EFFECT OF FISCAL POLICY VARIABLES ON THE GROWTH OF REAL ESTATE SECTOR IN KENYA

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DECLARATION

I, the undersigned, declare that this is my original work and has not been presented to any institution or university other than the University of Nairobi for examination.

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D63/84113/2015

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

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DEDICATION

I dedicate this work to my wife Angelica Wanjiku and my children Mark Lee, Lisa and Lily. I thank you very much for the love, patience and sacrifices that you have made for me. I have been forced to be away from you most of the time and at the hour of need but with your understanding, patience and prayers, we have reached this far.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABREVIATIONS AND ACRONYMS

ANOVA	Analysis of Variance
BOP	Balance of Payments
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GNP	Gross National Product
KNBS	Kenya National Bureau of Statistics
SPSS	Statistical Package for Social Sciences
VIF	Variance Inflation Factors
CPI	Consumer Price Index
CBK	Central Bank of Kenya
KRA	Kenya Revenue Authority
VECM	Vector Error Correction Model

ABSTRACT

Kenya has experienced a big boom in the real estate sector in the recent past to be ranked the fourth highest contributor to the economy. This is as a direct response to increased demand. The Kenya population is fast growing coupled with an increase in rural-urban migration. The middle class with demand for housing in the city is fast rising. Kenya is putting in place fiscal policies to grow the real estate sector in the country as it is believed to be a key contributor to economic prosperity. This study explored the effect of fiscal policy variables on growth of real estate sector in Kenya. The population for the study was all the 80 real estate firms that form the real estate composite index. The independent variable was fiscal policy as measured by balance of payment, government expenditure, external government debt and taxation. The control variables were interest rate as measured by CBK quarterly lending rate, inflation rates as measured by quarterly CPI, unemployment as measured by unemployment rate and exchange rates as measured by quarterly exchange rate between ksh and usd. Growth of the real estate sector was the dependent variable which the study sought to explain and it was measured by quarterly percent growth in composite index. Secondary data was collected for a period of 10 years (January 2008 to December 2017) on a quarterly basis. The study employed a descriptive cross-sectional research design and a multiple linear regression model was used to analyze the relationship between the variables. Statistical package for social sciences version 21 was used for data analysis purposes. The results of the study produced R-square value of 0.813 which means that about 81.3 percent of the changes in growth of the real estate sector in Kenya can be explained by the four selected independent variables while 18.7 percent in the variation was associated with other factors not covered in this research. The study also found that the independent variables had a strong correlation with growth of the real estate sector (R=0.902). ANOVA results show that the F statistic was significant at 5% level with a p=0.000. Therefore the model was fit to explain growth of the real estate sector in Kenya. The results further revealed that individually only balance of payment and unemployment rate are statistically significant determinants of growth of real estate sector in Kenya. This study recommended that adequate measures should be put into place to improve and grow the real estate sector in Kenya by reducing both the prevailing unemployment rate levels and current account deficit.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Fiscal policy is one of the factors that affect the economic conditions in Kenya. According to Afonso and Sousa (2011), fiscal policy is used to control the revenue and the expenditure of the economy. John Maynard Keynes, a British economist, came up with a theory that explains fiscal policy. It states that an increase or a decrease in taxes and expenditures has an impact on employment, inflation and how money flows in the economy. Masika (2010) posits that the real estate sector has a number of advantages which include creating job opportunities, providing housing structures to households, reducing poverty levels and improving income distribution in the economy. The current study seeks to find out what the effect of fiscal policy variables is on the growth of Kenya's real estate sector.

This study will be based on two theories namely; the Wagner's law of increased government activities and Musgrave Rostov's theory. The Wagner hypothesis seeks to come up with either a direct association with regard to government spending and performance in the economy but it also determines whether there exists an indirect cause-effect relationship occasioned through spending by the government to the growth of the economy. The Musgrave theory opines that expenditure by the government, particularly on human capital and physical infrastructure, can promote growth even though the foundation of financing of such expenditures can translate to derailed growth of the economy. Musgrave and Musgrave (1989) opine, "The growth retardation is experienced because of disincentive effects associated with taxation".

Kenya's real estate has been booming since the 2000s as the property market is reacting towards increased demand. This increased demand for housing has been associated with a vast majority of rich investors investing in shopping malls, restaurants and office complexes. Further, government's expenditure on construction works such as rapid urbanization, airports expansion; expansion of the middle class and population growth have also contributed to the growing demand. According to Real Estate Report by Cytonn Investment of the third quarter of 2017, the greatest growth was reported by construction industry at 16.2% ahead of agriculture which reported 8.1% and financial service which reported 11.9%. Typically, foreign real estate firms are moving their operations into the country in an attempt to capture the promising market which is generating a return of between 25% and 30% (Knight Frank Economic Report, 2016).

1.1.1 Fiscal Policy

This involves influencing the economy through the use of the revenue collected by the government and its expenditure. Taxation and government spending and taxation are the main fiscal policy tools. To realize the economic goals of full employment, stability of prices and the growth of the economy, fiscal policy is used by the government to influence the level of aggregate demand. According to Funke and Nsouli (2003), the economics put forward by Keynesian indicate that aggregate demand can be increased by increasing expenditure by the government and lowering the tax rates, and once the economic boom has occurred, the government expenditure can be lowered and taxes increased. Fiscal policy in the past has been viewed as a tool for managing demand. The meaning of this as posited by Steven, 2003 is that government expenditure ,the budget balance and tax rate

can be influenced to help in smoothening the volatile nature of the national output especially when the economy is in recession, for example due to an external shock.

One of the key instruments of fiscal policy is taxation. An increase or a decrease in tax, affects the amount of money consumers have for their spending and thus influencing the economy as a whole. Consumers have more money when the level of taxation reduces and thus their level of spending goes up. When consumers spend more, businesses gain more revenues and thus they are able to grow and employ more people. Heyne et al., (2002) points out that reduction in taxes is a measure of fiscal policy aimed at encouraging the growth of the economy.

Another instrument of fiscal policy is government expenditure. The level of government spending influences economic activities and job creation. An illustration of this is the construction of the standard gauge railway by the government. The funds allocated to the project by the government were used to hire individuals thus providing jobs to the jobless and therefore injecting money into the economy. According to Larch and Nogueira, (2009), increased government expenditure lowers unemployment and increases the growth of the economy. Reducing taxes and increasing spending can both promote economic growth, but the government has to keep a balance between the money it obtains through taxes and the money it uses for spending to avoid a situation where it spends more than it is receiving from taxes, called deficit, meaning it is losing money over time. Operating on a deficit causes the government to accumulate debt (Heyne et al., 2002).

1.1.2 Growth

Naceur and Goaied (2001) defined growth as an approach used by a firm to increase its revenues with greater product sales or service income. Lee (2009) defines growth as

increasing profitability through cost minimization. Therefore, growth can be described as increased business sales, business expansion through merger and acquisition, growth in profit, product and service development, diversification and an increment in number of staffs. Growth in financial terms is the increase in business revenues or sales. According to Gudda (2003), the act making an enterprise more successful is the growth of a business. A business achieves this when its revenue increases through increased product or service sales or by producing at lower costs.

Loderer (2009) posits that growth can be determined using various indicators; the mostly used include assets, sales, employment, market share, profit and physical output. Sales are universally acceptable indicator of a firm's growth. Assets value depends on the capital strength of an industry. The firm's market share might be ambiguous. This is because market share differences might not be relevant especially for small sized firms hence making a comparison of firms market shares for firms that operate in dissimilar markets might not lead to valid conclusion. It is difficult, almost impossible to compare physical output across industries, due to complexity and the nature of the firms operations in different sectors. Profits are universally acceptable measure of growth since they consider various aspects of the firm apart from its size.

There are no specific measures of growth, however going by the changes that occurs in the financial statements, as per the financial position statement and comprehensive income statement, one can determine whether the firm, industry or sector is at a high level of growth or not. The key indicators to establish the growth of a sector is increase in total assets and the liabilities held by a firm; short term liabilities and long term. Long-term liabilities are highly utilized when the firm opts to expand externally (Loderer, 2009). This

study will measure growth using the composite growth index provided by Hass Consult Ltd.

HassConsult is committed to the quarterly publication of The Hass Property Index. Over the last decade, this has proven to be a vital tool providing home owners, investors, consumers and financial industry with historical and current information regarding house price inflation- allowing enabling them to make informed decisions in the housing market so as to attain the highest returns. It has also employed best statistical practices to ensure that the various properties sold on quarterly basis do not give a false impression of the actual change in house prices. The quarterly figure computes the mix adjusted average house price for middle and upper sections of the Kenyan market only (HassConsult, 2018).

1.1.3 Effect of Fiscal Policy on Growth

According to Keynes, fiscal policy influences aggregate demand thus affecting the growth of the various sectors of the economy. On the other hand the classical economic theory illustrates the crowding out effect of fiscal policy which affects the provision of loans and the sectors of economy that are productive. The crowding out effect on the private sector reduces the sector growth. Furthermore, from a Ricardian perspective Barro, (1974); Barro, (1979), Ricardian's point of view posits that fiscal policy is impotent and it has no influence on the sector growth.

A country’s real estate sector growth is affected by changes in restrictions that include removal of government barriers to trade as well as privatization of government agencies. A country’s appeal for sector’s growth is also attributed to by economic growth as states that have high potential for economic growth may enable the firms to be able to take advantage of that growth by setting up business there. Exchange rates together with tax

rates also have impact on a country's growth. Low-level tax rates on corporate profits have a high probability of attracting investments while organizations prefer to direct investments to countries where the local currency is expected to appreciate against their own currency (Olson, 2008).

According to economic theory, public debt is good for a country's economic growth. However, this is only possible up to a certain level beyond which its effects are adverse to an economy. The theory of debt overhang as explained by Krugman (1988) clearly demonstrates how accumulation of high public debt leads to low FDI inflows translating into low economic growth of a country. According to Krugman (1988), debt overhang refers to a situation where the existing external debt is very large. The theory suggests that foreign investors will be discouraged from investing in a country that has a large external debt since part of their proceeds would be used to service the debt through high taxation. On the other hand, the theory postulates that reducing debt obligation results to a rise in both domestic and foreign direct investment thus minimizing the chances of debt default and stimulating growth in the country.

1.1.4 Real Estate Sector in Kenya

Real estate sector refers to all firms involved in land and any property that sits on it. Real estate can be industrial, residential or commercial. According to Kenya National Bureau of Statistics, 2013, the real estate sector since the last few years has underwent tremendous growth and is the fourth highest in contributing to the country's GDP . This has been caused by the increasing demand for housing. Population in the country is facing a rapid growth coupled with an increase in rural-urban migration. The middle class with demand for housing in the city is fast rising.

In spite of the fact that the fiscal policies have been fluctuating overtime, Kenyan real estate sector has experienced tremendous growth. Kenya's strategic position in East Africa and its developing economy has increased the number of overseas investors putting their money into the tourism and real estate sector (CIA fact book) also into the holiday homes, resorts and on the retirement property developments situated in the seashores and in the game reserves. In Kenya, Residential property investment opportunities do exist for small personal investors while for large and corporate investors, there are real estate possibilities developing for them daily if they are looking for a true emerging market with long term sustainable possibility of yield, profit and growth (Property Kenya, 2015).

CFC Stanbic bank in 2013 carried out a survey on the real estate market in Kenya and it reported that the market has been very active for the last ten years. The causes of this include, more individuals nowadays want to own their own homes, more people are moving from the rural areas to the urban regions and increased migrations in to the country. These factors have caused a significant rise in the price of purchasing a property and higher rents which are not expected to decrease in the short run as pointed out by (Mwithiga, 2010). Cytonn Investment (2018) have attributed the increased purchasing power in the real estate sector to increased income, availability and cost of credit and changing lifestyles. The current government has given a pledge that it will supply 150, 000 new housing units yearly. Even with this new supply the increasing rural to urban migration makes it difficult for this gap to be bridged. The real estate market can attest that it is a major player and contributor to the country's economy. Its share in the country's economy consists of billions of shillings and its investors consists of farmers to multinational companies' executives all wanting to be part of the sector (Makathimo, 2013).

1.2 Research Problem

Academicians have shown keen interest in the causal nexus of growth and fiscal policy. The studies that have been carried out on this have used data from the developing and the developed countries. Growth in the real estate sector in any context is highly affected by a myriad of economic factors (Athanasoglou et al., 2005). For example, the housing bubble is associable with; excessive desire for home ownership in an economy, acquiring housing for speculation and not for shelter, decreased interest rates, looking at residential real estate as safe investment and lending practices that are poor. According to Loyford and Moronge (2014), other intervening factors that largely affect the increase in the real estate markets are the level of an individual's income, demographics and the buyer's age .The current study seeks to determine whether fiscal policy is a significant factor on real estate's growth.

Kenya has a mix in fiscal policies applied by the government as more of the resources are directed towards infrastructural projects such as construction of roads, hospitals, education, electricity connectivity in rural areas and irrigation. In addition, there is increased taxation of luxurious items as well as reduced taxation on consumption expenditure. This therefore involves both expansionary and contractionary fiscal policies which are geared towards stabilization of the economy. At the same time, increased levels of middle level income group and increased migrations from the rural to the urban regions has resulted in rapid growth of the real estates in Kenya. The government plans to build 500,000 affordable homes in all major cities by 2022, a plan that is expected to create 350,000 jobs. The current study will focus on the influence of fiscal policy variables on real estate sector growth in Kenya.

Several studies have documented the effect of various variables on real estate growth. Karlson and Nordstrom (2007) associated macroeconomic factors to financial performance of the real estate sector; Rodenholm and Bernardi (2007) studied the macroeconomic effects real estate markets secured in Switzerland and Sweden. It investigated how real estate stock prices are affected by macroeconomic conditions before the occurrence and after a financial crisis has occured while Manni and Chane Teng (2008) established a significant relationship between macroeconomic conditions together with the French real estate investment trust performance. Baum & Crosby (2012) did a study and established that interest rates, economic growth and speed of real estate sales as well as ease of accessing finance were the major factors affecting real estate investment while Venkstech (2013) associated macroeconomic factors to how the real estate performs in his survey of the real estate bubble in Singapore.

Locally, Muthee (2012) examined the relationship between Kenya's growth of the economy and that of real estate prices. According to the study results, a connection between the variables was found. Ouma (2015) in his study that looked at the impact of macro-economic variables on the prices in real estate demonstrated that high interests' rates and inflation contribute to high real estate prices while high GDP leads to low house prices. Kamau, Mboya and Mogaka (2015) expressed the existence of a positive association between GDP per capita, informal employment, inflation as well as mortgage growth in Kenya. Bioreri (2015) indicated that growth in exchange rate, interest rate, Diaspora remittance, inflation rate and real GDP together as opposed to individually influence how the real estate sector performs. Irandu (2017) conducted a study on the effect of selected macro-economic variables on real estate sector development in Kenya and found that

economic growth has a positive significant impact on real estate development in Kenya. From the foregoing, it is clear that there is no known local study that has attempted to determine the effect of fiscal policy variables on the growth of real estate sector in Kenya and this is the gap the current study sought to leverage on by answering the research question; what is the effect of fiscal policy variables on the growth of real estate sector in Kenya?

1.3 Research Objective

This study sought to establish the effect of fiscal policy variables on the growth of real estate sector in Kenya.

1.4 Value of the Study

Findings obtained from this study can be used during formulating policies by the government and any other institution involved in policy formulation of the real estate sector. The findings of this study will be important to the government as it regulates the performance of the sector, the study will enlighten on the effect of fiscal policy variables on the growth of real estate sector.

The study's findings will be used for future reference by researchers, students and scholars who seek to undertake correlated or similar studies. The study will also benefit researchers and scholars in the identification of other fields of research by citing related topics that require further studies and the empirical studies to determine study gaps. The study will greatly contribute to the real estate growth.

The findings of this research are of much interest to real estate investors as it informs them on the effect of fiscal policy variables on the real estate industry and as well as point out

other significant relationships that need to be researched on a deeper level. This study is also significant to the potential consumers of the real estate sector. Buyers could gain from understanding and acquiring strategic practices which is helpful to the various investors when deciding what particular investment is suitable to undertake.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The aim of this chapter is to review theories that form the foundation of this study. In addition, previous empirical studies that have been carried before on this research topic and related areas are also discussed. The other sections of this chapter include determinants of real estate growth, conceptual framework showing the relationship between study variables and a literature review summary.

2.2 Theoretical Framework

Theoretical framework provides a foundation for understanding the theoretically expected relationship among the study variables and in this case fiscal policy and real estate growth. The theories selected for this study are the Wagner's law of increased government activities and Musgrave Rostov's theory.

2.2.1 The Wagner's Law of Increased Government Activities

Wagner's law of increased government spending is a law, which derives its name from the founder who was called Adolph Wagner and lived from 1835 to 1917. "Wagner advanced his 'law of rising public expenditures' analyzing trends in the growth of public expenditure and in the size of public sector". Wagner's law postulates that; "the extension of the functions of the states precipitates an up surge in public expenditure on administration and regulation of the economy". Wagner (1883) observes that "the development of modern industrial society would give rise to increasing political pressure for social progress and call for increased allowance for social consideration in the conduct of industry". In relation

to Wagner's law, the increase in public expenditure, which is not in parallel to the income of a country leads to an increase in the public sector.

The focus of Wagner (1883)'s law "on the connection between the size of the economy and that of public-sector bearing in mind that goods and services are the major determiners of the public-sector expansion rate to the former in the process of urbanization and industrialization. This indicates the rising of the activities of the government, which supplement for activities, which are private.

In light of the above, the tenets of Wagner's law "as progressive nations industrialize, the share of the public sector in the national economy grows continually. This necessitates an increase in State Expenditure because of the demand for social activities of the state, administrative and protective actions, and welfare functions". From socio-political viewpoint as postulated by Wagner (1883) "the state social functions expand over time: retirement insurance, natural disaster aid (either internal or external), environmental protection programs, among others. Economically it is marked by advancement in science and technology and consequently the increase of state assignments into science, technology and various investment projects". To conclude, the Wagner's theory, the state opts for government's loans for mitigation unforeseen events and consequently sum of government debt and rise of interest rates in the form of rise in debt service expenditure.

In Wagner's view, "private sector monopolies would not adequately take into account the social needs of society as a whole and would therefore need to be replaced by public corporations. Further, if private sector companies became too large, the economy would become unstable because problems for individual companies would become problems for society as a whole". Accordingly, Wagner (1883) infers that "government needs to expand

to provide social services and benefits which were eliminated by Wagner in his economic evaluation.

2.2.2 Musgrave Rostov's Theory

Musgrave (1969) observes that "at the high levels of per capita income, typical of developed economics, the rate of public sector growth tends to fall as the more basic wants are being satisfied". Musgrave (1969) posits that "at low levels of per capita income, demand for public services tends to be very low, this is so because according to him such income is devoted to satisfying primary needs and that when per capita income starts to rise above these levels of low income, the demand for services supplied by the public sector such as health, education and transport starts to rise, thereby forcing government to increase expenditure on them".

Musgrave (1969) contends that "there exist a functional association between the economic growth and the growth of the government activities; so that the government sector grows faster than the economy. Thus, all kinds of government, irrespective of their level of intentions (Peaceful or war), and size, indicate the same tendency of increasing public expenditure". Large urban centres need security as a means to upholding order and law. For the government to undertake these functions there are costs incurred by the government, which translates to added public expenditure. Musgrave and Musgrave (1989) opined that "as progressive nations industrialize, the share of the public sector in national economy grows continually".

Accordingly, the theory postulates that when government-spending increases, there is more development and it increases when governments upsurge recurrent expenditure. However, it is of equal importance to note that increase in recurrent expenditure does not

automatically translate to enormous economic growth. Therefore, the causal effect of growth of the economy on capital expenditure by the government is more substantial when juxtaposed with recurrent expenditure by the government.

2.3 Determinants of Real Estate Growth

This section presents the review of conceptual economic factors that are assumed in this study to influence the growth of real estate sector. The sub-section looks at fiscal policy, interest rates, inflation, unemployment rate and exchange rates.

2.3.1 Fiscal Policy

Four components of fiscal policy and how they are expected to affect real estate growth are discussed here. The components are; government expenditure, taxation, balance of payment and government external borrowing. Government expenditure: The main challenge of national governments worldwide is to continually increase the welfare of its people through the implementation of appropriate economic policies and programs (Keynes, 1953). Governments attempt to achieve this national objective by providing public goods, such as roads infrastructures and public services such as education, security, health, sanitation among others, hence forming the economic and social infrastructure. The adequacy of such infrastructures is a firm foundation for a country's economic growth and development of the various sectors that make the economy (Barro, 1990).

Taxation: The effect of taxes on growth of an economy can only remain positive if taxes levied create the right incentives (depending on economic activities) for the efficient allocation of resources in a given country. Additionally, in order to improve the welfare of its citizens, a given government should adopt fiscal policies with a tax structure that

maximizes positive externalities while minimizing negative externalities, such as pollution and corrupt practices. Musgrave and Musgrave (1980) postulated a law of public expenditure growth in the United States of America, where, as national income per capita grew, so did government tax revenue when compared on percentage basis to the GNP. The implication of this is that as the U.S. registered economic growth, so did the country's tax effort. The authors' findings are in conformity with Ariyo (1997) and Hebel (1995) empirical findings in the discipline of development economics which indicates that as a country's economy grows, its tax base grows commensurately. However, growth rates of both the economy and tax capacity tend to differ among the countries for different periods of time, due to both short and long term causative factors, including internal and external economic shocks.

Government external debt: According to economic theory, government external debt is good for a country’s economic growth which in effect affects the various sectors that make up the economy. However, this is only possible up to a certain level beyond which its effects are adverse to an economy. The theory of debt overhang as explained by Krugman (1988) clearly demonstrates how accumulation of high public debt leads to low FDI inflows translating into low economic growth of a country. According to Krugman (1988), debt overhang refers to a situation where the existing external debt is very large. The theory suggests that foreign investors will be discouraged from investing in a country that has a large external debt since part of their proceeds would be used to service the debt through high taxation. On the other hand, the theory postulates that reducing debt obligation results to a rise in both domestic and foreign direct investment thus minimizing the chances of debt default.

Balance of payments: The BOP can be defined as trade balance between two nations. It is a reflection of all the payments and receipts for dividends, products and interests between the two nations. A country has a negative balance of payment in the current account when its imports are greater than what it is exporting. This is also referred to as a deficit and it shows that a nation needs more foreign currency than it acquires from the products that it's exporting. The balance of trade and earnings on foreign investment of a country are reflected by its current account which involves transactions such as its imports, exports and debt, among others. More expenditure of its currency by a country on imports than on exports causes a deficit in the current account. Soaring current account deficits are often an antecedent to difficulties in balance of payments (Higgins & Klitgaard, 1998). Theoretically, economies consuming more than they are generating through running large deficits, are unable to have enough funds for investing in the economy and thus growth of the various sectors. However, an increase in exports relative to imports may imply increased income for the locals which can end up developing the various sectors that make up an economy.

2.3.2 Interest Rates

Research has established that interest rate has a profound effect on the prices of residential property both in the local scenario as well as the international scenario. In this regard, money supply is considered to greatly affect the level of interest rates because by increasing the supply of money interest rates will be pushed down and financial performance in the real estate market will be boosted since it will be more attractive for investors who will choose to invest. The vice versa will occur if money supply is reduced (Barksenius & Rundell, 2012).

Interest rate plays an important function in the progress of the real estate. Interest rate normally influences a real estate developer who provides housing for the real estate market in a huge way (Li, 2016). When interest rate goes up, the construction costs for the developers decreases such that prices in the real estate market increases. High interest rates leads to increased cost of buying houses by buyers and this discourages buyers from taking loans to purchase houses. Therefore, the demand for housing decreases when interest rate increases and there's a general fall in the trend of prices in the real estate sector.

2.3.3 Inflation

Inflation can have both positive and negative effects. Thereby in periods of continuous upward price movements, the costs of building and maintaining property will rise as well. Hence when inflation increases, the financial performance of firms in the real estate business decreases. Investors who engage in real estate property sale will be forced to include a premium for inflation (Biller, 2007). The real estate market exhibits a long-term relationship with inflation. Blanchard (2010) posits that there is a positive effect of increased demand on prices of products. This theory further suggests that increase in output and the level of income create demand since higher levels of investment and consumption will be experienced. The general level of prices was greatly lower than that of the stock prices before the crisis period.

2.3.4 Unemployment

During the pre-crisis era, the real estate market and unemployment are seen to correlate in a highly negative manner. Here, real estate securities are developed more when unemployment levels reduce. News about unemployment affect the real estate market. An

important lag is noticed during the entire sample duration in unemployment compared to the housing sector response (Lind, 2011).

The real estate market has sentiments that are strongly negative but the labor market is not very easily affected by this. The labor market will still be skeptic and experience the high rates of unemployment despite prices of the real estate market recuperating during a crisis. During the pre-crisis era, there is the existence of a negative relationship that becomes barely significant during the crisis period (Birz & Lott, 2010). How the labor market in Kenya responds to the stock market of real estate however remains to be more correct. The government can use monetary and fiscal policies in the short run to enhance demand.

2.3.5 Exchange Rates

Exchange rates often fluctuate and many times in a single day. Frequent travelers are well aware of this, as how much they can afford to spend on a vacation depends on the how strong the local currency is and what it is at the point of transaction. The watching and trading of currencies have even spurned an entire business; Forex trading where people buy and sell currencies to make money. Currencies fluctuate because of supply and demand. Every seasoned investor knows that when the demand for the currency goes up and the supply - in this case, property - either decreases due to overwhelming interest or remains the same, then the value of the currency increases. However, when there are people trying to sell but not many are interested in buying, the value drops (Chitty, 2015).

Exchange rate has significant impact on the real estate industry owing to its information content to the investors. It has an impact on how individuals who live outside the country arrive at a decision to purchase products or not. Exchange rates affect the purchasing power

of property abroad. The price of real estate is not affected by a depreciation in currency of a nation's as long as the depreciation does not sustain as the prices will become too dear for the consumers. A nation spends more on imports due to depreciation of currency thus reducing disposable income and making the purchase of housing more expensive (Gunjan, 2013).

2.4 Empirical Review

Many empirical studies have been done locally and internationally on either fiscal policy or growth of the real estate. However, these studies have not attempted to relate between the two variables. The findings of the studies are discussed in this section.

2.4.1 Global Studies

Baum and Crosby (2012) did a study on the impact of macroeconomic variables in real estate returns to examine whether asset returns are persistently affected by the factors. Their selection of macro-economic variables included government policies, GDP, interest rates and levels of inflation. The study concluded that the term structure of interest rates, unexpected inflation, growth rate in real per capita consumption and the real treasury bill rate have a systematic influences on commercial real estate returns hence affecting the level of investment in the sector.

Renigier-Bilozor and Wisniewski (2012) used Italy and Polland to determine Europe's influence of macroeconomic conditions on real estate residential property and prices indices. Quarterly time series data constituted the material for testing and empirical results. The models created indicate that housing property markets in Europe is affected by the financial and economic condition. In spite residential property markets being located in

different areas of Europe, they are related in a number of ways. The economic and financial crisis of nations has an impact that varies in the prices of real estate

Mabutho (2013) undertook a study in South Africa to ascertain the association between financial and macro-economic variables on South Africa's real estate sector. Findings of the study showed that, growth in the market of real estate is affected mainly through interest rates that are short-term and inflation levels in the short run. However, in the long-run, it was found that growth is majorly affected by household disposable income followed by inflation. He concluded that an increase in household disposable income affects property returns in a positive way leading to more investment in real estate at least in the short-run. However, in the long-run, the effect is a decrease in property returns leading to a decline in investment in the real estate sector.

Rodenholm and Dominique (2013) undertook a comparative study of Sweden and Switzerland which aimed at establishing the macroeconomic effects on securitized real estate markets. The study investigated to what point these macroeconomic factors before and after the occurrence of financial crisis in 2007, affected the real estate stock prices. The results indicate that during the pre-crisis and crisis period, macroeconomic impacts on real estate stock prices exhibited differences among small economies and inconsistencies. The conditions of the financial markets that keep changing cannot be fully described by theoretical views, they have to analyze in a broader economic perspective. The real GDP per capita, term structure and share indices are factors that show some consistency with regard to the real estate market.

Aondohemba and Lawrence (2015) study sought to determine the objects responsible for the thriving of commercial property investments in Lagos city in order to avoid the use of the rule of thumb in guiding decisions to invest. The factors that were revealed from each location's market included the nature of the location, the condition of the infrastructure, the growth of rents, security features and the cost of construction materials. The crucial factors noted in all the sub-markets were the various conditions of the housing structures, a mixture of legal, economic and socio-cultural factors.

2.4.2 Local Studies

Muli (2013) researched on what indicator affects Kenya's real estate investment expansion. His study examined the growth of gross domestic product, interest rates, populace growth, and rates of inflation that affected results of real estate investment. Result showed Gross Domestic Product had a higher figure of 83 %, growth of inflation 78 % and 75 % for interest rates. Populace growth put in least value 29 percent. The research was conducted based on secondary source of data which might be conflicting sometimes indicators touching the progress in real estate investment in Kenya.

Juma (2014) established the impact of macro-economic variables on growth of real estate investment in Kenya. The study used secondary data on annual real estate investments growth as computed from the Hass Consult. The study established a strong positive association between growth in real estate and each of the following variables; exchange rate fluctuations, growth in diaspora remittances, growth in money supply, inflation. The study concludes that macro-economic variables and real estate investment growth have a strong relationship between them that is positive.

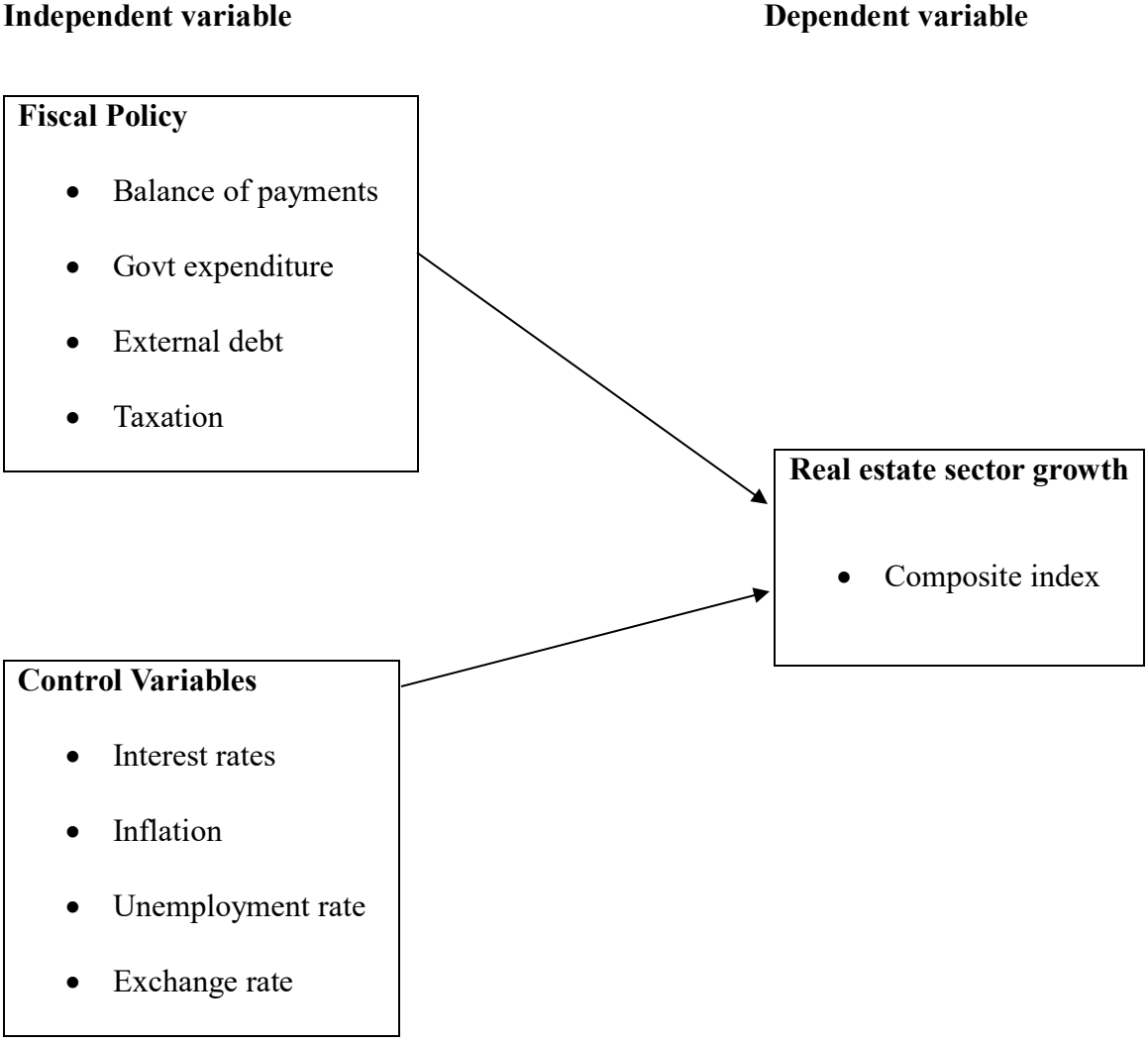
Gwadiva (2017) explored the impact of FDI inflows on Kenya's financial performance of the real estate sector. Population for the study was 80 real estate firms that form the real estate composite index. During January 2007 to December 2016, secondary data collection was undertaken in quarterly periods. The study utilized multiple linear regression and a descriptive cross-sectional research design to analyze the association between the variables. Findings revealed that individually, FDI inflows, interest rates, exchange rates and inflation were statistically insignificant determinants of Kenya's real estate financial performance.

Irandu (2017) undertook a research study to find out the impact of macro-economic factors to real estate development in Kenya. The independent variables were interest rates, inflation rates, economic growth, money supply, capital, credit growth and exchange rates. During January 2007 to December 2016, collection of secondary data was undertaken in quarterly periods. Economic growth was found to have a significant positive impact on Kenya's real estate development. The results further revealed that individually, money supply, interest rates, exchange rates, capital, credit growth and inflation were statistically insignificant determinants of development in Kenya's real estate.

2.5 Conceptual Framework

The conceptual model developed below portrays this expected relationship between the study variables. The factors characterized here are fiscal policy and growth of the real estate sector.

Figure 2.1: The Conceptual Model



Source: Researcher (2018)

The independent variable are government expenditure as measured by percentage change in total government development expenditure on a given quarter, external government debt

as measured by percentage change in external government debt on a quarterly basis, taxation as measured by percentage change in taxation levied to real estate on a quarterly basis and balance of payments as measured by the percentage change in current account deficit on a quarterly basis. Real estate sector growth will be measured by quarterly percent growth in composite index. The control variables in this study are interest rates as measured by central bank lending rate, inflation as measured by CPI, unemployment rate on a quarterly basis and exchange rate as measured by KSH/USD.

2.6 Summary of the Literature Review

A number of theoretical frameworks aim at explaining the relationship between fiscal policy and the growth of different sectors. The Wagner's law of increased government activities and Musgrave Rostov's theory are the theories elaborated in this theoretical framework. The section has also discussed a few of the important factors affecting real estate growth. This chapter also discusses the findings of numerous empirical studies that have been carried out locally and internationally on performance and growth of the real estate sector. There hasn't been any study known by the researcher that has studied fiscal policy and growth of the real estate sector in Kenya and this is therefore the gap the current study leverages on. Thus the study aims at to responding to the research question: what is the effect of fiscal policy variables on the growth of real estate sector in Kenya?

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

In order to determine the effect of fiscal policy variables on real estate sector growth in Kenya, a research methodology is necessary to outline how the research will be carried out. This chapter has four sections namely; research design, data collection, and diagnostic tests and data analysis.

3.2 Research Design

The study employed a descriptive research design was. Descriptive design was utilized as the researcher was interested in finding out the state of affairs as they exist (Khan, 2008). This research design was appropriate for the study as the researcher is familiar with the phenomenon under investigation but want to know more in terms of the nature of relationships between the study variables. In addition, a descriptive research aims at providing a valid and accurate representation of the study variables and this helps in responding to the research question (Cooper & Schindler, 2008).

3.3 Population and Sample

The population of the this study comprised of all the 80 real estate firms operating in Kenya from 1st January 2008 to 31st December 2017 and that formed the Hass Composite Index (See appendix I). As the study focused on the percent growth in the composite index of the real estate sector, the study included all the 80 real estate companies that have been operating in Kenya from January 2008 to December 2017 and so sampling was not conducted.

3.4 Data Collection

The study used secondary data obtained from different sources such as Hass Consult, Kenya Revenue Authority, Central Bank of Kenya and the Kenya National Bureau of Statistics (KNBS) covering a period of 10 years from 2008 to 2017 on a quarterly basis. Data on the dependent variable, growth of the real estate sector in Kenya was obtained from Hass Consult on a quarterly basis. The country's balance of payment, government external debt, government expenditure, inflation and unemployment rate was obtained from KNBS, data on interest rates and exchange rates was obtained from the Central bank while data on taxation was obtained from Kenya Revenue Authority.

3.4 Diagnostic Tests

The linearity test was obtained through the scatterplot testing or F-statistic in ANOVA. Stationarity will be obtained from the run sequence plot. Normality is a test for the assumption which states that the residual of the response variable are normally distributed around the mean. This was determined by Shapiro-walk test or Kolmogorov-Smirnov test. Autocorrelation is the measurement of the similarity between a certain time series and a lagged value of the same time series over successive time intervals. It was tested using Durbin-Watson statistic (Khan, 2008).

Multicollinearity is said to occur when there is a nearly exact or exact linear relation among two or more of the independent variables. This will be tested by the determinant of the correlation matrices, which varies from zero to one. Orthogonal independent variable is an indication that the determinant is one while it is zero if there is a complete linear dependence between them and as it approaches to zero then the multicollinearity becomes

more intense. Variance Inflation Factors (VIF) and tolerance levels was also carried out to show the degree of multicollinearity (Burns & Burns, 2008).

3.5 Data Analysis

The data collected from the different sources was organized in a manner that can help address the research objective. SPSS version 22 was utilized for data analysis purposes. Both descriptive and regression analyses was carried out. In descriptive statistics, the minimum, maximum, mean, standard deviation, skewness and kurtosis were computed for each variable. In inferential statistics, both regression and correlation analysis were carried out. Correlation analysis will involve determining the extent of relationship between the study variables while regression analysis involved establishing the cause and effect between the independent and dependent variables. A multivariate regression analysis was used to determine the association between the dependent variable (growth of the real estate sector in Kenya) and independent variables: balance of payments, public expenditure, external public debt, taxation, interest rates, exchange rates, unemployment rate and inflation.

3.5.1 Analytical Model

The study estimated the following multiple linear regression model:

$$Y= \alpha+ \beta_1X_1+\beta_2X_2+\beta_3X_3+ \beta_4X_4+ \beta_5X_5+\beta_6X_6+\beta_7X_7+ \beta_8X_8 +\varepsilon$$

Where:

Y = Development of real estate sector as measured by percent growth in the composite index on a quarterly basis

α =y intercept of the regression equation.

β_1, β_2, β_3, β_4 =are the slope of the regression

β_0 = Constant Term

X_1 = Balance of payments as measured by the percentage change in current account deficit on a quarterly basis.

X_2= Government expenditure as measured by natural logarithm of total government expenditure on a quarterly basis.

X_3= External government debt as measured by natural logarithm of external government debt on a quarterly basis.

X_4= Taxation as measured by natural logarithm of taxation collected on a quarterly basis

X_5= Interest rates as measured by Central bank lending rate on a quarterly basis

X_6= Inflation as measured by CPI on a quarterly basis

X_7= Unemployment rate as measured by unemployment rate on a quarterly basis

X_8= Exchange rate as measured by natural logarithm of the exchange rate between KSH and USD on a quarterly basis

ε =Error term

3.5.2 Tests of Significance

Parametric tests i.e. F-test in Analysis of Variance (ANOVA) and t-test will be used to measure statistical significance in the difference of mean ratios. The F-test will be used to determine the significance of the overall model and it will be obtained from Analysis of Variance (ANOVA) while a t-test will be used to establish statistical significance of individual variables.

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND INTERPRETATION

4.1 Introduction

Data collected from CBK, KRA, KNBS and Hass consultants to determine the effect of fiscal policy variables on growth of real estate sector in Kenya was analyzed to answer the research objective. Using descriptive statistics, correlation statistics and regression analysis, the results of the study were presented in table forms as shown in the following sections.

4.2 Response Rate

This study targeted all the 80 real estate firms that form the real estate composite index. Since the index incorporates performance of all the 80 firms it is assumed that all the firms were used in this study. From the index, the researcher was able to obtain the quarterly percent growth in the composite index.

4.3 Diagnostic Tests

The researcher carried out diagnostic tests on the collected data. The hypothesis for the test was that the secondary data was not normal. If the p-value recorded was more than 0.05, the researcher would reject it. The results of the test are as shown;

Table 4.1: Normality Test

Growth	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Balance of payments	.161	40	.300	.869	40	.853
Government expenditure	.173	40	.300	.918	40	.822
Taxation	.178	40	.300	.881	40	.723

External debt	.176	40	.300	.892	40	.784
Interest rates	.163	40	.300	.872	40	.853
Inflation rate	.168	40	.300	.898	40	.822
Unemployment rate	.174	40	.300	.871	40	.723
Exchange rate	.172	40	.300	.883	40	.784
a. Lilliefors Significance Correction						

Source: Research Findings (2018)

Both Kolmogorov-Smirnova and Shapiro-Wilk tests recorded o-values greater than 0.05 which implies that the research data was normally distributed. The data was therefore appropriate for use to conduct parametric tests such as Pearson's correlation, regression analysis and analysis of variance.

The assumption of the regression model adopted was that the error term was independent and normally distributed, with a mean zero and a constant variance. To test for the independence of the variables, Durbin-Watson statistical analysis was undertaken. This analysis was used to test for the presence of auto correlation among the residuals. Residual was the difference between the observed value and the predicted value of the variables. Table 4.2 below shows the results of Durbin-Watson analysis.

Table 4.2: Durbin-Watson Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.902[a]	.813	.764	1.3140820	2.097

a. Predictors: (Constant), Exchange rate, Unemployment rate, Interest rates, Balance of payments, Taxation, Inflation rate, External debt, Government expenditure

b. Dependent Variable: Composite Index

Source: Research Findings (2018)

From table 4.2 above, the Durbin-Watson value was 2.097 meaning the residuals' values were uncorrelated since it falls within the acceptable range of 1.50 and 2.50. This means the size of the residual for one variable has no impact on the size of the residual for the next variable.

Cameron & Trivedi's IM-test was used for heteroscedasticity tests. The null hypothesis stated that there is no heteroscedasticity. Results in Table 4.3 show that the p-value (p=0.4237) is greater as compared to the critical value of 0.05. Therefore, we fail to reject the null hypothesis and conclude that the variance is homogenous.

Table 4.3: Cameron & Trivedi's decomposition of IM-test

Source	chi2	Df	P
Heteroskedasticity	21.36	39	0.4237

Source: Research Findings (2018)

4.4 Descriptive Analysis

Descriptive statistics gives a presentation of the mean, maximum and minimum values of variables applied together with their standard deviations in this study. The table below shows the descriptive statistics for the variables applied in the study. An analysis of all the variables was obtained using SPSS software for the period of ten years (2008 to 2017) on a quarterly basis. Real estate growth had 1.998 mean with a 2.707 SD. The fiscal policy

components namely balance of payments, government expenditure, external debt and taxation had a mean of 0.014, 12.097, 12.423 and 12.005 and a standard deviation of 0.237, 0.365, 0.225 and 0.332 respectively. Interest rates recorded a 15.81 mean with a 1.955 SD. Exchange rate resulted to a 1.939 with 0.055 SD. Inflation had a mean of 2.122 and a standard deviation of 0.963. Unemployment rate which was the dependent variable in this study had a mean of 11.708 and a standard deviation of 0.349.

Table 4.4: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Composite Index	40	-3.8000	9.4000	1.997500	2.7072067
Balance of payments	40	-1.0000	.5578	.014487	.2371878
Government expenditure	40	11.3	12.8	12.097	.3648
External debt	40	12.1	12.8	12.423	.2247
Taxation	40	11.3	12.6	12.005	.3320
Interest rates	40	13.6533	20.2133	15.809915	1.9545367
Inflation rate	40	1.9404	2.2705	2.122240	.0963415
Unemployment rate	40	10.9300	12.1700	11.708000	.3486178
Exchange rate	40	1.7969	2.0150	1.939390	.0553332
Valid N (listwise)	40				

Source: Research Findings (2018)

4.5 Correlation Analysis

Pearson correlation was employed to analyze the level of association between growth of real estate sector and the independent variables for this study (balance of payments, public expenditure, external public debt, taxation, interest rates, exchange rates, unemployment rate and inflation).

From the study findings, there was a weak negative and statistically significant correlation ($r = -.403$, $p = .010$) between balance of payments and real estate growth. The study also found out that external debt, taxation, exchange rates and inflation have a positive and significant correlation with growth of real estate sector as evidenced by ($r = .748$, $p = .000$), ($r = .322$, $p = .042$), ($r = .635$, $p = .000$) and ($r = .699$, $p = . 000$) respectively. The prevailing level of unemployment rate was found to have a negative and significant correlation with real estate growth in Kenya as evidenced by ($r = -.574$, $p = .000$). Although government expenditure was found to have a positive correlation with real estate growth, the relationship was not significant as shown by a p value of 0.062 which is higher than the significance level of 0.05. Interest rate was also found to have a weak negative and insignificant correlation with real estate growth.

Table 4.5: Correlation Analysis

		Composite Index	Balance of payments	Government expenditure	External debt	Taxation	Interest rates	Inflation rate	Unemployment rate	Exchange rate
Composite Index	Pearson Correlation	1	-.403**	.297	.748**	.322*	-.082	.699**	-.574**	.635**
	Sig. (2-tailed)		.010	.062	.000	.042	.614	.000	.000	.000
	N	40	40	40	40	40	40	40	40	40
Balance of payments	Pearson Correlation	-.403**	1	.108	-.248	.110	.059	-.237	.085	-.290
	Sig. (2-tailed)	.010		.507	.123	.498	.716	.141	.600	.069
	N	40	40	40	40	40	40	40	40	40
Government expenditure	Pearson Correlation	.297	.108	1	.420**	.989**	.133	.445**	-.051	.370*
	Sig. (2-tailed)	.062	.507		.007	.000	.414	.004	.755	.019
	N	40	40	40	40	40	40	40	40	40
External debt	Pearson Correlation	.748**	-.248	.420**	1	.421**	.078	.962**	-.183	.933**

	Sig. (2-tailed)	.000	.123	.007		.007	.632	.000	.259	.000
	N	40	40	40	40	40	40	40	40	40
Taxation	Pearson Correlation	.322*	.110	.989**	.421**	1	.117	.451**	-.079	.360*
	Sig. (2-tailed)	.042	.498	.000	.007		.473	.003	.629	.023
	N	40	40	40	40	40	40	40	40	40
Interest rates	Pearson Correlation	-.082	.059	.133	.078	.117	1	.251	.183	.166
	Sig. (2-tailed)	.614	.716	.414	.632	.473		.118	.259	.307
	N	40	40	40	40	40	40	40	40	40
Inflation rate	Pearson Correlation	.699**	-.237	.445**	.962**	.451**	.251	1	-.127	.927**
	Sig. (2-tailed)	.000	.141	.004	.000	.003	.118		.435	.000
	N	40	40	40	40	40	40	40	40	40
Unemployment rate	Pearson Correlation	-.574**	.085	-.051	-.183	-.079	.183	-.127	1	.014
	Sig. (2-tailed)	.000	.600	.755	.259	.629	.259	.435		.930
	N	40	40	40	40	40	40	40	40	40

Exchange rate	Pearson Correlation	.635**	-.290	.370*	.933**	.360*	.166	.927**	.014	1
	Sig. (2-tailed)	.000	.069	.019	.000	.023	.307	.000	.930	
	N	40	40	40	40	40	40	40	40	40

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

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Research Findings (2018)

4.6 Regression Analysis

Growth of real estate sector was regressed against eight predictor variables; balance of payments, public expenditure, external public debt, taxation, interest rates, exchange rates, unemployment rate and inflation. The regression analysis was conducted at 5% level of significance. The study obtained the model summary statistics as shown in table 4.4 below.

Table 4.6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.902[a]	.813	.764	1.3140820	2.097

a. Predictors: (Constant), Exchange rate, Unemployment rate, Interest rates, Balance of payments, Taxation, Inflation rate, External debt, Government expenditure

b. Dependent Variable: Composite Index

Source: Research Findings (2018)

R squared indicates the deviations in the response variable that is as a result of changes in the predictor variables. From the outcome in table 4.6 above, the value of R square was 0.813, a discovery that 81.3 percent of the deviations in growth of the real estate sector is caused by changes in balance of payments, public expenditure, external public debt, taxation, interest rates, exchange rates, unemployment rate and inflation. Other variables not included in the model justify for 18.7 percent of the variations in growth of the real estate sector in Kenya. Also, the findings revealed existence of a strong relationship among the selected independent variables and the growth of real estate firms as shown by the

correlation coefficient (R) equal to 0.902. A durbin-watson statistic of 2.097 indicated that the variable residuals were not serially correlated since the value was more than 1.5.

Table 4.7: Analysis of Variance

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	232.299	8	29.037	16.816	.000[b]
	Residual	53.531	31	1.727		
	Total	285.830	39			

a. Dependent Variable: Composite Index

b. Predictors: (Constant), Exchange rate, Unemployment rate, Interest rates, Balance of payments, Taxation, Inflation rate, External debt, Government expenditure

Source: Research Findings (2018)

The significance value is 0.000 which is less than p=0.05. This implies that the model was statistically significant in predicting how balance of payments, public expenditure, external public debt, taxation, interest rates, exchange rates, unemployment rate and inflation affects growth of the real estate sector in Kenya.

Coefficients of determination were used as indicators of the direction of the relationship between the balance of payments, public expenditure, external public debt, taxation, interest rates, exchange rates, unemployment rate and inflation and growth of the real estate sector in Kenya. The p-value under sig. column was used as an indicator of the significance

of the relationship. At 95% confidence level, a p-value of less than 0.05 was interpreted as a measure of statistical significance. The results are as indicated in table 4.8

Table 4.8: Model Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-50.270	40.956		-1.227	.229
	Balance of payments	-2.480	.972	-.217	-2.551	.016
	Government expenditure	-4.234	4.151	-.571	-1.020	.316
	External debt	5.542	5.036	.460	1.101	.280
	Taxation	5.217	4.612	.640	1.131	.267
	Interest rates	-.060	.147	-.043	-.405	.688
	Inflation rate	-.611	11.421	-.022	-.053	.958
	Unemployment rate	-3.470	.732	-.447	-4.741	.000
	Exchange rate	7.686	13.406	.157	.573	.571

a. Dependent Variable: Composite Index

Source: Research Findings (2018)

From the above results, it is evident that only balance of payments and unemployment rate were found to be significant determinants of real estate sector growth in Kenya as evidenced by high t values and p values that are less than 0.05. All the other independent

variables (public expenditure, external public debt, taxation, interest rates, exchange rates and inflation) were found to be insignificant determinants of growth in the real estate sector in Kenya as evidenced by low t values and p > than 0.05.

The following regression equation was estimated:

$Y = -50.270 – 2.480X_1 – 3.470X_2$

Where,

Y = Growth of the real estate sector

X_1= Balance of payments

X_2 = Unemployment rate

On the estimated regression model above, the constant = -50.270 shows that if selected dependent variables (balance of payments, public expenditure, external public debt, taxation, interest rates, exchange rates, unemployment rate and inflation) were rated zero, the growth would be -50.270. A unit increase in balance of payment deficit would result in a reduction in growth of real estate sector by 2.480. A unit increase in unemployment rate, would lead to a decrease in growth of the real estate sector by 3.470.

4.7 Discussion of Research Findings

The purpose of the current study was to determine the effect of fiscal policy variables on the growth of the real estate sector in Kenya. The independent variable was fiscal policy as measured by four components namely; balance of payments, government expenditure, taxation and external government debt. The control variables were interest rate as measured by CBK quarterly lending rate, inflation rates as measured by quarterly CPI, unemployment as measured by quarterly unemployment rate and exchange rates as measured by quarterly exchange rate between ksh and usd. Growth was the dependent

variable which the study sought to explain and it was measured by quarterly percent growth in composite index. The effect of each of the independent variables on the dependent variable was analyzed in terms of strength and direction.

The Pearson correlation coefficients between the variables revealed that there was a weak negative and statistically significant correlation between balance of payments and real estate growth. The study also found out that external debt, taxation, exchange rates and inflation have a positive and significant correlation with growth of real estate sector. The prevailing level of unemployment rate was found to have a negative and significant correlation with real estate growth in Kenya. Although government expenditure was found to have a positive correlation with real estate growth, the relationship was not significant as shown by a p value of 0.062 which is higher than the significance level of 0.05. Interest rate was also found to have a weak negative and insignificant correlation with real estate growth.

The model summary revealed that the independent variables: balance of payments, public expenditure, external public debt, taxation, interest rates, exchange rates, unemployment rate and inflation explains 81.3% of change in the dependent variable as depicted by the R^2 value showing that other factors not included exist this model that account for 18.7% of changes in growth of the real estate sector in Kenya. The model was found to be fit at 95% confidence level since the F-value is 16.816. This implies that the overall model applied for this study is significant, in that it is a suitable prediction model for explaining growth of the real estate sector in Kenya.

The findings of this study contrast with Juma (2014) who investigated on effect on macroeconomic variables in real estate venture in Kenya. The researcher established a

strong positive relationship between the selected macroeconomic variables; Exchange Rate fluctuations, Growth in Diaspora Remittances, Growth in Money Supply, Inflations, and GDP. The findings of the current study indicate that only balance of payments and unemployment rate have a significant effect with real estate growth.

This study is in agreement with Irandu (2017) who undertook a research study to find out the impact of macro-economic factors on real estate development in Kenya. The independent variables were interest rates, inflation rates, economic growth, money supply, capital, credit growth and exchange rates. During January 2007 to December 2016, collection of secondary data was undertaken in quarterly periods. Economic growth was found to have a significant positive impact on Kenya's real estate development. The results further revealed that individually, money supply, interest rates, exchange rates, capital, credit growth and inflation were statistically insignificant determinants of development in Kenya's real estate.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This section looks at the summary of findings, conclusions, recommendations, limitations, suggestions for further research.

5.2 Summary of Findings

The study sought to investigate the effect of fiscal policy variables on growth of the real estate sector in Kenya. The independent variables for the study were balance of payments, public expenditure, external public debt, taxation, interest rates, exchange rates, unemployment rate and inflation. The study applied a descriptive cross-section design in data collection and analysis. Secondary data was obtained from the CBK, KNBS, KRA and Hass Consultants and was analyzed using SPSS software version 21. The study used quarterly data covering a period of ten years from 2008 to 2017.

From the results of correlation analysis, a weak negative and statistically significant correlation between balance of payments and real estate growth was found to exist. The study also found out that external debt, taxation, exchange rates and inflation have a positive and significant correlation with growth of real estate sector. The prevailing level of unemployment rate was found to have a negative and significant correlation with real estate growth in Kenya.

The co-efficient of determination R-square value was 0.813 which means that about 81.3 percent of changes in growth of the Kenyan real estate sector can be explained by the eight selected independent variables while 18.7 percent in the variation of growth is associated

with other factors not covered in this research. The study also found that the independent variables had a strong correlation with growth of the real estate sector (R=0902). ANOVA results show that the F statistic was significant at 5% level with a p=0.000. Therefore the model was not fit to explain the relationship between the selected variables.

The regression results show that when all the selected dependent variables (balance of payments, public expenditure, external public debt, taxation, interest rates, exchange rates, unemployment rate and inflation) are rated zero, the growth would be -50.270. A unit increase in balance of payment deficit would result in a reduction in growth of real estate sector by 2.480. A unit increase in unemployment rate, would lead to a decrease in growth of the real estate sector by 3.470.

5.3 Conclusion

This study concludes that growth of real estate sector in Kenya has a negative association with balance of payment deficit. The study therefore concludes that higher balance of payment deficit lead to a decline in growth in the real estate sector to a significant extent. The study found that unemployment rate had a significant negative effect on growth of the real estate sector in Kenya. This implies that an increase in unemployment rate will lead to a decline on the prevailing growth rate of the real estate sector. The study further concludes that although government external borrowing and taxation have a positive effect on real estate sector growth, the effect is not significant

This study concludes that independent variables selected for this study; balance of payments, public expenditure, external public debt, taxation, interest rates, exchange rates, unemployment rate and inflation influence growth of real estate sector to a large extent as they account for 81.3 percent of the changes in growth. The fact that the eight independent

variables explain 81.3% of changes in growth of the real estate sector imply that the variables not included in the model explain only 18.7% of changes in growth of the real estate sector. It is therefore sufficient to conclude the variables discussed significantly affect the growth as shown by the p value in anova summary.

This finding concurs with Gwadiva (2017) who explored the impact of FDI inflows on Kenya's financial performance of the real estate sector. Population for the study was 80 real estate firms that form the real estate composite index. During January 2007 to December 2016, secondary data collection was undertaken in quarterly periods. A descriptive cross-sectional research design and a multiple linear regression model was utilized in analyzing the association between the variables. Results revealed that individually, FDI inflows, interest rates, exchange rates and inflation were statistically insignificant determinants of Kenya's real estate financial performance.

5.4 Recommendations

The study found that there exists a negative and significant influence of balance of payment deficit on growth of real estate sector in Kenya. This study recommends adequate measures to be put into place to ensure that the factors that influence balance of payment deficit are well addressed to bridge the gap and boost our exports. If the country can be able the balance of payment deficit, this would lead to a rise in the growth of the real estate sector and this will ultimately translate to the growth of the entire economy.

The study found that unemployment rate has a negative and significant effect on Kenya’s real estate sector growth. This study recommends that policy makers should pay attention to the prevailing rates of unemployment as it can negatively affect growth of the real estate

sector. If measures are taken to reduce the prevailing levels of unemployment rate, this would translate to growth in the real estate sector.

5.5 Limitations of the Study

The scope of this research was for ten years 2008-2017. It has not been determined if the results would hold for a longer study period. Furthermore it is uncertain whether similar findings would result beyond 2017. A longer study period is more reliable as it will take into account major economic conditions such as booms and recessions.

One of the limitations of the study is the quality of the data. It is difficult to conclude from this research whether the findings present the true facts about the situation. The data that has been used is only assumed to be accurate. The study also considered selected determinants and not all the factors affecting growth of the real estate sector mainly due to limitation of data availability.

For data analysis purposes, the researcher applied a multiple linear regression model. Due to the shortcomings involved when using regression models such as erroneous and misleading results when the variable values change, the researcher cannot be able to generalize the findings with certainty. If more and more data is added to the functional regression model, the hypothesized relationship between two or more variables may not hold.

5.6 Suggestions for Further Research

This study focused on fiscal policy variables and growth of real estate sector in Kenya and relied on secondary data. A research study where data collection relies on primary data i.e. in depth questionnaires and interviews covering all the 80 registered real estate firms is recommended so as to compliment this research.

The study was not exhaustive of the independent variables affecting growth of real estate sector in Kenya and this study recommends that further studies be conducted to incorporate other variables like money supply, poverty levels, technology, firm specific characteristics, political stability and other macro-economic variables. Showing the effect of each variable on the real estate sector's growth will enable policy makers know what tool to use when controlling growth of the sector.

The study concentrated on the last ten years since it was the most recent data available. Future studies may use a range of many years e.g. from 1970 to date and this can be helpful to confirm or disapprove the findings of this study. The study limited itself by focusing on real estate sector. The recommendations of this study are that further studies be conducted on other sectors in Kenya. Finally, due to the shortcomings of regression models, other models such as the Vector Error Correction Model (VECM) can to demonstrate the different associations between the variables.

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APPENDICES

Appendix I: List of Real Estate Firms Operating in Kenya as at 31st December 2017

1. Acorn Properties Ltd
2. Add Property Consultants
3. Alliance Realtors Ltd
4. Arkpoint Properties Ltd
5. Axis Real Estate
6. Beryt Properties Investments Ltd
7. Bluehills Real Estate Ltd
8. Canaan Properties Ltd
9. CB Richard Ellis Ltd
10. Chapter Consultants Ltd
11. Colburne Holdings Ltd
12. Cornerstone International Ltd
13. Diversity Property Ltd
14. Dunhill Consulting Ltd
15. Eackelberg& Co. Ltd
16. East gate apartments Ltd
17. Easy Properties Ltd (K)
18. Elegant Investments Ltd
19. ENA Properties Ltd
20. Etion Property Consultants
21. Frank Valuers & Properties

22. Gamp Investments Ltd

23. Guardian Properties Ltd

24. Hass Consult

25. Heri Properties Ltd

26. Heritage Property Consultants

27. Home Afrika Ltd

28. Homelands Holdings Ltd

29. Jamia Valuers & Estate Agent

30. Jeankins Investments Ltd

31. Joskinyagat Ltd

32. Karen Link Ltd

33. Kimly Properties Ltd

34. Knight Frank Ltd

35. Konaken Investment Ltd

36. Landmark Realtors Ltd

37. Legend Valuers& Estate Agents

38. Liberty Real Estate Ltd

39. LlyodMasika Ltd

40. Lowanjo Properties Ltd

41. Lynex Holdings

42. Maestro Properties Ltd

43. Management

44. Management Ltd

45. Masterways Properties Ltd

46. Menga Management Ltd

47. Milligan International Ltd

48. Mudas Properties Services Ltd

49. Nairobi Homes Ltd

50. Neema Management Ltd

51. Ngumo Properties Ltd

52. Nile Real Appraisee Ltd

53. Norkan Investments Ltd

54. Opus Property Ltd

55. Paradise Properties Ltd

56. Paragan Property Ltd

57. Perscale Properties Ltd

58. Pinnacle Properties Ltd

59. Property Ins Ltd

60. Property Point Ltd

61. Rank Global Ltd

62. Real Appraisal Ltd

63. Realken International Ltd

64. Regent Management Ltd

65. Ryden International Ltd

66. Savannah Consulting Ltd

67. SEB Estate Ltd

68. Silverrock Properties Ltd
69. Sortmaster Properties Ltd
70. Sundown Valuers & Realtors Ltd
71. Terestam Properties Management Ltd
72. Town House Agencies
73. Tuco Properties Ltd
74. Tysons Ltd
75. Urban Bliss Realstore
76. Urban Properties Consultants & Development Ltd.
77. Valentine First Venture (K) Ltd
78. Value Build Management Ltd
79. Vera Property Ltd
80. VillaCare Kenya

Source: Hass Consultants Website (2018)