Antecedents of Real Estate Investment Growth in Nairobi City County; Kenya

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Abstract:
The urban population in Kenya has been growing over the years resulting to an increase in demand The general objective of this study was to ascertain the Antecedents of Real Estate Investment Growth in Nairobi City County, whereas the specific objectives of the study were: to ascertain the effect of construction expenditure and interest rate on real estate investment growth in Nairobi County; Kenya The study adopted explanatory research design. The target population of the present study was 138 registered real estate companies in Nairobi County that were in operation between the periods of study: 2014 and 2018. The study used simple random sampling in selecting 102 real estate companies from whom data was collected. Secondary time-series data was obtained from annual audited reports of these companies and data available at the Kenya National Bureau of Statistics and the Central Bank of Kenya. The data collected was analyzed using both descriptive and inferential statistics using of Stata version 2014 software. Descriptive statistics included mean, percentage, standard deviation and frequencies. Inferential statistics included correlation and multivariate regression analysis and analysis of variance. The findings of the study indicate that construction expenditure has a negative and statistically significant effect on real estate development in Nairobi County; Kenya. Similarly, interest rates growth has a negative and significant effect on real estate development in Kenya. The study recommends that government of Kenya should offer tax subsidies on raw materials to real estate firms in Kenya so as to enable real estate firms reduce the cost of construction and increase real estate development. Central Bank of Kenya should continue regulating the interest rates in the market so as to cushion real estate investors who are heavy of consumers of huge loans.
Key Word*: Growth, Real Estate Investment, Construction Expenditure, interest Rate, Nairobi City County*

I. Introduction

The Universal declaration of Human Rights (1948) recognizes the right to proper standards of living as key to the citizens of any country; out of which housing is a key component. It has been widely argued that the ability of a citizen to acquire an affordable house in good environment without foregoing other basic needs greatly benefits a wide range of people including the business community and the state.The real estate sector is one among those that drive economies world over. However, it is worth noting that low growth in investment in real estate world over has been precipitated by negative cash flows that are realised for a period of time that is not sustainable by investors alongside with flipping. Flipping refers to a situation where investors are out to make short term profit at minimal effort.It is worth noting that returns in commercial real estate are maximised whenever there is full occupancy, prompt collection of total collection full market rent, when the buildings are in good physical condition and when there is a low rate of tenant turn over. Volatility in return of commercial real estate cannot be attributed to appraisal problem but a structural problem of the property markets and real estate property as an investment vehicle (Ziening& McIntosh, 1999).

Article 43 of the Constitution of Kenya (2010) explicitly provides for economic and social rights. As part of these rights, sub article (1) (b) specifically provides that each and every person is entitled to adequate accessible and affordable housing in addition to proper standards of sanitation. In the social pillar of the Vision 2030, the flagship projects include provision of physical infrastructure as well as social infrastructure on the slums in 20 towns restructure them to formal settlement areas hence allowing building of permanent housing as well as private investments ; establishment of200,000 housing units every year under Private Public Partnership program together with other initiatives; and provision of housing technology centres in every constituency with an aim of increasing accessibilityto decent housing through promotion oflocation-specific construction materials and cheap housing.

Temba (2015) finds that cost of housing and technology are the main factors affecting provision of housing in Nairobi County. Technology involves introduction of new methods by use of materials, tools, techniques and sources of power to make work easier or more pleasant or more productive. Cost of housing relates to the total amount that a homeowner spends on mortgage acquisition. That is the principal sum, interest of the amount, property insurance, property taxes and any other related reoccurring expenses.

Omtatah (2014) asserts that in Nairobi City County, housing is greatly determined by income which is proxied by GDP, the cost of houses and the number of family members. Nevertheless, interest rate and price of other commodities does not influence housing. This is a clear indication that income growth and housing prices are key concerns of most households. Kakumu (2016) finds that the main challenge contributing to unaffordable housing in Kenya is financing. Financial institutions prefer lending to salaried individuals as opposed to individuals without a steady income, real estate developers prefer building rental properties as opposed to properties for sale so as to be able to pay back the financial institutions, levies charged on mortgages affects loans uptake, and cash buyers are very few because of the high property prices. Kamau (2014) revealed that mortgage model for long-term basis is unviable while loan model for short term basis is unfit for enabling low-income earners own homes. Kamau (2014) further establishes that the best model which is viable to enable low income earners own a decent and affordable house is the housing cooperative model.

In Kenya the real estate sector contributes about 7 percent of the total country's GDP IN 2020 (Real Market Report, 2020). Cytonn report (2016) indicated that, in Q3/2015, both the construction and the real estate sectors registered their highest rate of growth which rose to 14.1 percent, as compared to 10.1% growth in the financial sector and 7.1 percent growth in agricultural sector. In the last 5 years the real estate sector has shown consistency in its performance where by it has grown above all the other asset sectors. The sector has maintained annual return at 25 percent to 30 percent ensuring zero losses hence attracting more investors. In Kenya the residential sector contributes a total of 5 percent while the commercial sector has an average contribution of approximately 9 percent. Cytonn report reveals that the gross total return with an inclusion of income for rental sector and interest is in the range of 28%.

Initially the real estate sector was controlled by individual developers. However, there has been a lot of new entrant in the sector whereby many developing companies including private equity firms, Saccos and funds such as Actis, Taaleri and international companies like AVIC from China. State programs such as land ministry digitising, title deed issuance, NCA waving, NEMA waving and fees for title searching together with a 15% tax cut on well-established large scale developers are providing a conducive atmosphere for real estate investment hence minimizing the construction costs (Cytonn, 2017). The real estate sector is characterised with debt financing due to inadequate allocation of funds, this has led to high financing costs owing to the increased time taken for project completion. The cost of developing buildings has gone high due to increased cost of building materials totalling to 70 percent of the overall cost (Cytonn, 2017).

Statement of the Problem

Investment in real estate is undertaken owing to its ability to generate returns inform of income, capital and related intangible benefits (Baum & Crosby 1988).However low growth in investment in real estate is precipitated by negative cash flows have been not been sustainable by investors. In Kenya growth in real estate investment is largely facilitated by the high level of inadequate housing supply (Nkoyom, 2017). In 2020, urban population in Kenya had increased by 28 % from 10.8 % in 1971; implying that this population was growing at an average annual rate of 1.97% per annum (Kenya Urban Population, 2020). This has been against the demand of new housing that is about 200,000 units annually, against 50,000 new units being constructed that are constructed in the same period (Mutai, 2016). The Kenya Economic survey of the year 2018 indicates that real estate growth decreased from 6.8 % in the first quarter of 2018, to 6.6 % in the second quarter of 2018 and 5.8 % in the third quarter of 2018 (Kenya National Bureau of Statistics, 2018). Indeje (2019) finds that rental income returns in Nairobi County have reduced from 9.7% in 2016 to 8.6% in 2017. Although land prices are high, housing prices for middle-income and lower-income brackets can come down if developers can explore alternative technologies, engage in proper project planning and execute the projects in a timely basis.

Temba (2015) examined the factors affecting adequate housing in Kenya: A Case of Nairobi County; Omtatah, (2014) examined the factors influencing housing demand in Nairobi; and Kamau (2014) studied the impact of home ownership models on home owning rate by low income earners in Nairobi County. These studies did not ascertain the antecedents of real estate investment growth in Nairobi County. Unless the causes of high demand for housing leading to deficiency in supply areidentifiedand addressed adequatelyhousepricesandgrowthofslumswillcontinuerising and hence the big four agenda alongside with the vision 2030 of the government will remain a pipe dreamIt is on this basis that this study sought to examine the antecedents of real estate investment growth in Nairobi City County; Kenya. The research gap this study entailed to fill.

ObjectivesoftheStudy

i)   To determine the effect of construction expenditure on growth of real estate Investment in Nairobi County Kenya

ii) To ascertain the effect of interest rate on growth of real estate investment in Nairobi County Kenya

II.   Literature Review

Theoretical Framework

The study was anchored on pricing theory and Efficient Market Hypothesis (EMH)

Pricing Theory

The theory of price was developed by Gordon Foxall in the year 1972 (Foxall, 1972). This is an economic theory whereby the price of any commodity is greatly determined by the supply and demand relationship. The main aim of the theory is to achieve market equilibrium whereby the demand for goods and services will be equal to the supply of goods and services (Gumus, Kaminsky&Mathur, 2016). Due to change in the market forces of demand and supply the theory gives room for price changes. The theory indicates that the most favourable market price for commodities is attained when the marginal cost of the seller is met by the buyer's price.The amount of commodities the market is able to avail is referred to as supply. The commodities comprise of tangible goods like houses and intangible goods like services offered by professional service providers. In each case, the amounts of goods and services which can be availed to the market are limited in nature. For example, at any given time the number of available houses is limited (Bassetto& Cui, 2018). Demand refers to the total market desire for goods and services at a given time, the demand can be for tangible or intangible goods. In each case, the total number of people demanding goods and services is limited. The market demand may decline due to reasons like introduction of better product than the existing one hence lowering the demand for existing product or a certain service might be no longer needed by consumers hence lowering the service demand (Turnbull, Zahirovic-Herbert & Zheng, 2018). The demand of a certain product may also be influenced by the perception value of the product, availability of customers and the affordability of the product.

In order to ensure market equilibrium, a price level should be fixed in a point where the total market supply is fully consumed by the market demand. High price level results to excess supply since the buyers will not be financially able to consume all the supplied goods. On the other hand, low price levels, will lead to excess demand because consumers will be in a position to consume all the supplied goods and still demand for more. The price theory helps economists in determining price levels which are very close to equilibrium level (Bassetto& Cui, 2018).In this study the pricing theory is used to explain supply and demand of houses and its impact on home ownership. An increase in the number of real estate companies leads to a decrease in the cost of houses, which turn leads to affordability of houses and hence increase in home ownership. However, even when the number of real estate companies is high, if the cost of construction is high, the cost of houses remains high leading to a reduction in the rate of home ownership. Nonetheless, the use of new building technology reduces cost of construction mainly in terms of labour thus increasing ability to own a home and hence increase in home ownership.

**Efficient Market Hypothesis (EMH)**

Effective market hypothesis was developed by Fama in the year 1970s. The theory operates on the basis of financial economics which states that the prices of assets give a clear reflection of the information prevailing in the market. The theory has three variety of hypothesis which includes the weak form, the semi-weak form and the strong form (Akgun&Sahin, 2017). The theory argues that the market is saturated with sufficient information this is an indication that the total return of any potential investor cannot go beyond the average market return since competitor are also having access to that information.The weak form of this theory states that the prices of assets like property shares and bonds already reveals the information available to the public. The semi-strong form the theory indicates that prices reveals all the information available to the market and the prices are prone to instant change hence revealing new information to the market. The strong form of the theory further indicates that the prices instantly reveal to the public the insider information which is hidden (Bisen& Pandey, 2013).

Naseer and Triq (2015) indicated that economists have different views on the extent of market efficiency. In addition, the advocates of this theory states that the information in the market is all about the asset prices therefore the expected outcome in terms of money supply may not influence asset prices in a significant way (Nagpal& Jain, 2018). Nevertheless, there is a significant and positive impact of the expected results of money supply on the price of assets. In spite of that, the theory opponents tend to content that any information available for public consumption is hardly embedded on the asset prices thus the desired outcomes with regard to monetary supply would significantly affect the asset prices.In regard to home ownership, the prices of homes

in Kenya indicates the market's available information whereby the asset prices change instantly to reveal new information to the public also the asset prices instantly reveal the insider information which is hidden. Public available information relating to real estate include cost of land, cost of building material, location of a house and its value, foreign exchange rates, interest rates, mortgage rates and access to loans. Hidden information includes government plans to expand infrastructure include roads, railway, water, electricity and sewer lines. Therefore, the cost of houses in Kenya reflects the publicly available information and hidden information and it instantly changes dependent on the change in information.

ConceptualReview

Conceptual framework is a hypothesized model identifying the model under study and the relationship between the dependent and independent variables (Mugenda&Mugenda, 2003). The independent variables were construction expenditure and interest rate while the dependent variable was growth of real estate development and the moderating variable as indicated in figure 1.0.
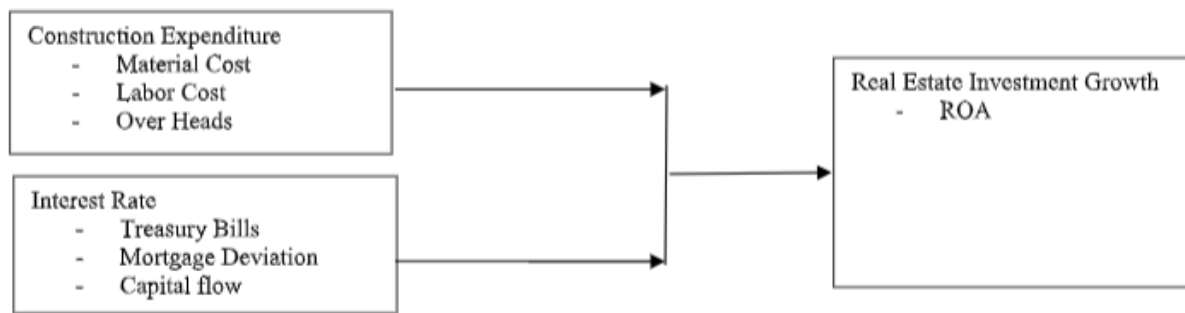
Independent variable   **Dependent variable**

Figure1.0: Conceptual Framework

Real estate development can be complicated, with many unknowns. Developing raw land, or redeveloping an existing site, has many variables and costs. These costs include both hard costs and soft costs, which collectively make up the developer's real estate pro forma. The accuracy of a developer's pro forma will impact overall returns.Anything related to the physical development of a property is generally considered a hard cost. This includes the physical materials needed to build a project (e.g., steel, concrete, interior furnishings, etc.) as well as the contractors whose labor is required to do the project. Material hard costs can include steel, timber, cement, drywall, carpet, appliances, life safety systems and landscaping among others. To calculate the materials needed for a project, a developer needs to have an advanced design with its architects and engineers. There are third-party construction estimators who can help put quantities and costs to each of these material line items. Most developers will use a market average (e.g., a specific dollar amount per square foot) as an estimate during their early underwriting exercises.

Interest rates have been found to have an effect on the value on generation of income by real estate industry. Just like they do on any other investment vehicle. This is especially true about the rates on interbank exchanges and Treasury bills (T-Bills). Because interest rate has an influence on an individual's ability to purchase residential properties, many people make incorrect assumption to the effect that the only deciding factor in real estate valuation is the current mortgage rate. Mortgage rates are only one interest-related factor that influences property values in the real estate industry. It affects capital flows, supply and demand for capital, and investors' required rates of return on investment. For a prospective real estate investor, it's important to note that changing interest rates affect numerous aspects of real estate. Beyond price of the new home, interest rates also affect the availability of capital and the demand for other investment in the economy.

The real estate industry is one among those that has long been a niche that is constantly thriving in Kenya. In it lies a wide range of opportunities for hard working, forward-thinking investors and developers. Locally the real estate sector has continued to grow. The sector recorded a rise in growth from 4.1% in 2018 to 5.3% in 2019 (KNBS, 2020). The sector's growth has been supported by; rapid population growth, which according to the KNBS Census Report 2019, was 2.2%, that is 1.0% higher than the global average of 1.2%, Infrastructural improvements that has opened up previously remote areas for development, improvement in client tastes and preferences, an expanding middle class and continued entrance of multinational firms who have either acted as clients or competitors, thus shaping the industry standards.

Empirical Review

This section reviewed empirical literature related to the study on the following aspects: construction expenditure, interest rate and real estate investment growth.

Construction Expenditure and Real Estate Investment Growth

Ngugi, (2016); undertook a study on construction cost and the growth in supply of real estate housing in Kenya. The study adopted a descriptive research design. The study indicates that finance cost, cost of building materials, cost of land and tax cost have a statistical and negative influence on the growth of supply of real estate housing. The study also concludes that increase in growth of real estate market despite the high interest rate could owe to the price inelastic demand for housing owing to economic disparity in the country. While low income earners, who are majority, are pushed away to less glossy and crowded homes where survival supersedes luxury, the upper middle income purchase of housing units is on the upward spiral. Somerville (1999) studied Residential Construction Costs and the Supply of New Housing: Endogeneity and Bias in Construction Cost Indexes. The study introduces an entirely new set of micro-data on housing construction costs to study this issue. Quality-controlled, hedonic construction cost series from these data were developed. Using this series, housing supply and construction cost functions were estimated for new single-family residences. This study demonstrates that bias in the commercial cost indexes used in existing housing supply studies is a likely cause of their poor performance in existing estimates of supply of new single-family housing. This bias appears to be caused by an incorrect measure of labour costs and a failure to address the endogeneity of construction costs and construction activity. In contrast, regressions start using the hedonic cost series generate much more sensible results. The findings of the study indicate that housing starts are quite cost elastic; construction costs are endogenous in the new housing supply function, and the cost shares of material and labour in the structure of new residences are approximately 65 and 35%, respectively.

According to Alabi and Fapohund (2015), adequate provision of affordable human settlements is a huge challenge in South Africa since its independence. This paper investigates the effects of the cost increase of building materials on affordable housing delivery in South Africa. With potential solutions for cost minimisation of building materials, with the aim of achieving affordable housing delivery in South Africa are provided. This study uses a sequential mixed methods approach, wherein surveys were conducted among the construction professionals (project managers, site managers' architects, site engineers, quantity surveyors, contractors, building materials suppliers, and government workers) in the construction industry within Cape Town, South Africa, who were considered as the research participants. The findings attained show fluctuation in construction cost and a rise in maintenance cost (caused by poor workmanship) as significant effects in the cost increase of building materials for affordable housing delivery. Adequate application of the recommendations given in this study will minimise the effects of high cost of building materials and enhance affordable housing delivery. Appropriate handling of the findings given in this study will reduce the effects of the high cost of building materials and augment timely delivery of affordable housing and stakeholders' satisfaction.The real estate industry has increasingly become a key pillar industry in Kenya. However, in recent years the real estate prices have risen rapidly with home prices increasing sharply in comparison to prices of goods and services in other industries. At the same time, housing demand has posed an economic and social challenge arousing continental and universal concerns. Gatuwa and Murungi (2020) in the study of Infrastructure Development and Real Estate Values in Meru County, Kenya. The finds that factors leading to high prices in the real estate sector include improved transport networks, improved social amenities, industries, expanded educational institutions and commercial centres.

Interest Rates and Real Estate Investment Growth

Muriuki (2013) sought to determine the effect of interest rates volatility on the growth of real estate market in Kenya. The study sought to show case this effect by showing how growth of real estate market is affected by the interest rates volatility. The target population of this study was the real estate market in the Kenya ranging from the large real estate developers to the small scale individual investors. Data for the purpose of the study was collected from KNBS and Hass Consulting firm from 2008-2012. The findings of the study findings indicate that the interest market has experienced low volatility. Thus, volatility in the interest market is predictable, at least in the short run. The evidence strongly indicates that the interest rate market is nonlinear. Muthaura and Aduda (2012) undertook a study ontherelationshipbetweeninterestratesandrealestateinvestmentwithafocusofKenya.Real estate is a large investment which requires huge capital that most ordinary Kenyanscannotraise,thereforetheyturntobankstofinancethiscostofconstructionorpurchase.Thecostofborrowingina llbanksisdrivenbytherealinterestratewhichisfuelledorlargelyaccommodatesinflation.Inflation is the key driver of interest rates.The banks are highly supervised and are under the obligatory role of the Central bank of Kenya which determines the base lending rate accommodating all factors in the economy, based on this the bank can

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then come up with their own mortgage rates or borrowing rates a few basis points from the Central Bank lending rate.

Gianni La Gava (2016) examinedthedeterminantsofthesecularriseintheshareofhousingcapitalincome(or'rentalincome')intheUSeconomy. The aggregate national accounts by geographical region was decomposed by geographic region and by type of housing.Exploitation of the variation across US states in factors that could explain housing capital income, such as interest rates, housing prices and income growth was done. The analysis finds that the long-run increase in the aggregate share of housing capital income is mainly due to higher imputed rental income going to owner-occupiers and further: the rise in the share of housing capital income over recent decades reflects a combination of: lower real interest rates; lower consumerpriceinflation;andconstraintsonthesupplyofnewhousinginsomelargeUS cities. The study documents that the fallinnominalinterestrates over the 1980s and 1990s raised the demand for housing and pushed up housing prices and rents(relativetonon-housingprices)insupply-constrainedareas. Marochi (2019) assessed the relationship between the mortgage interest rates and return on investment of residential property industry in Kisumu.Thepopulationof thestudyentailedresidentialpropertyindustryinKisumuCityfortheperiod2013-2018 involving monthly data yielding 72 data points. Data is presented using tables and graphs. The findings were that mortgage borrowing rate and mortgage repayment

The study alludes to the fact that City Housing affordability problem in Kenya has caused many Kenyan families to spend in excess of 30-35% of their earnings on housing. Implying that property return in most circumstances are influenced by market forces of demand and supply.According to the Kenya National Bureau of Statistics, the average residentialpropertyreturnrecordedsector records returns of 6.9%, in 2018, a 3.2% point (1.6% points annualized) decline from the 10.1% total returns recorded in May 2016. The Central Bank of Kenya (CBK) cut its benchmark interest rate to 10.5 % as of May 2016 due the exchange rate stability and inflation was expected to declinefurtherinmonthsthatweretofollow.Interest ratesinKenyahaverisensince2011aftertheCentralBankofKenya(CBK) increased the Central Banking Rate (CBR) from 7% to 18% in an attempt to curb the run-awayinflationandsteadythedwindlingshilling.The performanceinresidential propertiesisattributabletoadeclineinpriceappreciation,whichdroppedby1.7% points.Thestudyconcludesthat isthatmortgage borrowinginterestrateandrepaymentrateareanimportantnegativepredictorsof ROI.

III. Research Methodology

The present study adopted explanatory research design. Explanatory research design focuses on determining the relationship between elements and causes for the existing association.The study's area of interest comprised of 138 registered real estate companies in Nairobi County. The research therefore used the period between 2014 and 2020. Slovin's Formula was used in determination of the sample size 0f 102. Simple random sampling method was employed in choosing the investment managers and respective firms that participated in the study.Secondary data was collected using the data collection sheet. Data on construction expenditure and real estate investment growth was collected from the Kenya Bureau of Statistics, data on interest rate was collected from Central Bank of Kenya website.Validity of the tools was achieved through face and content validity. The test retest was applied during piloting and the feedback was utilized before setting for actual data collection. Both descriptive and inferential statistical were used in the analysis... Under descriptive computation of mean, percentage, standard deviation and frequencies were used. Under inferential statistics, the focus was on tabulation of the correlation, multiple regression analysis and analysis of variance were used.

IV. Result and Discussion

Descriptive Analysis

From the findings, as shown in Table 2. The average construction expenditure by real estate companies was Kshs. 645.025 million with the standard deviation of Kshs. 961.346 million on both sides of the mean. The minimum amount incurred in construction being Kshs. 5.04 million and the maximum being Kshs. 7,120.13 million. The average interest rate during the period 2014 and 2021 was 15.5% with the standard deviation of 2.02% on both sides of the mean. With the minimum of 13.5% and the maximum was 16.8%.Whereas the average growth in investment in real estate was 12.902 % with a standard deviation of 19.225% on both sides of the mean. Maximum growth in return on investment in real estate investment was 25.4% with a minimum of 5%. Pertinent results are shown in Table 1.

Table 1: Descriptive statistics

Variables	Mean	Std	Min	Max
Construction Expenditure	645.0254	961.346	5.04	7120.13
Interest rate	15.5	2.02933	13.5	16.8
Growth in real Estate investment	12.90242	19.22583	5.12	25.4

Inferential Analysis

Inferential analysis entailed correlation and regression analysis.

Correlation Analysis

The correlation coefficient (r) results are presented as shown in Table 3 using Pearson correlation analysis, which computes the direction (Positive/negative) and the strength (Ranges from -1 to +1) of the relationship between two continues or ratio/scale variables.Correlations between independent variables interest rates, construction expenditure and growth were found to be significant at 0.05 level of significance.

Table 3: Correlation Matrix

		Growth	Construction Expenditure	Interest Rate
Growth	Pearson Correlation	1	.168*	-.178
	Sig. (2-tailed)		.005	.004
Construction Expenditure	Pearson Correlation	.168	1	-.806**
	Sig. (2-tailed)	.005		.009
Interest Rate	Pearson Correlation	-.178	-.806**	1
	Sig. (2-tailed)	.004	.009	

Linear Regression

The first study objective was to determine the effect of construction expenditure on the growth of real estate investment in Nairobi County; Kenya. Table 4 depicts the fitness of the regression model for construction expenditure and growth in real estate growth.

Table 4: Regression Analysis: Construction Expenditure

Indicator			Coefficient			
R			0.326			
R square			0.106			
Adjusted R square			0.106			
Std. Error for the estimate			0.2447			
Growth_of_real_estate_~t	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval
Construction expenditure	-.1147001	.0321322	-3.57	0.000	.0517222	.177678
_cons	.1121803	.0354486	3.16	0.002	.0427024	.1816583

It is noted that construction expenditure, explain 10.6 percent of the variations on the growth of real estate investment in Nairobi County; Kenya whereas 89.4% of the growth in real estate investment is explained by other variables.Further, Table 4, gives a coefficient of -0.115. The z statistic is 3.57 and a p > | t| of 0.000 the z statistic is greater than the critical z at 95% (1.96) and also the p value is less than 0.05. For a 95% confidence interval study, therefore the study concluded that construction expenditure was statistically significant at 95% confidence interval. These results are in line with the findings of Somervilie (1999) who finds that an increase in construction costs have a negative effect on real estate investment growth. This finding are also in line with those of Alabi and Fapohund (2015) who also find that rise in construction cost significantly affect growth of real estate investment; The model for this variable was

$$y = 0.112 - 0.115x_1$$

Where x_1 is construction expenditure.

Y is Real Estate Investment Growth.

The second objective of the study was to establish the effect of interest rate on growth of real estate investment in Nairobi County; Kenya. The results presented in Table 5 depicts the fitness of the regression model that has been used to explain the study. Interest rate explains 76.4 percent of the variations on the growth of real estate investment growth in Nairobi County; Kenya whereas 23.6% of the variation is explained by other variables.

Table 5: Regression Analysis: Interest Rate

Indicator			Coefficient			
R			0.874			
R square			0.764			
Adjusted R square			0.763			
Std. Error for the estimate			0.1257			
Growth_of_real_estate_~t	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval
Interest Rate	-0.13138	0.04705	-2.792	0.013	-0.3785086	0.641269
_cons	.0929254	.0452408	2.05	0.040	.0427024	.1816583

Further, Table 5, gives a coefficient of -0.13138. The z statistic is -2.792 and a p > | t| of 0.013 the z statistic is greater than the critical z at 95% (1.96) and also the p value is less than 0.05. For a 95% confidence interval study, therefore the study concluded that interest rate was statistically significant at 95% confidence interval. This finding are in line with those of Muthaura and Aduda (2012) who find that interest rate has an effect on growth of real estate investment in Kenya. This is further supported by the findings of Gianni La Gva (2016) that a fall in nominal interest rate over 1980s and 1990s in United States of America raised the demand for housing and pushed up housing prices and rent. Marochi (2019) also finds that mortgage borrowing interest rate are an important negative predictor of Return on Investment of real estate firms in Kenya.The model for this variable was

$$y = .0929254 - 0.131385x_1$$

Where x_2 is Interest Rate

Y is Real Estate Investment Growth.

V. Conclusion and Recommendation

The study concludes that cost of construction (amount used in land and building material) has a negative and statistically significant effect on real estate development in Kenya. The cost of construction material has a great impact in the supply for houses in any country. Increase in price of resources like the construction material leads to increased cost of construction as well as other costs like the overhead costs.Interest rates growth was found to be a negatively significant factor on the growth in real estate investment in Kenya. This could have been attributed to the significant increase in interest rates and the effort commercial banks had in place to increase their loan portfolios mainly through aggressive marketing

The study found that cost of construction in terms of amount of money used in land purchase and building material was negatively affecting real estate development. The study therefore recommends that the government of Kenya should offer tax subsidies on raw materials to real estate firms in Kenya so as to enable real estate firms reduce the cost of construction and increase real estate development. In addition, the of cost of construction labor in Nairobi County has been increasing considerably due to high cost of living and hence the government should basic commodities to cushion the common *mwananchi*.Interest rates growth was found to be a negatively significant factor on the growth in real estate investment in Kenya. The study recommends that the Central Bank of Kenya should continue regulating the interest rates in the market so as to cushion real estate investors who are heavy of consumers of huge loans.

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