.05, These findings supports the findings by Omoudo (2003) who found that Inflation reduces the value of money and makes it difficult for the investment companies since inflation do not favor rapid economic growth.

The study also found a negative correlation between performance of the real estate sector and Interest rate as demonstrated by correlation coefficient of -0.644, the significant value was 0.000 which is less than 0.05, the study established a negative correlation between performance of the real estate sector and Exchange rate as shown by correlation coefficient of -0.477. The significant value was 0.000 which is less than 0.05; these findings are in line with the study findings by DeYoung and Rice (2004) that performance of investment companies is positively correlated to fair and standard exchange rates.

The study further established a positive correlation between the performance of real estate sector and GDP growth as demonstrated by a correlation coefficient of 0.522. This sturdy relationship was established to be statistically significant as the significant value was 0.000 which is less than 0.05 these results are in line with the study findings by Zandberg (2009), who asserts that investors certainly worry about adverse GDP growth, which is a key factor that economists use to define whether an economy is in a decline.

4.4 Regression Analysis

In this study, the researcher conducted a multiple regression analysis to assess the influence the dependent variable impacts among the predictor variables. The research used statistical package for social sciences (SPSS V 21.0) to code, enter and calculate the depth of the multiple regressions.

4.4.1 Model Summary

The model summary is presented in the Table below

Table 4.3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.966[a]	.933	.930	.58576

In order to define the percentage of variation in the dependent variable that is explained by the independent variables, coefficient of determination was used. The adjusted R^2 is the percent of the variance in the dependent explained uniquely or jointly by the predictor variables. The model had an average adjusted coefficient of determination (R^2) of 0.930 inferring that 93% of the variations in the study found a positive correlation between performance of the real estate sector as explained by the predictor variables understudy.

4.4.2 Analysis of Variance

The study further assessed the significance of the model by conducting an Analysis of Variance. The findings are presented in table below.

Table 4.4: Summary of One-Way ANOVA Results

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	43.876	4	10.969	14.763	.002[b]
	Residual	55.725	75	0.743		
	Total	99.601	79			

(Critical value = 2.49)

From the ANOVA results, the study determined the regression model had a significance level of 0.002 which infers that the data was ideal for making a conclusion on the

population parameters since the value of significance (p-value) was less than 5%. The calculated value was greater than the critical value (14.763> 2.49) demonstrating that inflation rate, interest rate, GDP growth and exchange rate all have a substantial effect on performance of the real estate sector. The model was proved to be significant since the p-value was less than 0.05.

4.4.3 Coefficients

In addition, the study used the coefficient table to define the study model. The results are highlighted in the table below.

Table 4.5: Coefficients

Model		Un-standardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std Error	Beta		
1	(Constant)	1.356	0.321		4.224	.002
	Inflation Rate (X1)	- 0.056	0.015	-0.045	-3.733	.015
	Interest Rate (X2)	-0.921	0.197	-0.897	-4.675	.002
	Exchange Rate (X3)	-0.612	0.189	-0.605	-3.238	.004
	GDP Growth %(X4)	0.019	0.004	0.017	4.750	.011

From the above SPSS generated output, the relationship between financial performance of real estate firms and the predictor variables can be conveyed using the following regression equation:

$$\mathbf{Y= 1.356 + (-0.056)\ X_1 + (-0.921)\ X_2 +(-0.612)\ X_3 + 0.019\ X_4}$$

From the acquired regression model above, a component change in inflation rate while maintaining the other factors constant would result to a decrease in performance of the real

estate sector by a factor of 0.056, a unit increase in Interest rate; all other factors being equal would lead to a decrease in performance of the real estate sector by a factor of 0.921. A unit change in Exchange rate while holding the other factors constant would lead to a decrease in performance of the real estate sector by a factor of 0.612.

A unit change in GDP growth and all other things held constant would lead to an increase in performance of the real estate sector by a factor of 0.019. The analysis was conducted at a 5% significance level. The criteria for comparing whether the independent variables were significant in the model was through comparing the acquired probability value and $\alpha = 0.05$. If the probability value was less than α, then the independent variable was significant otherwise it wasn't. All the independent variables were substantial in the model as their probability values were less than $\alpha = 0.05$

4.5 Discussion of findings

Results obtained shows that, inflation rate has a significant influence on the performance of the real estate sector. The findings also revealed a negative correlation between high inflation rate and the performance of the real estate sector (Pearson correlation = -0.625, P value =0.000) Test regression results further predict that a component increase in inflation rate would lessen the performance of the real estate sector (Beta coefficient value = - 0.056, Significant value =0.015). These results corresponds with the findings by Montel (2005), that Inflation reduces the value of money and makes it difficult for the investment companies since inflation do not favor rapid economic growth.

The study further revealed that Inflation leads to insecurity about the future prospects of investment plans. This is more so when high inflation is also linked with increased price

variability). High inflation decreases a firm's profitability in the medium and long-term periods sinking not only the level of business investment but also the effectiveness with which productive factors are put into use. The study outcomes concur with Kashyap & Stein (2000) who found that real estate companies are forced to allocate more resources in dealing with the effects of high inflation. In their measures, firms would be more vigilant in monitoring their competitors' prices to fathom if escalations are part of a general inflationary leaning in the economy or its due to industry specific causes.

Results obtained show that, Interest rate has a significant influence on the financial performance of the real estate industry. The findings also show a negative correlation between high Interest rate and the performance of the real estate sector (Pearson correlation = -0.644, P value = 0.000). Test regression results further predict that a unit rise in Interest rate would reduce the performance of the real estate sector by -0.921 at significant value of 0.002. These findings are consistent with the study findings by Ongore and Okoth (2013) who found that interest rate variation affected the performance.

Descriptive statistics also show that when lending interest rates go up, investments reduces because it becomes more expensive to borrow and more appealing to save funds. This leads to reduced demand as consumption decreases. So the decrease in saving leads to the decrease in investment hence it lowers the investment rates. The study results are in line with Toni and Tonchia (2003) findings that growth in interest rates affects investment companies who have to pay more to finance their operations. High operational costs and capital requirements consequently discourage investments. The findings seem to agree with those of Owolabi and Obida (2012) who found that high interest rate affected profitability.

Results obtained show that**,** exchange rate has a significant influence on the performance of the real estate sector. The findings also revealed a negative correlation between exchange rate and the performance of the real estate sector (Pearson correlation = - 0.477, P value = 0.000). Test regression results further predict that a unit increase in exchange rate would decrease the performance of the real estate sector by a factor of (Beta coefficient value = - 0.612, Significant value =0.004). These findings agree with the study findings by DeYoung and Rice (2004) that business performance is negatively correlated to high exchange rates.

Descriptive statistics also show that strong exchange rate is habitually considered to be a sign of economic strength which favors business performance and investment. High exchange rates reduces the wealth of local investors and further reduces liquidity in the economy. The exchange rates in Kenya affects aggregate demand by way of its effect on export prices, purposely varying exchange rates to influence the macro-economic environment. Fluctuations in exchanges rates at first work their way into an economy through their effect on prices. The findings seem to agree with those of Owolabi and Obida (2012) that raising exchange rates (revaluation) can help minimize excessive aggregate demand and consequently keep inflation down.

Results obtained show that GDP growth is a significant determinant of the performance of real estate sector in Kenya. The findings also recorded a positive correlation between GDP growth and the performance of the real estate sector (Pearson correlation = 0.522, P value = 0.00). Test regression results further predict that a unit increase in GDP growth would increase the performance of the real estate sector by a factor of (Beta coefficient value = 0.019, Significant value =0.011). The study further revealed that the effects of an increase

in real gross domestic product (GDP) leads to an increase in economic growth. The study outcomes are in line with Zandberg (2009), who asserts that negative GDP growth causes apprehension to the investors.

Descriptive results also show that GDP growth rate is of importance because it gives managers an idea of the future performance of the real estate sector. GDP growth rate is salient in stimulating investment and profitability in real estate sector in Kenya. The findings are in support of the research finding by Eriotis, (2007) who established a positive relationship between profitability and GDP growth rate.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary of the study findings, conclusion and recommendations. The chapter is presented in line with the objective of the study which was to establish the effect of macroeconomic factors on the financial performance of the real estate sector in Kenya.

5.2 Summary of Findings

The study sought to determine the effect of macroeconomic factors on the financial performance of the real estate sector in Kenya. The macroeconomic factors were rate of inflation, interest rates, exchange rate and GDP growth.

Inflation rate has a significant influence on the performance of the real estate sector as there was a negative correlation between high inflation rate and the performance of the real estate sector (Pearson correlation = -0.625, P value =0.000) Test regression results further predict that a part increase in inflation rate would decrease the performance of the real estate sector (Beta coefficient value = - 0.056, Significant value =0.015). Descriptive results assessing the inflation trend in the twenty-year period recorded a mean average of 3.720 with the highest inflation rate recording at 7.370 and the lowest at -4.950. Inflation reduces the value of money and makes it difficult for real estate companies to invest as inflation does not favor rapid economic progress. Equally, it leads to doubt about the future cost-effectiveness of investment projects particularly when high inflation is also linked with

increased price variability. A high inflation rate decreases firm's profitability in the medium-long run periods leading to a reduction in the level of industry investment.

Interest rate has a significant influence on the performance of the real estate sector as there was a negative correlation between high interest rate and the performance of the real estate sector (Pearson correlation = -0.644, P value = 0.000) Test regression results further predict that a unit increase in Interest rate would reduce the performance of the real estate sector (Beta coefficient value = -0.921, Significant value =0.002). Descriptive statistics also show that the mean average value for Interest rate recorded at 8.964 with the highest recording at 16.830 and the lowest at 3.980. When lending interest rates increases it becomes more expensive to borrow money and more attractive to save money making investments to go down. In addition, a rise in interest rates means that investment companies have to pay more to fund their operations.

The findings revealed that exchange rate has a significant influence on the performance of the real estate sector. The findings also revealed a negative correlation between exchange rate and the performance of the real estate sector (Pearson correlation = -0.477, P value = 0.000) Test regression results further predict that a unit increase in exchange rate would diminish the performance of the real estate sector by a factor of (Beta coefficient value = -0.612, Significant value =0.004). Descriptive statistics also shows that the mean aggregate value for exchange rate recorded at 9.406, with the highest recording at 18.00 and the lowest at 5.9770. Exchange rate misalignment has often taken the form of overvaluation which undesirably affects the tradable merchandises by lowering investors' real prices.

Findings deduced that GDP growth is a significant determinant of the performance of the real estate sector in Kenya. The findings also revealed a positive correlation between GDP growth and the performance of the real estate sector (Pearson correlation = 0.522, P value = 0.00). Test regression results further predicts that a unit increase in GDP growth would increase the performance of the real estate sector by a factor of (Beta coefficient value =0.019, Significant value =0.011). Descriptive results show that the mean aggregate value for GDP growth rate was recorded at 0.724, with the highest recording at 13.750 and the lowest at -11.560. The study further revealed that the effects of an increase in real gross domestic product (GDP) leads to an increase in economic growth.

5.3 Conclusions

The study concludes inflation rate has a substantial influence on the performance of the real estate sector. Inflation not only shrinks the level of industry investment, but also the competence with which productive factors are put into use. Inflation reduces the value of money and therefore does not favor rapid economic growth. The study also concludes that high lending rates has a negative influence on the performance of the real estate business. A rise in interest rates means that real estate firms have to pay more to finance their operations while low lending rates creates appetite for borrowing from banks which stimulates investment and consequently the performance of the real estate business.

The study determines that exchange rate has a significant influence on the performance of the real estate sector because un-standardized exchange rates have a negative influence on the performance of the real estate business and that a unit increase in real GDP will lead to

an increase in economic growth which stimulates investment in real estate sector thus GDP affects the performance of the real estate business in a positive way.

5.4 Limitations

This study was not without limitations, the study focused on the effect of macroeconomic factors on the financial performance of the real estate sector in Kenya and was limited to only the 455 registered real estate firms in Kenya.

The analysis involved multiple variables and it was difficult to provide required explanation on the relationship between macroeconomic variables and financial performance because it relied on the limited number of macro-economic factors while financial performance depends on many other different factors.

The target population was done on a small section of the property sector in Kenya. The findings might not be usefully applied to the whole sector in Kenya. The target population of the study is itself a limitation of this study.

There was time limitation as the data was obtained from year 1997 to 2016 which was a period of 20 years.

The study was limited to secondary data from Housing Finance Corporation, Central Bank of Kenya, Kenya National Bureau of Statistics and Hass Consult Limited. While the data was verifiable since it came from authentic publications, it nonetheless could still be prone to shortcomings.

5.5 Recommendations

5.5.1 Policy Recommendations

The study recommends that the Central Bank of Kenya and other regulators need to regulate the country interest rates as it was found that high interest rates negatively affect the real estate sector performance in the country.

Further, the government needs to regulate the country inflation rate through various monetary policies since it was found out that a unit increase in inflation rate negatively impacts the financial performance of real estate companies.

Exchange rates should be managed by the government in order to stimulate investment in the real estate business in the country.

The policies put in place to hedge the real estate investment firms against the effects of interest rate risk should be explored and considered for use by businesses in other industries to avoid losses triggered by interest rate volatility.

5.5.2 Suggestions for Further Research

This study sought to determine the effect of macroeconomic factors on the financial performance of the real estate sector in Kenya. A comparative study can be done on the effect of macroeconomic factors on the financial performance of other sectors of the economy and help compare the results.

The study was limited to only the four macroeconomic variables that affect financial performance in the real estate sector. A comparative study can be done on other variables that do affect the financial performance in the real estate sector.

The study was limited to only 20 years; a longer duration of the study could have captured periods of various economic significances such as booms and recessions. This may have probably given a longer time focus hence given a broader dimension to the problem.

The target population was done on a small section of the real estate sector in Kenya. A study should be done on the effect of macroeconomic factors on the financial performance of other real estate firms and help compare the findings.

The study was limited to only secondary data from historical sources. Further researches should be conducted through primary data. Primary data is first hand and accurate and reduces biases that would otherwise be experienced when using secondary data.

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APPENDICES

Appendix I: Data Collection Form

YEAR	Growth Rate of Property Index	Inflation Growth Rate	Interest Rate Growth	Foreign Exchange Growth Rate	GDP Growth Rate
1997-1st Quarter					
1998- 1st quarter					
1999- 1st quarter					
2000-1st quarter					
2001-1st quarter					
2002-1st quarter					

YEAR	Growth Rate of Property Index	Inflation Growth Rate	Interest Rate Growth	Foreign Exchange Growth Rate	GDP Growth Rate
2003-1st quarter					
2004-1st quarter					
2005-1st quarter					
2006-1st quarter					
2007-1st quarter					
2008-1st quarter					

YEAR	Growth Rate of Property Index	Inflation Growth Rate	Interest Rate Growth	Foreign Exchange Growth Rate	GDP Growth Rate
2009-1st quarter					
2010-1st quarter					
2011-1st quarter					
2012-1st quarter					
2013-1st quarter					
2014-1st quarter					

YEAR	Growth Rate of Property Index	Inflation Growth Rate	Interest Rate Growth	Foreign Exchange Growth Rate	GDP Growth Rate
2015-1st quarter					
2016-1st quarter					

Appendix II: Raw Data

YEAR	Growth Rate of Property Index	Inflation Growth Rate	Interest Rate Growth	Foreign Exchange Growth Rate	GDP Growth Rate
1997-1st Quarter	5.62	12.49	9.90	2.30	7.12
	4.56	14.30	9.41	-1.35	8.36
	-1.52	14.18	8.58	13.75	8.69
	5.87	10.78	8.66	0.73	12.76
1998- 1st quarter	-2.57	8.87	8.66	-4.31	8.25
	5.75	6.93	8.74	0.51	7.26
	2.34	5.60	8.91	-2.25	6.71
	3.26	6.07	8.74	1.44	4.84
1999- 1st quarter	4.48	5.47	8.34	3.71	4.62
	2.36	4.48	8.00	9.50	4.73
	4.38	4.52	7.67	6.77	5.50
	-1.30	4.34	7.18	0.49	5.17
2000-1st quarter	3.29	5.31	6.85	-2.73	6.71
	2.60	8.52	6.68	4.19	8.25
	2.27	11.77	5.94	1.38	7.04
	2.59	15.02	5.94	2.44	3.85
2001-1st quarter	3.06	16.61	5.77	-0.96	5.72
	1.30	15.71	6.02	0.03	6.60
	-1.63	13.22	6.44	0.94	5.06
	2.99	10.17	15.02	-0.11	6.16
2002-1st quarter	2.83	7.75	17.82	-0.73	6.38
	3.71	5.79	17.82	0.15	6.16
	2.54	4.65	15.18	0.39	6.71
	2.70	3.98	11.55	0.93	6.05
	2.21	5.93	8.74	-4.60	6.93

YEAR	Growth Rate of Property Index	Inflation Growth Rate	Interest Rate Growth	Foreign Exchange Growth Rate	GDP Growth Rate
2003-1st quarter	3.64	4.11	9.41	-3.14	5.83
	-2.63	8.90	8.42	3.33	6.27
	2.67	12.61	8.42	0.83	6.71
2004-1st quarter	2.51	15.62	8.42	-0.25	6.39
	3.29	16.08	8.42	2.74	7.36
	3.24	14.11	8.42	2.11	7.65
	2.81	10.56	8.42	0.27	11.23
2005-1st quarter	5.30	12.65	8.42	-5.45	7.26
	6.67	14.49	8.91	-0.20	6.39
	6.19	14.37	11.39	-1.37	5.90
	3.78	10.92	11.39	-2.07	4.26
2006-1st quarter	5.20	8.99	11.39	-2.43	4.07
	7.37	7.02	10.40	0.08	4.16
	-1.08	5.67	10.07	1.33	4.84
	7.31	6.15	9.90	-2.99	4.55
2007-1st quarter	-3.14	5.54	10.00	-2.03	5.90
	-2.49	4.54	9.50	-3.19	7.26
	4.27	4.58	8.67	-0.66	6.20
	5.64	4.40	8.75	-2.76	3.39
2008-1st quarter	7.03	5.38	8.75	3.93	5.03
	7.31	8.63	8.83	-8.35	5.81
	4.69	11.92	9.00	8.67	4.45
	-4.95	15.22	8.83	11.62	5.42

YEAR	Growth Rate of Property Index	Inflation Growth Rate	Interest Rate Growth	Foreign Exchange Growth Rate	GDP Growth Rate
2009-1st quarter	6.76	16.83	8.42	2.46	5.61
	6.62	15.92	8.08	-1.44	5.42
	-4.59	13.39	7.75	-2.90	5.90
	5.45	10.30	7.25	-1.46	5.32
2010-1st quarter	6.55	7.85	6.92	1.76	5.13
	-2.98	5.87	6.75	3.10	6.10
	4.93	4.71	6.00	2.46	5.52
	6.41	4.03	6.00	-0.43	5.90
2011-1st quarter	4.99	4.16	5.83	2.02	7.54
	6.28	6.01	6.08	4.51	6.63
	5.83	9.02	6.50	7.41	6.12
	3.56	12.78	15.17	0.92	4.43
2012-1st quarter	4.89	15.83	18.00	-11.56	4.27
	6.94	16.29	18.00	-0.02	4.34
	4.78	14.30	15.33	0.19	5.12
	4.88	10.70	11.67	1.52	4.76
2013-1st quarter	5.78	7.26	9.50	1.31	6.14
	6.11	5.04	8.83	-2.49	7.52
	6.84	4.56	8.50	3.04	6.46
	4.19	5.39	8.50	-1.57	3.54
2014-1st quarter	6.62	6.20	8.50	0.49	5.23
	6.88	6.83	8.50	1.05	6.34
	5.24	7.24	8.50	1.12	4.56
	6.54	6.98	8.50	1.82	5.64

YEAR	Growth Rate of Property Index	Inflation Growth Rate	Interest Rate Growth	Foreign Exchange Growth Rate	GDP Growth Rate
2015-1st quarter	6.36	6.67	8.50	1.79	5.87
	-2.23	6.66	9.00	4.51	5.62
	7.14	6.39	11.50	6.92	6.13
	5.13	6.44	11.50	-0.58	5.54
2016-1st quarter	6.16	7.27	11.50	-0.46	5.33
	6.78	7.26	10.50	-0.86	6.32
	4.15	6.97	10.17	0.30	5.71
	6.28	7.02	10.00	0.38	6.17