

# Effect of Prospect Factors on Real Estate Investment in Embu County, Kenya

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**Abstract:** *Investment has always been deemed as a deliberate and rational process. However, there exists a controversy if indeed this is true. This study aimed at assessing the influence of prospects factors on real estate investment in Embu County. The study was guided by Prospect Theory. The target population of the study was 126 registered real estate investors in Embu County. The study adopted a descriptive research design where a census of 126 investors from Embu town, Runyenjes and Siakago Urban centers was undertaken. Primary data was collected through semi structured questionnaire that was self-administered to respondents in the selected three areas of interest. A total of 118 questionnaires were returned giving a response rate of 93.7%. Statistical package was used to undertake descriptive and inferential statistical analysis. Descriptive analysis was done using both means and standard deviations. A test of multicollinearity was done using a numerical Variance Inflation Factors and Tolerance. Bivariate linear regressions were used to assess the influence of prospect factors on real estate investment. Model R<sup>2</sup>, ANOVA Statistics (F Statistic and associated p-value) and regression coefficients (Beta and associated p-value) were generated and interpreted. The Bivariate results indicated that prospects factors explain approximately 26.7% of real estate investment decisions. Based on the finding using p value to test significance, prospects factors had positive and statistically significant effect on real estate investment decisions. This study concludes that real estate investors in Embu County sometimes do not make investment decisions rationally but are influenced by prospect biased decisions. Therefore, this study recommends that investors should put into consideration the future prospect of the real estate before they make decision of either to buy or sell.*

**Keywords:** Prospects Factors, Real Estate Investment

## 1. Introduction

### 1.1 Background of the Study

Prospect factors are the factors that indicate an apparent probability of advancement, success, profit or growth. Therefore, when it comes to investment most people are seen to make decisions based on emotions, feeling, fantasy, mood and sentiments which end up affecting investment decisions (Statman, Fisher & Anginer, 2008). Jordan & Miller (2008) discovered that most investors tend to have a personal and emotional attachment to the asset they hold. This in a way explains why some investors continue to hold assets even when the prices are declining. In the absence of perfect information investors are likely to make wrong decisions. Further, investors are also seen to have the prospective factor which the umbrella term referring to loss aversion, mental accounting and regret aversion. Prospect theory by Kahneman & Tversky (1979) contends that people value losses and gains differently. This theory suggests that the emotional impact of losses is more than an equivalent amount of gains. This tends to explain why an investor would dislike selling assets at prices lower than the bid price basically to avoid pain and regret of having sold at loss what is termed as loss aversion. Unfortunately, some of the losing stocks never recover.

Kempf & Ruenzi (2006), opined that when choosing from alternative an investor with gambler's fallacy behaviour will bias on one of the alternatives disregarding the other alternative whether optimal or not. They described gambler's fallacy as a situation when an individual erroneously believes that the onset of certain random event

is likely to happen following an event or a series of events. For instance, when one notices a falling share value decides to buy it since the share cannot fall below a certain point only to buy it and the situation get even worse. They noted that in all walks of life people are striving to invest in different sectors. However, where to invest differ from one person to the other depending on their needs and timing. The decision on whether to invest in the stock market, commodity market, and fixed deposits, training, and purchases of assets like machinery, building, real-estate and so on is upon individuals need, desire or time. According to Nwibo & Alimba (2013) one decides to rationally invest in a trade-off present consumption and future consumption.

According to Muthama (2012), real estate investors may buy land and buildings based on many factors such as the emotions, moods and feelings of real estate prices, location wise, past events, estimation of future prices among other factors. He opined that prospective losses can make real estate investors more distressed and thus become a risk seeker as opposed to the prospective gains. The objective of the study is to examine the relationship between prospect factors and real estate investment in Embu County which has a total population of 543,221 with an estimated annual growth rate of 1.7% (County Government of Embu, 2013). Byrne & Utkus (2013), stated that due to the an increase in demand for rental housing in Embu Town, outlying areas are now prime for developers and individuals who want to buy land for residential houses.

## 1.2 Problem Statement

Real Estate Investment is one of the Kenya Big Four agenda under the development plan for the period 2018 to 2022, and supports the economic pillar of Kenya's Vision 2030. This sector is therefore key in the achievement of 10% growth rate as envisioned in Kenya's development plan to 2030 and beyond. Embu County Government report indicate that approximately 4690 households use grass, Makuti tin and mud for roofing and that about 3091 households either use tin, grass and reeds and corrugated iron sheets for walling, painting a County where real estate investment was low. Government statistics revealed that there is a rise in real estate investment in many Counties in Kenya. Real estate is ranked top three sectors in terms of contribution to growth of the domestic economy in Kenya, following Construction and Agriculture in that order. Finance Theory explains that the investors' motivation in a fast growing investment(s) may be influenced by irrational behaviors rather than logical and sound economic evaluation of investment inputs. The prospect factors and real estate investment has scarcely been studied. Besides, none of the prior study known to the researcher has been conducted in Embu County. This study is therefore set out to assess the influence of prospect factors on real estate investment in Embu County.

## 1.3 Research Objective

The objective of the study was to evaluate influence of prospect factors on real estate investment in Embu County.

## 1.4 Significance of the Study

This study could be important to the investors as they could get acquainted with market knowledge and prospect factors that can be useful to them when making investment decisions. Investors will be able to apply and relate the prospect factors that influenced the investment decisions they have made in the past. In addition, researchers and scholars could also benefit from this study as the findings could add to the growing body of knowledge in the field of investment in real estate and can therefore be used later as reference for future studies.

## 2. Literature Review

### 2.1 Prospect Theory

This theory can be attributed to Kahneman and Tversky (1979). The theory represents a major paradigm in the field of decision making under uncertainty. Drawing from an assumption of bounded rationality, prospect theory suggests that individuals will exhibit variable risk preferences in differing contexts, and may be either risk averse or risk seeking, depending on how they frame decision problems (Holmes et al., 2011). While prospect theory originally emerged from laboratory experiments on individual decision making under uncertainty (Holmes et al., 2011), management research extended to the theory's proposition from individual to organizations, to explain managerial risk preferences at the top (Miller & Chen, 2004).

The central and most influential innovation role of prospect theory is reference dependence. Reference dependence means that people do not evaluate final outcome but instead they base decisions on gains and losses relative to a reference point (Wakker, 2010). In prospect theory reference dependence is observed through three major manifestations: sign dependence, that is, the attitudes towards risk/uncertainty captured by the decision weights dependent on the sign of outcomes; diminishing sensitivity for outcomes, that is, people are more sensitive to outcome changes near the reference point than to changes remote from it, and utility reveals this as convexity for losses and concavity for gains; and loss aversion, that is, a negative deviation from reference point has a higher impact than a positive deviation of equal size (Schmidt & Zank, 2012). Prospect theory argues that people exhibit loss aversion, which means that they are more sensitive to losses than to gains when having to making decisions under risk (Kobberling & Wakker, 2005). It argues that loss aversion reflects a value function that is concave for gains but convex for losses and is deeper for losses than gains (Schmidt, Starmer, & Sugden, 2008).

### 2.2 Prospect Factors and Real Estate Investment

Muthama (2012) studied effects of the investor psychology on real estate market prices in Nairobi, Kenya. Forty institutional real estate investors were selected randomly using Sylovin's formula and structured questionnaires were distributed to them. A descriptive research design approach was used. In the study, Muthama ranked the psychological factors in order of importance, from the most important to the least important; first, overconfidence, frame dependence, representativeness, mental accounting and herding was least important in determining investment in real estate. Seller and Seilr (2010) studied mental accounting and reference points. It was revealed that mental accounting was a common place where investors looked at it, as the point of reference. And according to regret theory of Bell (1982) the focus on an incorrect reference point can be explained by the fear of regret. More authors (Case & Shiller, 2004; Shiller, 2007) support that property investors usually disregard market forces due to the expectations that property price will continue to increase for the basis of the buying price.

Mental accounting according to Thaler (2008) is witnessed when people tend to keep different account of their money based on subjective criteria like source of money and the intention of the account. Each account has its own different function to perform resulting into irrational and detrimental behaviours. Regret aversion is a situation when individuals fail to admit making a wrong or poor investment decision to avoid the unpleasant feeling of the associated decision (Frehen, Hoevenaars, Palm & Schotman, 2008).

Almenberg and Karapetyan (2009) investigate mental accounting in the housing market. It was found that as result of applying the prospective factor to compartmentalize expenditure elements in various accounts, capital expenditure is made inefficient. As the Campbell (2006) observed many households have been making mistakes especially when investors fails to exercise option to

refinance mortgages, or refuses to diversify risky portfolio or fear of participation in risky asset markets altogether. Campbell further notes that wealthy and highly educated home owners were likely to make less mistake compared to the poor and less educated. Salzman and Zwinkles (2017) in the study of behavioural real estate reviews the empirical studies and concludes that anchoring, availability heuristic and confirmation bias explains to a largest extent the cause of these discrepancy.

Leung and Tsang (2013) investigated the effects of anchoring and loss aversion in the Hong Kong housing market. Their findings show that, using a sample of repeated sales, it was clear that anchoring and loss aversion were present. More importantly, they found a positive correlation between price dispersion and trading volume, if anchoring and loss aversion were present. As the anchoring effect declines, so do price dispersion and volume traded. They concluded that the presence of these behavioural aspects plays an important role in the cyclical movement of house prices in the Hong Kong housing market.

### 2.3 Conceptual Framework

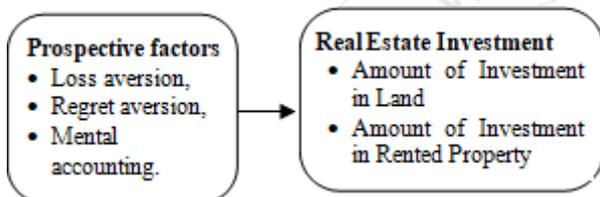


Figure 1: Conceptual Framework

### 2.4 Research Gaps

More of the Kenyan studies on the factors affecting real estate investment have mainly concentrated in Nairobi real estates and those that are trading in the stock exchange. However, the current economic trends have taken a different direction after the inauguration of the county governments and devolution of the core activities from the national government in Kenya, county investment have changed course. This creates a conceptual gap and this study was done in real estate investment and in a developing type of investment in an underdeveloped market in Embu County. Plans for developing Embu County have met with need for good housing and hence need to invest in these sectors. Studies conducted on real estate investment have majorly concentrated on housing challenges and the need for decent housing. Again, there seem to have lots of irrationality in the real estate property market in Kenya and investors do not seem to arrive at reasoned decisions.

## 3. Research Methodology

### 3.1 Research Design

A research design is a step by step guide depicting how the study objectives will be attained is known as the research design (Kothari, 2007). The study adopted a descriptive survey design. This design was appropriate in the current study since it seeks to describe the role of prospects factors on investment decision among investors in Embu County.

In the current study the target population was constituted by 126 real estate investors registered in the County offices of Embu in the residential, commercial, industrial and retail real estate investments. A census was done where the accessible population forms the subject of the study from Embu town and two urban centres of Siakago and Runyenjes. Primary data was collected through the use of questionnaire. The questionnaire had closed ended questions. According to Cooper & Schindler (2011) through use of closed ended questions the respondents are regulated on the choices to choose from.

### 3.2 Test of Reliability

Cooper & Schindler (2008) posited that reliability can be tested through use test-retest, split half and internal consistency. Kothari (2008) argue that reliability can be enhanced through testing the research instrument prior to data collection exercise. In the current study internal consistency was used as reliability test through the use of Cronbach's Coefficient Alpha. As a rule of the thumb, acceptable alpha should be at least 0.70. The results of the reliability of this study gave the alpha value which was above 0.722 as shown in Table 1 which implied that the data collection instrument was therefore reliable and acceptable for the purposes of the study.

Table 1: Assessment of Reliability

Variables	Number of Items	Cronbach's Alpha Coefficient
Prospect Factors	6	.722

### 3.3 Data Analysis and Presentation of Results

Data was analysed through a systematic process; data coding, data entry, data cleaning and data analysis. Statistical package was used to undertake descriptive and inferential statistical analysis. Descriptive analysis was done using both means and standard deviations. A test of multicollinearity was done using a numerical Variance Inflation Factors and Tolerance. Bivariate linear regression was used to assess the influence of prospect factors on real estate investment. Model  $R^2$ , ANOVA Statistics (F Statistic and associated p-value) and regression coefficients (Beta and associated p-value) were generated and interpreted. The simple ordinary linear regression equation adopted by the study was in the form;

$$Y = \beta_0 + \beta_1 X_1 + \epsilon$$

Y= Real Estate Investment decision

$X_1$  . Prospect factors

$\epsilon$ - Error term

$\epsilon$  is the error term which captures the unexplained variations in the model.

## 4. Findings and Discussions

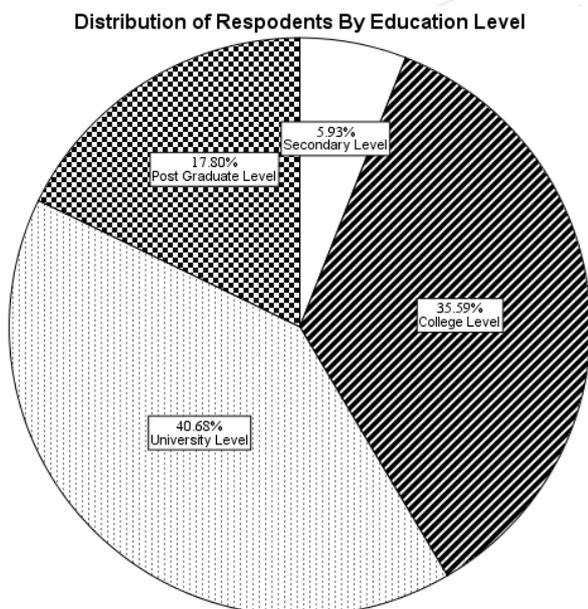
### 4.1 Response rate

The data that was analysed was obtained from one hundred and eighteen (118) respondents out of the targeted one hundred and twenty six (126) investors in the Embu County offices. Thus the response rate achieved was 93.7%, this is a

response rate of above 80% which is considered as very good according to (Mugenda & Mugenda, 2004).

**4.2 Level of Education of Investors**

One of the other areas of interest regarding the respondents of this study was the level of education. The respondent was asked to indicate the level of education in a list of education level categories which ran from Secondary level to postgraduate level. The results of the responses are presented in Figure 2. These results show that over 40% of the respondents of this study were University graduate level employees and another 17.8% were postgraduate level employees. On the other hand, approximately 35.59% of the respondents have a College level education. The Table show also that only a small percentage of 5.93% had a Secondary level education. These results indicate the majority of the respondents were conversant with the levels of information sought in this study and had adequate capacity to fill in the questionnaire.



**Figure 1:** Distribution of Respondents by Education Level

**4.3 Test of Multicollinearity**

Multicollinearity occurs when more than two predictor variables are inter-correlated, Kothari (2004). This is an undesirable situation where the correlations among the independent variables are strong as it increases the standard errors of the coefficients. To test for multicollinearity, Variance Inflation Factor (VIF) or tolerance, a diagnostic method was used to detect how severe the problem of multicollinearity is in a multiple regression model. VIF statistic of a predictor in a model indicates how much larger the error variance for the unique effect of a predictor (Baguley, 2012). Using the VIF method, a tolerance of less than 0.20 and a VIF of more than 5 indicates a presence of multicollinearity. If two or more variables have a Variance Inflation Factor (VIF) of 5 or greater than 5, one of these variables must be removed from the regression analysis as this indicates presence of multicollinearity (Runkle et al., 2013). From Table 2 there is no VIF with a value of 5 or greater than 5 and therefore no presence of multicollinearity.

**Table 2:** Results of Multicollinearity Test

Model	Collinearity Statistics	
	Tolerance	VIF
Prospect factors	.481	2.078

**4.5 Prospect Factors and Real Estate Investment Decisions**

Prospect factors are the factors that indicate an apparent probability of advancement, success, profit or growth. In light of this, the second objective of the study sought to examine the effect of prospect factors on investor’s decision making in real estate investment.

**Table 3:** Descriptive Analysis of Prospect Factors

Prospect Factors	N	Mean	Std. Error	Std. Deviation
Selling investments that have increased in value	118	3.68	.102	1.108
Evaluate each investments separately from others and not as a group	118	3.61	.106	1.155
Go for profitable investments only after risk consideration always	118	3.37	.079	.855
Willing to sell a losing investment because most of them are on the loss side	118	3.22	.126	1.366
Avoid selling investments that have decreased in value	118	3.14	.093	1.012
Go for riskier investments even when probability of return is high	118	2.98	.097	1.054

Selling investments that have increased in value was highly rated with mean of 3.68 followed by evaluation of each investment separately from others and not as a group with a mean of 3.61. Going for profitable investments only after risk consideration always had a mean of 3.37, willingness to sell a losing investment because most of them are on the loss side had a mean of 3.22. Avoid selling investments that have decreased in value had a mean of 3.14 while going for riskier investments even when probability of return is high had a mean of 2.98. This means that majority of the respondents for the study agreed that investors normally sell investments that have increased in value and evaluate each investments separately from others and not as a group. Most of these investors are cautious of risk and they normally go for profitable investments only after risk consideration and they tend to avoid selling investments that have decreased in value.

**Table 4:** Model Summary for prospect factors

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.487 <sup>a</sup>	.237	.230	.847

From the regression results in Table 4, the R value was 0.487 indicating that there is a relationship between prospect factors on real estate investment decisions in Embu County. The R squared (R<sup>2</sup>) value of 0.237 shows that 23.7 percent of the real estate investment decisions is explained by prospect factors. The remaining 76.3 percent is explained by other factors.

**Table 5:** ANOVA for Prospect Factors

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	75.783	1	25.783	35.973	.000 <sup>b</sup>
	Residual	33.141	116	.717		
	Total	108.924	117			

The model was significant with the F ratio = 35.973 at p value  $0.000 < 0.05$ . This is an indication that prospect factors when considered singly has significant effect on real estate investment decisions in Embu County. These results first and foremost conform to prospect theory which indicates that investors take calculated risks and are largely driven by risk preferences bounded by themselves Kahneman and Tversky (1979). Similarly, as originally posited that there is a possibility of predicting decision making of investors under environment of risk, this study confirms that the same can be done within the real estate investors in Embu County (Holmes et al., 2011). The results of this study in addition are similar to those of Wakker (2010) who found that investors ordinarily make investment decision guided by gains and losses from a reference point but not necessarily from an objective evaluation of the final outcome of a decision.

These results have an implication that potential investors in Embu will be motivated to invest based on the imprecise evaluation of the potential of investment viability based on what they perceived as the most probable outcome rather than the objective reliance of numerical analysis from investment reports. This means that if the County Government want to grow and spur investment in the County. In the event the blurred information on policy supporting real estate investment should be released to investors at the earliest time possible for consumption rather than wait and report real estate investment returns from the market. Similarly, such information as County development plan should be discussed in other presently less but potentially attractive urban towns to attract investors as well.

**Table 6:** Regression Coefficients for Prospect Factors

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	2.111	.329		6.423	.000
	Prospect Factors	.478	.080	.487	5.998	.000

Prospect factors had positive and significant effect on real estate investment decisions with  $\beta = 0.478$  at p value 0.000 which is less than 0.05. The indication was that as the prospect factors are enhanced by one unit, a real estate investment decision is enhanced by 0.478. The bivariate linear regression equation for this study can be stated as:  $Y = 2.111 + 0.478X_1$  where  $X_1$  = prospect factors. This implies that prospect factors under consideration were found to have major impact on investors' decision making to invest in real estate.

## 5. Conclusion and Recommendations

Based on the study findings, the study conclude that prospects factors positively and significantly influence real

estate investment decision in Embu County at 5% level of significance. This implies that the real estate investment decisions are highly dependent on prospects factors. In addition, study findings conclude that majority of the respondent are willing to sell investments that have increased in value where they evaluate each investments separately from others and not as a group. The study further concludes that most of the investors go for profitable investments only after risk consideration but they avoid selling investments that have decreased in value. This implies that investors are cautious of risk and that explains why they avoid risky investment even when their probability of return is high. Based on the study findings, this study recommends that investors should put into consideration the future prospect of the real estate before they make decision of either to buy or sell.

## 6. Areas of Further Studies

It is important to note that this research has filled a lot of gaps left by previous researchers. Nonetheless, the study also leaves some gaps which future researchers should focus their studies on. Future research should focus on the challenges investors face when making decision to invest in real estate. Moreover, future researcher should also evaluate the effects of new technology on the effectiveness of the decision making when investing in real estate. This is because the technology takes center stage in providing market information which was found too critical in making sound investment decision.

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