EFFECTS OF ECONOMIC FACTORS ON PERFORMANCE OF REAL ESTATE IN KENYA

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ABSTRACT

Real estate market is an ideal sector for many investors to invest. Hence it is a sector that is an ideal venture for research due to the enormous interest it has on investors. The study reviewed the effects of economic factors on the performance of real estate in Kenya by reviewing the following areas; interest rate, inflation, transaction cost and demand for housing. The general objective of the study was to analyze the effects of economic factors on performance of real estate. With the scope of the study focusing on real estate market in Nairobi. The study is built upon major theoretical streams; Classical theory of interest rates, the liquidity preference theory of interest rate, the loanable funds theory of interest rates, and contextualizes the performance of real estate. Stratified sampling technique was used to select the sample from each stratum; the study used simple random sampling giving the study a sample population of 44 respondents from the target population which was believed to be a good representation of real estate market. Primary data was gathered using semi-structured questionnaires where the respondents were issued with the questionnaires. The questionnaires were self- administered among the sampled employees currently employed by real estate agents. Secondary data was gathered from past published scholarly articles explaining theoretical and empirical information on performance of real estate. Descriptive analysis was used enabling the generalization of large information. SPSS computer software was used for analysis to generate data. Qualitative data analysis method was applied in analyzing the data that was gathered using open ended questions. From the study, the researcher can conclude that, interest rate, inflation, transactions cost and demand for housing

highly influence the performance of real estate industry. It can be settled that interest rate is stochastic in determining the performance of any property market. Therefore, the government should take a stake with the real estate industry to balance macroeconomic effects particularly the interest rate and inflation that highly affects the industry's performance.

Keywords: *Economic Factors on Performance of Real Estate in Kenya*

Introduction

Real estate development is becoming a major issues emerging from the on-going devolution debate, is how housing situation will look like at the country headquarters. They are expected to be the major engines of economic growth and will attract key investments. Workers of many companies setting based in Kenya and at the counties are expected to create a high demand for housing according to Architectural Association of Kenya (AAK, 2011).

According to World Bank report (2010) Kenya is one of the most rapidly urbanizing nations among the developing countries. It is estimates that about 200,000 Kenyans move to cities every year and that formerly rural areas are increasing becoming urban. Despite this, the national and local governments have failed to provide basic urban services like infrastructure and affordable housing, thus allowing the private sector to take over (Kenya's vision 2030). Unfortunately, the profit-motivated sector largely provides housing for the upper-middle and upper-income households, thus leading to proliferation of slums and other informal settlements that cater for poor dwellers (UN-Habitat report, 2011).

Globally real estate prices have been on an upward trend; like in the UK prices have been rising, but buying property remains 13 per cent more cost-effective than renting (Zoopla, 2012;KFPGRI, 2012). In the UK, the market for property derivatives did not begin until 2004. However, since the market's inception, the growth has been significant. Through the third quarter of 2007, trades with an outstanding notional value of 7.9 billion pounds have been executed. One year ago, renting in the UK was £993 per year on average more expensive than servicing a mortgage, but this gap has now come down by 3.2 per cent to £961 today. As a result, the proportion of towns and cities across the UK where it is cheaper to buy than rent has fallen from 90per cent to 86per cent over the past twelve month's (Zoopla, 2012).

Statement of the problem

Central Bank of Kenya (CBK) data shows that there has been a general rise in property prices. Data by property index and management firm Hass Consult (2012) show that the average value for a property in Nairobi, in the year 2000 was sh7 million and in the year 2007 same property was at an average of sh24 million this shows that Property values have increased by 3.38 times since 2000. As of 2012, Kenyan Population growth is estimated at 4.2% per annum. Based on this growth and the rate of urban migration, the yearly annual increase in demand for housing in Kenya is of 206,000 unit's annually of which 82,000 in urban areas. In 2011, the ministry of housing estimated that the formal supply of houses to the market reached 50,000 creating a 156,000 shortfall which added up to the 2 Million units existing backlog. In 2012, it is estimated that further 85,000 units were also added to the backlog (CAFA 2011; CAHF 2012)

In the past few years' property market has been on an upward trend with many questions being raised on whether the bubble is likely to burst, what are economic factors that are holding the law of demand and supply of property market? According to property consultant's Knight Frank(2013), Nairobi's upmarket suburbs, rent rose by the highest margins, placing the city ahead of 15 other cities in Africa, Asia, Middle East and Europe. This is attributed to Nairobi being a regional hub and is attracting many transnational corporations who are driving rent up. Some of this multi-national includes, Tullow, General Electric, Google, Nestle, Pepsi, Foton Automobiles, Bank of India and HSBC, according to Knight Frank's Prime Global Rental Index (KFPGRI, 2013). The index indicated that rent rose as follows; Nairobi 17.9 %, Dubai 14.3%, and Beijing 8.5 % (KFPGRI, 2013). Globally, rent increase by an average of 5.1% in 2012 which means Nairobi rate of rent increase was more than three times the global average (KFPGRI, 2013) during the same period the rate of interest rates kept on fluctuating.

Empirical studies (WB 2010, CBK 2010, Prime Global Rental Index 2012, TCM Africa2013,Tyson's, Hassconsult) have shown that increase on property prices is attributed to the decrease in interest rates, especially the rates on interbank exchanges, inflation and Treasury bills, which have a profound an effect on the value of income-producing real estate as an investment vehicle. The influence of interest rates on an individual's ability to purchase residential properties (by increasing or decreasing the cost of mortgage capital) is so profound

that many people incorrectly assume that the only deciding factor in real estate valuation is the mortgage rate (Daminiano, 2001). From the reviewed empirical literature it is evident that there is no empirical study of key effects of economic factors on performance of real estate market in Kenya. The study sought to determine the key economic factors that affect real estate market in Kenya and contribute to other studies by ascertaining if the selected variables affect Kenya's property market.

Research objectives

The general objective of the study was to analyze the effects of economic factors on performance of real estate in Kenya.

Specific objectives

i. To establish the effect of interest rate on performance of real estate in Kenya.
ii. To determine the influence of inflation on performance of real estate in Kenya
iii. To determine the influence of transactions cost on performance of real estate in Kenya
iv. To determine the influence of demand for housing on performance of real estate in Kenya.

Significance of the study

The study would be important not only to investor in the real estate but also to potential buyers of real estate. It would help them understand the strategic practices and how its understanding can help different and diverse investors to arrive at a prudence decision on the right property to invest in. The study would also help many potential home owners to determine the best method to apply in acquiring a real estate derivative, which would help them make some savings from the transactions. The study will enable the investor to know the cheapest way to acquire a property and also highlight other important relationships that require further research.

The results of this study would also be invaluable to researchers, scholars and investors, as it forms a basis for further research. The students, academics and investors would use this study as a basis for discussions on the effects of economic factors on performance of real estate in Kenya.

The study will also be a source of reference material for future researchers on other related topics. It would also help other academicians who undertake the same topic in their studies.

Scope of the Study

The study sought to establish the effects of economic factors on performance of real estate in Kenya. The research focused on the real estate market in Nairobi, Kenya, as this is where most of stand-alone house, townhouse and apartment are found. However this did not invalidate the research as most of the intended respondents are in Nairobi with over 42,180 registered real estate Firms. This will provide an adequate population and sample for the study and have current information to give reliable results and findings.

Literature Review

Classical theory of interest rate

This theory concerns the determinants of the pure or risk-free interest rate. It was elaborated further by (Irving Fisher, 1930, Bullard James, 1991; Keynes John M, 1936, Mishkin Fredrick, 1978 and Neely Christopher, 2001). It argues that the rate of interest is determined by two forces; the supply of savings, derived mainly from household. What is the relationship between the rate of interest and the volume of savings in the economy? Most savings in industrialized economies is carried out by individuals and families. For these household, savings is simply abstinence from consumption spending. Current savings are equal to the difference between current income and current consumption expenditures for a household to determine how much to save they must consider, the size of the current and long-term income, the desired savings target, and the desired proportion of income to be set aside in the form of savings (propensity to save). Higher-income families and individuals tend to save more and consume less relative to their total income than families with lower incomes (Bullard*et al*, 1991).

Interest rate affects an individual's choice between current consumption and saving for the future consumption. Classical theory considers the payment of interest a reward for waiting-the postponement of current consumption in of greater future consumption. Higher interest increases the attractiveness of saving relative to consumption spending, encouraging more individuals to substitute current saving (and future consumption) for some quality of current consumption. This

is called substitution effect calls for a positive relationship between interest rates and the volume of savings (Marquis, 2002).

The liquidity preference or cash balance theory of interest rate

This theory was developed by Keynes (1936) as a short-term theory of the rate of interest which was more relevant for policymakers and for explaining near-term changes in interest rates. The demand for liquidity; Keynes argued that the rate of interest is really a payment for the use of a scarce resource, money (cash balances). Business and individuals prefer to hold money for carrying out daily transactions and also as a precaution against future cash needs even though money's yield is usually low or even non-existent. Investors in fixed-income securities such as government bonds, desire to hold money against declining asset prices. Interest rate is the price that must be paid to money holders to surrender a perfect liquid asset (McGraw, 1999).

The loanable funds theory of interest

It argues that the risk free interest rate is determined by the interplay of two forces; the demand for and supply of credit/loanable funds. The demand for loanable funds consist of credit demands from domestic business, consumers and government, and borrowing in the domestic saving, dishoarding of money balances, money creation by the banking system and lending in the domestic market by foreign individuals and institutions (McGraw, 1999).

Government deficit spending and the loanable funds market: only the Fed can shift the money supply curve, but what factors can affect the Supply and Demand curves for loanable funds? key points to know about the loanable funds market are; When the government deficit spends (G>tax revenue), it must borrow from the public by issuing bonds. The Treasury issues new bonds, which shift the supply of bonds out, lowering their prices and raising the interest rates on bonds. In response to higher interest rates on bonds, investors will transfer their money out of banks and other lending institutions and into the bond market. Banks will also lend out fewer of their excess reserves, and put some of those reserves into the bond market as well, where it is secure and now earns relatively higher interest (Keynes *et al*, 1936).

As households, firms and banks buy the newly issued Treasury securities (which represent the public's lending to the government), the supply of private funds available for lending to

households and firms shifts in. With fewer funds for private lending banks must raise their interest rates, leading to a movement along the demand curve for loanable funds. This causes *crowding out*of private investment.

The rational expectations theory of interest

This theory assumes that the money and capital markets are highly efficient institutions in digesting new information affecting interest rate and security prices. When new information appears about investment, savings or the money supply, investors begin immediately to translate that new information into decisions to borrow or lend funds. This theory assumes that business and individuals are rational agents who form expectations about the distribution of future asset prices and interest rates that do not differ significantly from optimal forecast made using all the available information that the marketplace provides. A rational agent will tend to make unbiased forecast of future asset prices, interest rates and other variables. Thus in a highly efficient market interest rate will be very near the equilibrium. Economic factors around the equilibrium are likely to be random and momentary. In the absence of new information the optimal forecast of next periods interest rates would probably be equal to the current period's interest rates(i.e, $E(r_{i+1})= r_1$) because there is no particular reason for next period's interest rate to be either higher or lower than today(Fredrick *et al*, 1978).

Empirical review

Interest rate

The rates on interbank exchanges and treasury bills have as profound an effect on the value of income-producing real estate as on any investment vehicle. Because the influence of interest rates on an individual's ability to purchase residential properties (by increasing or decreasing the cost of mortgage capital) is so profound, many people incorrectly assume that the only deciding factor in real estate valuation is the mortgage rate. (Christopher, Neely2001).However, mortgage rates are only one interest-related factor influencing property values. Because interest rates also affect capital flows, the supply and demand for capital and investors' required rates of return on investment, interest rate will drive property prices in a variety of ways (Andrew, 2004).

Inflation

Inflation will affect interest rate levels. The higher the rate of inflation, the more interest rates are likely to rise. This occurs because lenders will demand higher interest rates as compensation for the decrease in the purchasing power of the money they will be repaid in the future. (Jessica James, 2001) .There is a correlation between inflation and house prices - in fact there are correlations between inflation and any good with a limited supply. Increasing money supply causes inflation and house prices to increase (Modigliani, 1996). A country with a consistently lower inflation rate exhibits a rising currency value, as its purchasing power increases relative to other currencies. Lenders will demand higher interest rates as compensation for the decrease in the purchasing power of the money they will be repaid in the future (McGraw, 1999).

The U.S. Federal Reserve (the Fed) often comes without announcements about how monetary policy will affect interest rates. The federal funds rate or the rate that institutions charge each other for extremely short-term loans, affects the interest rate that banks set on the money they lend; the rate then eventually trickles down into other short-term lending rates. The Fed influences these rates by the use of "open market transactions", which is basically the buying or selling of previously issued U.S. securities. When the government buys more securities, banks are injected with more money than they can use for lending, and the interest rates then decrease. When the government sells securities, money from the banks is drained for the transaction, rendering less funds at the banks\' disposal for lending, forcing a rise in interest rates (Modigliani, 1996).

Transactions Cost

The most evident impact of interest rates on real estate values can be seen in the derivation of discount or capitalization rates. The capitalization rate can be viewed as an investor's required dividend rate, while a discount rate equals an investor's total return requirements. K usually denotes RROR, while the capitalization rate equals (K-g), where *g* is the expected growth in income or the increase in capital appreciation (Hull, 1989).

Each of these rates is influenced by prevailing interest rates because they are equal to the risk-free rate plus a risk premium. For most investors, the risk-free rate is the rate on U.S Treasuries; these are guaranteed by the credit of the U.S. government, so they are considered risk-free because the probability of default is so low. Because higher risk investments must achieve a commensurably higher return to compensate for the additional risk borne, when determining discount rates and capitalization rates, investors add a risk premium to the risk-free rate to determine the risk-adjusted returns necessary on each investment considered.

Demand for housing

Housing, together with the land under it, is the single most important asset of households in most of the world's cities. Housing investment and the flow of housing services account for a total contribution to GNP of between 7 and 18 percent in most countries. However, these figures fail to convey fully how the performance of the housing sector is intertwined with that of the broader economy through real, financial and fiscal circuits (Polinsky & Ellwood, 2009).

The main determinants of the demand for housing are demographic. But other factors, like income, price of housing, cost and availability of credit, consumer preferences, investor preferences, price of substitutes, and price of complements, all play a role.

The core demographic variables are population size and population growth: the more people in the economy, the greater the demand for housing. But this is an oversimplification. It is necessary to consider family size, the age composition of the family, the number of first and second children, net migration (immigration minus emigration), non-family household formation, the number of double-family households, death rates, divorce rates, and marriages. In housing economics, the elemental unit of analysis is not the individual, as it is in standard partial equilibrium models. Rather, it is households, which demand housing services: typically one household per house. The size and demographic composition of households is variable and not entirely exogenous. It is endogenous to the housing market in the sense that as the price of housing services increase, household size will tend also to increase (Bourne & Hitchcock, 2008).

Critical Review

All Independent variables that is interest rate, transaction cost, inflation cost and demand for housing which influences the performance of real estate and hence may not be a reflective of the true position of performance of real estate since there are other variables which also affect the performance of real estate like income, population demographics, age of buyers.

Research Gap

The literature review established that a number of studies have been carried out on economic factors. Researches about effects of economic factors on performance of real estate have already stretched into various fields. Not only have they touched on some service industries like Banks but also stretched to almost all industries. Domestically, however the study about interest rates is still at infancy stage. Performance of real estate is actually a relatively new research area with huge potentials. Such studies in Kenya have been concentrating on interest rate fluctuation in banks (CBK, 2012,2013). Researchers on the real estate market, which has drawn little attention hitherto, are limited in studying real estate performance.

Kenya lacks the comprehensive theoretical accumulation. Knowledge investment and technology investment in Kenyan enterprises are far from enough and there is also no clear definition of determinants of economic factors on performance of real estate in Kenya, so research data is difficult to grasp. However, along with the Kenya's economic growth, scholars constantly intensify the studies on determinants of economic factors on Banks than on performance of real estate in Kenya.

Data Analysis/Findings

Relationship between dependent and independent variables

Relationship between the dependent and independent variables was given by the following function:

$$\ln(\textit{real estate performance}) = \beta_0 + \beta_1 \ln(\textit{Interest}) + \beta_2 \ln(\textit{Inflation}) + \beta_3 \ln(\textit{Transaction costs}) + \beta_4 \ln(\textit{demand for housing}) + \varepsilon$$

Table 4.8 guides us in developing the model determining performance of real estate as follows:

Ln (*real estate performance) = 6.599 - 1.788* ln *(Interest) -2.491* ln*(Inflation) - 0.718* ln *(Transaction costs) + 0.835* ln *(demand for housing) + ε*

Coefficients of variables determining performance of real estate market

Coefficients(a)

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	6.599	10.637		0.620	0.579
Interest	-2.646	2.458	-1.788	1.077	0.360
Inflation	-2.684	2.087	-2.491	1.286	0.289
Transaction costs	-3.138	6.517	-0.718	0.481	0.663
Demand for housing	2.172	4.669	0.835	0.465	0.673

Dependent Variable: Performance of real estate

Performance of real estate market was determined by interest rate, inflation, transaction costs as well as demand for housing which was measured by purchasing power parity. To achieve standardized coefficients, the logarithms for all the variables were analyzed using regression tools. The study found that a change in unit of inflation, interest rate or transaction costs leads to a decrease in performance of real estate by 1.788; 2.491 and 0.718 respectively. However, an increase in demand for housing as indicated by purchasing power parity was found to be positively affecting performance of real estate. Table 4.9 indicates the extent to which the independent variables considered for this study explained changes in performance of real estate.

Coefficient of determination on performance of real estate market

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate	F Change	df1	df2	Sig. F Change
0.910	0.828	0.598	0.158	3.606	4	3	0.160

Predictors: (Constant), Demand for housing, Interest, Transaction costs, Inflation

Findings indicates that the demand for housing, interest, transaction costs, inflation collectively influence performance of real estate by 82.8% as indicated by the coefficient of determination (R square). It is notable that for higher demand in real estate, the core demographic variables are population size and population growth: the more people in the economy, the greater the demand for housing. But this is an oversimplification. It is necessary to consider family size, the age composition of the family, the number of first and second children, net migration (immigration minus emigration), and non-family household formation, the number of double-family households, death rates, divorce rates, and marriages. In housing economics, the elemental unit of analysis is not the individual, as it is in standard partial equilibrium models. Rather, it is households, which demand housing services: typically one household per house. In addition, buying and/or moving into a home costs much more than most types of transactions including search costs, real estate fees, moving costs, legal fees, land transfer taxes, and deed registration fees

Conclusion

From the study, the researcher can conclude that, interest rate, inflation, cost of transactions and the availability level highly influence the performance of real estate industry. The study revealed that the effect of the interest rate volatility on income and its interest rate elasticity performance. It can be settled that interest rate is stochastic in determining the performance of any property market. That is the volatility in the interest rate which is measured by its variance would lead to a change in elasticity of the performance for real balances. Findings in this study leads to a conclusion that the performance for risky assets depends upon the joint probability distribution of asset returns and in a mean-variance framework, the performance for an asset is a function of both the expected rates of return on all assets and the covariances among asset returns. This will produce a shift in asset performance equations in general and in the real estate performance function in particular.

At the same time, with low interest rates, the real estate can now obtain greater quantities of low-transaction cost to acquire greater quantities of real estate (at very lucrative leveraged rates of return). With higher equity returns possible, and more demand units for real estate available to investors (higher leverage rates), the demand for real estate will increase, and since the supply of real estate cannot react fast enough, transaction prices for real estate will rise to a new equilibrium point. What this shows is that the physical real estate market can be shocked by imbalances in capital markets. Investment capital availability can drastically and quickly cause prices for real estate to change when the underlying economic fundamentals of the real estate are unchanged. These economic fundamentals including rents, vacancies, operating expenses, reserves, management contracts, taxes, etc. can be completely unaffected by what happens in capital markets. Yet, the price investors are willing to pay for real estate assets increase drastically. In effect, investors are paying for not only the rights and obligations of the real estate (the bricks, sticks and leases), but the price paid also includes the unique financial considerations available to these investors during the time period when unique financial market conditions exist unique conditions that are not sustainable in the long-run, but can cause severe price changes in the short-run.

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