EFFECTS OF INTRODUCTION OF REAL ESTATE INVESTMENT TRUSTS ON STOCK RETURNS AT THE NAIROBI SECURITIES EXCHANGE IN KENYA

BY

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DECLARATION

This research project is my work and has not been submitted for examination in any other Institution.

Signature: …… Date: …….....

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

Signature: …… Date: …….....

Supervisor: DR. CYRUS IRAYA.

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I am grateful to my research supervisor for the professional assistance and guidance throughout the stages of the project I was undertaking. I appreciate my parents for their continuous encouragement and support.

DEDICATION

I dedicate this Research project to my family, most especially my parents for their effort, who have helped me throughout my studies in Nairobi University with proper support and encouragement to proceed and succeed. In addition, I dedicate this project to my friends who have supported me in various stages in the project to facilitate the completion of this project.

ABSTRACT

A REIT (real estate investment trust) is a real estate firm which acquires constructs or manages different types of buildings that are put up in various locations. REITs are a form of financing instruments from companies that source funds to build or obtain property which are then sold or rented to create income for the investors who invested their money in the company. The income that is generated by the firm over the period is then shared among the shareholders at the end of the financial year. This study looks to investigate the various challenges and prospects that such an investment can attain within the real estate sector in the country. This is a new venture/investment that has been introduced in the Kenyan market, and this study will be able to identify the many challenges and the Effect of REITs and prospects that such an investment holds once it picks up in the country.

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LIST OF ABBREVIATIONS AND ACRONYMS

CMA	Capital Market Authority
EREITs	Equity Real Estate Investment Trusts
JREITS	Japan Real Estate Investment Trust
MREITS	Mortgage Real Estate Investment Trust
NASI	Nairobi All Share Index
NSE	Nairobi securities exchange
REITs	Real Estate Investment Trusts

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Financial markets play a critical role in any economy mainly by facilitating financial intermediation with the aim of linking savers to investors thus supplementing the role of banking sector in economic development (Markowitz, 1952). A vibrant financial market is preferred in any economy given its economic contributions (Larsen, 2003). A well-functioning security market is a great preference if investors' confidence, reduced transaction and information cost, price discovery and risk transfer are to be guaranteed. Moreover, beyond national frontiers, stock markets facilitate the inflow of foreign financial resources via foreign direct portfolios (Markowitz, 1952). Therefore, the contribution of the stock market to economic development cannot be overstated.

However, volatility is a prominent feature in stock markets that disrupts the smooth functioning of any stock market. High volatility disheartens financial specialists from holding stock given that the normal returns must be traded off for the hazard introduction(volatility) thus prompting interest for a high-chance premium to leverage volatility risks. Stock returns volatility has received much attention, in particular among the researchers in the financial field ever since the original work by Fama (1970). The main factor behind the attention on the stock return volatility is that it informs on the stock price movement which in turn correlates to volatility in entire stock market. This is further informed by the fact that a well-functioning stock market is vital for stability in the financial sector of any economy. A highly volatile stock return is unfavorable for

the investors given the uncertainty in the market thus eroding their confidence in the same market (NSE Report, 2015).

1.1.1 Introduction of Real Estate Investment Trusts

Real Estate Investment Trusts (REITs) are closed investment organizations that are extensively classified as Equity REITs (EREITs) or mortgage REITs (MREITs) (Larsen, 2003). REITs contribute no less than 75% of their aggregate resources in pay creating land properties while MREITs put 75% of their aggregate resources in private home loans, business home loans, and development credits.

Ordinarily, by the review of its operation, REITS posit the features of equity segment's products. Given this scenario, it's expected that the risk-averse investors are more willing to invest in the REIT which has a guaranteed earning as opposed to investing in equities. REITs, therefore, can be seen to provide a new alternative for investment in the property market, which is traditionally considered as a secured, scarce, and expensive but low-liquid vehicle for risk-averse investors (NSE Report, 2015). This will certainly lower the volatility in the equity market. Several benefits accrue from the introduction of REITs which would be the motivating factor behind their introduction in the capital market (Oxford Business Group, 2015).

Property investment is essentially capital intensive. (Olukemi, Why You Should Look Forward to REITs Expansion across Sub-Saharan Africa, 2014). What REITs do therefore is to make it more affordable, via the dividends distributed by the REIT, as

REITs are typically required to distribute 90 percent of income earned by their investors (Larsen, 2003) thus giving regular income streams.

1.1.2 Stock Returns

Stock returns are defined as the rate of appreciation in price added to any dividends paid and divided by the original price of the stock (Oxford Business Group, 2015). As a result of the stock market crash in 1987 in Europe(Oxford Business Group, 2015), much analysis has been conducted in an attempt to model prediction of volatility in stock returns. As Schwert (1989) postulates, what causes volatility among stock returns remains a puzzle. However, other studies are precise on what causes volatility among stock returns and the relation between stock prices and returns. Black and Scholes (1973), explicitly states that the stock prices are negatively related to stock returns, and because of this, the investors will demand high premiums to leverage on the volatility risk. It is against this backdrop. Therefore, policymakers have come with the need for new market products and instruments like REITs aimed at lowering market volatility.

1.1.3 Introduction of REITs and Stock Returns

Empirical studies and early seminal works regarding equity markets and REITs market yields controversies. One body of empirical work tends to support the idea that the two markets are segmented. Schnare and Struyke (1976), Goodman (1978, 1981), Richardson and Thalheimer (1982), Miles et al. (1990), Liu et al. (1990), and Geltner, (1991) all document the existence of segmentation within various real estate markets and equity markets. They, therefore, assert that REITs bring about market segmentation within the stock market. However, other authors seem to disagree with this proposition.

For instance, Liu et al. (1990) and Ambrose et al. (1992) postulate that mortgage and equity REITs displayed similar return generating characteristics to the equity market and they concluded the real estate and equity markets were integrated. They, therefore, negate the assertions of market division between the REIT market and equity market.

Causality tests show that although the equity and the fixed income segment markets are related. The level of deviations between these two can be extensive displaying a meager degree of mean reversion. These mixed findings are also a confirmed by later works of Glascock et al. (2000) and Lee and Chiang (2001).

REIT is a contemporary venture vehicle that appreciates tax exemption on the wage appropriated to its investors (90%) and anticipated that would contribute at least 75% of its reserve in Land Resources for appreciate the expense exception (Larsen, 2003). Throughout the years, the execution of REIT has been contemplated and investigated to distinguish the contributing factor(s) to REIT yield as being proven by profit appropriated to financial specialists. These examinations have in many circumstances considered determinant factor at once while others are thought to be consistent or of no simultaneous impact, a situation that once in a while exists, in actuality, speculation advertise in this manner a gap for the study of concurrent impacts of all factor determinants on REIT performance (Boshoff and Bredell, 2013).

1.1.4 Nairobi Securities Exchange

Within the Nairobi Securitas Exchange, there are two main market segments namely the equity market and the fixed income segment (NSE Report, 2015). The two markets

perform in opposite direction in that when the equity market is performing well, the performance in the fixed income market is muted and the opposite is also true. The risk-averse investors will tend to prefer investing in the fixed income segment with the risk takers having a preference in the equity market segment. The more instruments traded in the security market, the lesser the market volatility. The more the instruments in the fixed income segment, the more instability in the equity, the market segment are traded off (NSE Report, 2015).

The NSE in 2015 introduced the Real Estate Investment Trust (REITs) live trading (NSE Report, 2015). A review of the REIT posits that REIT trading at NSE occurs at the equity market segment with them being categorized as another instrument in equity market segment in addition to ordinary stocks. From the financial literature, they REITs traded at the NSE can be categorized to as equity REITs (REITs) (NSE Report, 2015). The first REIT issue in Kenya suffered due to lack of investor knowledge.

Stock returns at NSE exhibit characteristics like volatility clustering, asymmetry effect and persistence of volatility in their daily return. There exists a significant presence of volatility clustering and degree of volatility is persistent which implies the recent news as well as past news both has an impact on volatility. The existence of leverage effect indicates that the negative shocks have more effect on volatility than that of positive shocks. The relation between returns and volatility for both the return series are statistically insignificant.

1.2 Research Problem

The relationship between real estate investment Trusts (REITs) and broader capital markets is one of ongoing interest to practitioners in the financial markets in the recent times (NSE Report, 2015). Due to the constant change in nature of the REIT market, the stability of these relationships and how they have altered during the recent past is also of paramount importance. From the mid-nineties onwards there has been a marked increase in investor awareness. As Chan et al. (1998) note, institutional investment increased substantially in the 1990's and a positive relationship exists between this and REIT performance. REITs (Real-estate Investment Trust Security) have shown to be popular with the attention of researchers in the financial markets in the recent time's investors who see stocks as very risky and bonds as not giving enough return. Despite REIT stocks offering more stable returns than common stocks they also provide higher dividend yields than low-interest rates (Liang & Mclntosh, 1998).

Ordinarily given that the majority of REITs income consists of rentals from real estate, one can view REITs as fixed-income securities. Thus their advantages offer an excellent hedge against equities market severe change (Liang & Mclntosh, 1998). According to Su et al. (2010) REITs possess the characteristics of traditional stock and fixed-income sector. Further Hoesli and Moreno (2007) reports that the risk nature of REITs returns are mixed as in the case of stock and bond. The research is of the opinion that REITs are like fixed-income securities.

Turning to the securities market, it's clear that there has been substantial interest among both practitioners and academics in recent years in modelling the predictability of asset

returns ever since the original work by Fama (1970). Gumbs (2001) did a study on the viability of the REIT structure as a vehicle for real estate development and concluded that the REIT format is an effective vehicle for real estate development although skilled management is vital to exploiting its inherent potential. Construction of both commercial and residential properties.

Lee and Stevenson (2004) researched the case for REIT in the mixed-asset portfolio in the short and long run. The poor performance of the U.S stock market in 2003 resulted into REITs been seen as an attractive addition to the mixed-asset portfolio. Against this backdrop, this study was confronted by some questions that it seeks to answer following the introduction of REIT trading at NSE. First, has the introduction if REIT in NSE affected volatility in the equity market segment? Secondly, if so by how much has the introduction of REIT traded – off volatility in the equity market at the NSE?

1.3 Research Objective

The study mainly aimed at investigating the effects of the introduction of real estate investment trusts on the stock returns at the Nairobi Securities Exchange.

1.4 Value of the Study

The introduction of the REIT at the at the Nairobi Securities Exchange was deemed as an achievement towards the modernization of the bourse as well as increasing its competitiveness by providing the investors with more market instruments. Therefore, given this scenario, the value of this study is twofold namely: its contribution to the theory and its contribution to practice.

To the theory, the study is of importance in contributing to the existing literature as far as REITs, and stock return volatility in NSE is concerned. Scanty empirical work exists regarding how REITs have influenced market performance at the NSE given that the REIT is a recent development in the market. As such against this backdrop, this study stands to add to the already done literature and empirical works in this area, therefore, propping possible areas for further studies and giving literature background for such studies in the future.

To the practice, the study is of importance to the policymakers. More specifically to the regulator (CMA) in assessing the performance of REITs in so far as the trading off in volatility in the equity segment is concerned and well as addressing high market premiums that comes with the increased market volatility. This would further be crucial in informing the fast-tracking the introduction of newer financial instruments in the market such as financial derivatives to trade – off volatility and high market premiums. Also, the findings of the study would be beneficial to the listed firms at the bourse as well as the potential investors in knowing the perception of the risks in the market. By this, they can tell whether risk-averse or risk takers dominate the market. To the portfolio managers, the findings of the study would be crucial in informing their decisions about diversification of investment between the equity market instruments (stocks) and the fixed income market instruments (REITs, treasury bills, treasury bonds among others).

CHAPTER TWO : LITERATURE REVIEW

2.1 Introduction

This chapter covers the literature review about stock market volatility upon which this study will be based. More specifically, the chapter covers the theoretical literature that highlights the theories upon which the study is based on. Also, it covers empirical literature review which entails the empirical studies in stock market volatility.

2.2 Theoretical Literature Review

Within the literature body on REITs and other capital markets instruments, different strands of literature do exist. These can be broadly categorized into three. The first study focuses on the influence of macroeconomic factors, such as interest rates and inflation on real estate investment trusts (REITs, hereafter) (Larsen, 2003). Gyourko and Keim (1992) found that valuable information about property market fundamentals is impounded in REIT returns, especially when they are adjusted to control for general market factors. The strand of literature deals with exploring the interlinking between REITs. This strand deals entirely with the modelling predictions in REIT returns. Keim and Gyourko (1998) found that there is only weak evidence of predictability of REIT returns based purely on past performance. Subrahmanyam (2007) explored the existence of joint dynamics across the REIT and non-REIT sectors. The third literature strand seeks to explore the interrelation between real estate investment and other vehicles, particularly stock markets. He et al. (1996) examined the relationship between REITs' returns and bank stock returns. They found that MREIT explains the risks and returns of bank stocks better than equity REITs.

However, it's noteworthy that the three strands in the literature concerning REITs and capital market are based on three main theories or both namely: the efficient market hypothesis, the portfolio theory, and the Liquidity theory.

2.2.1 Efficient Market Hypothesis.

The Efficient Market Hypothesis (EMH) was developed by Eugene Fama, (1965). An efficient capital market is one in which security prices react quickly to current information and, therefore, the current security prices reflect all information about it. The theory states that an efficient market is the one that the securities reflect all the possible information in a timely and accurate manner. The investor considers all the available information on the prices of the securities they are willing to sell or buy (Reilly & Brown, 1999).

According to the efficient market hypothesis, stock returns tend to follow a random walk process and not the martingale process (Reilly & Brown, 1999). An efficient capital market is one in which security prices are inclusive of the current information on the market. Therefore, under an efficient market, the price for which the investor will be paying for the financial asset truly reflects fair or true information about the intrinsic value of this specific asset (Reilly & Brown, 1999). In this paper, we assume that both the stock market and the real estate market are informationally efficient markets. The efficient market is supported by long term REITs performance.

2.2.2 Portfolio Theory

The portfolio theory was developed by Markowitz (1952), who derived the expected return for a portfolio of assets and an expected risk measure. According to this theory, a portfolio of assets is considered efficient if no other assets or portfolio of assets offers a higher expected return with the same risk or lower risk with the same expected return. This is achieved through portfolio diversification with the aim of minimizing risks and maximizing returns. The correlation coefficient between two financial assets plays a key role in determining the effectiveness of diversifying a portfolio. Portfolios are diversified to protect against the risk of single securities or class of securities (Markowitz, 1952). Hence, portfolio analysis consists of analyzing the portfolio as a whole rather than relying exclusively on security analysis (Markowitz, 1952). Portfolio theory reveals to us that on the off chance that you figure out how to combine assets whose profits indicate low correlation with each other, you might have the capacity to limit hazard while boosting returns. This implies it is conceivable to be a "reasonable speculator" regardless of the possibility that one's portfolio incorporates more dangerous resources, if those more dangerous get higher yielding, ventures are adjusted with others in an all around enhanced portfolio. Where there is a positive connection, the estimation of relationship coefficient between a stock and a real estate asset is +1 thus it demonstrates that two assets will move a similar way and there is a positive linear relationship amongst return and risk. The risk and return of the arrangement of the two resources is a weighted normal of the hazard and return of every benefit. The danger of this two assets portfolio can't be diminished by enhancing over the two resources that have a positive connection (Markowitz, 1952).

2.2.3 The Liquidity Theory and Real Estate

Liquidity is defined as how fast an asset can be converted into liquid cash based on the information. Since cash, money market instruments, the treasury bills, and commercial papers are considered as the most liquid assets whereas real estate is among the least liquid assets. Both individuals and institutional investors have to look at how likely they are to require cash in a short time this prompts them to establish a minimum level of liquid assets Bodie et al. (2008).

Benveniste et al. (2001) find that creating liquid claims on relatively illiquid property assets increases the value by 12 22%. This illustrates that REITs make it easy to invest in real estate. Reilley and Brown (2006) define liquidity risk as the uncertainty due to the ability to buy and sell an investment in the secondary markets. They note that even with same attitudes towards risk, different households and institutions might choose different investment portfolios because of differing circumstances which include tax status requirement for liquidity, or flow of income from the portfolio or regulatory restrictions.

2.3 Determinants of Stock Return

According to Mueller and Mueller (2003), the return on investment is a profit. What the investor receives from the investment comprises of any change in value and interest or dividends or other such cash flows. It may be measured either in absolute terms or as a percentage of the amount invested. Some of the common determinants of stock returns

include inflation, nature of the market, nature of company holding stock and the state of the current economy (Larsen, 2003).

2.3.1 Inflation

The level of inflation is a constant concern for investors, the Federal Reserve, and businesses. Inflation — the rise in the price of goods and services — reduces the purchasing power each unit of currency can buy (Larsen, 2003). Due to the insidious effect of inflation the economy slows for a time as input prices become higher, the price of goods goes up meaning consumers can purchase less goods; as a result revenues and profits decline. The impact of inflation on stock returns has been widely studied.

Unfortunately, these studies have produced conflicting results when several factors are considered — namely geography and time (Larsen, 2003). Expected inflation can affect stocks positively or negatively, this is determined by the governement's monetary policy and the ability to hedge. However, unexpected inflation did show more conclusive findings, most notably being a strong positive correlation to stock returns during economic contractions, demonstrating that the timing of the business cycle is particularly important for investors to gauge the impact on stock returns (Larsen, 2003). This correlation is also thought to stem from the fact that unexpected inflation contains the latest information about future prices. Similarly, greater volatility of stock movements was correlated with higher inflation rates (Larsen, 2003).

2.3.2 Nature of the Market

Studies have shown that because of financial deregulation, the stock market becomes more receptive to domestic and external factors (Larsen, 2003). Over the recent years

literature shows evidence that considerable attention has been paid to the relationship between stock returns and economic variables in particular countries. There are both internal and external factors that determine the level of return from an investment. Forms of an investment vehicle, management prowess or type of financing etc. are internal factors. Inflation, price controls, war, political events, interest rate and exchange rate are among some of the external factors.

Capital asset pricing model (CAPM) was a basic technique used to determine risk and return related to a particular security. The single index model was developed by Sharpe (1963). This was the main characteristic as well as the primary shortcoming of this model that it was using only the market return as a single factor to determine security return. This problem had led to alternative model to explain the stock returns variation called the arbitrage pricing theory (APT). The arbitrage pricing theory has emerged as an alternative to CAPM and based on a much lesser number of assumptions about the stock market character as compared to CAPM (Larsen, 2003).

2.3.3 Nature of Company Holding Stock

Investors need to understand the impact of corporate actions—events initiated by a company that impacts its share price—to get their investment strategy right. “A good understanding of these measures gives a clear picture of the company’s financial health, its ethical business conduct, and helps determine whether to buy or sell a particular stock,” (Larsen, 2003). Some of the prominent corporate actions and how they impact stock prices. Include**,**

Bonus Shares

These are additional shares gifted by a company to its shareholders. A 1:1 bonus issue implies that shareholders get one additional share for each share that they already hold. When a company faces liquidity issues or is not able to distribute the dividends, it issues bonus shares out of its profits or reserves (Larsen, 2003).

Rights Issue

In a rights issue, new shares are issued by a company to its existing shareholders. However, unlike bonus shares, they come at a price— usually a discounted price. To illustrate, a 1:5 rights issue implies that you are entitled to buy one additional share for every five shares you hold. "Cash-strapped companies turn to a rights issue to raise money," this causes the share price to fall in the same proportion as the rights issue (Larsen, 2003).

Buybacks

It is an event when the company purchases its shares from shareholders, usually at a premium to the market price (Larsen, 2003). Companies go for buybacks to consolidate their stake in the enterprise and for greater control, to support the share price from declining, to improve earnings per share (as it reduces the number of outstanding shares in the market), or/and to build investor confidence in the promoters. A buyback may lead to a short-term spike in the share price (Larsen, 2003).

2.3.4 State of Current Economy

A country with a consistently higher rate of economic growth, then generally stock markets will perform better than in a country with lower rates of growth (Gumbs, 2001). The stock market will reflect the economic conditions of an economy. If an economy is growing, then the output will be increasing, and most firms should be experiencing increased profitability (Gumbs , 2001). This higher profit makes the company shares more attractive – because they can give bigger dividends to shareholders. If the economy is forecast to enter into a recession, then stock markets will fall. This is because a recession means lower profits, less dividends and even the prospect of firms going bankrupt, which would be shocking news for shareholders. Also, in a period of uncertainty, investors may prefer to buy bonds for the greater security and avoid shares, because of the increased risk involved (Gumbs, 2001).

2.4 Empirical Literature Review

Gumbs (2001) did a study on the viability of the REIT structure as a vehicle for real estate development. Past studies on the effects of development on REIT performance, industry articles, and interviews with the essential personnel of the REITs and private development firms were reviewed in this paper. It was noted that proficient management is vital to exploiting the inherent potential of the REIT format as an effective vehicle for real estate development. The development and construction of both commercial and residential properties could be funded by a REITs investment.

Lee and Stevenson (2004) researched the case for REIT in the mixed-asset portfolio in the short and long run. When the U.S. stock market was performing poorly in 2003

REITs was seen as a promising addition to the mixed-asset portfolio. The study was undertaken between1980 to 2002. The aim was to determine if REITs could be used over different time horizons in the efficient portfolio. The differing time horizons were estimated over a range of four alternate rolling periods. The outcome of the study showed that, over both different time horizons and holding periods, REITs does play a significant role. As the holding period increases so does the attractiveness of REITs as a diversification asset. This study views REITs as a diversified investment for the various investors and could be used as an investment plan in various mixed-asset portfolios and earn returns for such portfolios. For investors who normally have a diversified portfolio REITs investment could act like a diversified investment.

Muchiri (2006) did a study that examines the attitudes of Kenyans towards real estate securitization. The research design used in the study was an exploratory study and was mainly qualitative. This design was chosen since the concept is relatively new and had not taken root in the country. This study takes into consideration every potential investor in the stock exchange in Kenya. Real estate owners whose value is equal to, or exceeds the minimum required share capital and net asset value for listing at the Nairobi stock exchange qualify as potential promoters of a securitized real estate IPO. The sample of the study consisted of both institutional investors would be the most conveniently placed to provide insight into the questions raised, property consultants, in their capacity as advisors, this group can influence investment in a particular direction and trustees of some of the pension funds and officials of co-operatives that hold substantial property. This information was obtained using an in-depth interview. Such an interview provided opportunities to probe answers and allowed the interviewee to

build on their answers. The qualitative data was used in the analysis of the findings from this research. The study found that professionals and ordinary investors would be willing to put their money in securitized real estate. However, the readiness to invest in shares of property companies went down as the amount involved went up. Also, compared to owning property, most of the respondents favored owning a rental house to shares in a property company. The study goes on to state that investors would invest in the issues of REITs IPO given the amount required to invest in REITs.

Konagai (2009) researched Japan-REIT performance which intended to recognize the performance of REITs in Japan (J-REITs). The reseach conducted two spearate studies.The first study employed the Fama-French three-factor model for monthly J-REIT returns from September 2001 to September 2008. The model resulted in a limited explanatory power for the J-REIT performance, which was probably due to too short a market history, as in the past research. The second study applied the Pure Play Indices to the J-REITs for office, residential, and retail segments since January 2006 when the J-REIT market became sizable enough for the study. The study concluded that as the market matures with more data accumulated this two-fold study that shows a demonstration of returns from J-REITs will become more valuable to derive a risk of J-REITs and diverse types of information of properties. The performance of REITs can only be seen once they become mature with a good historical background on the same.

Muchuki (2010) did a study on real estate as a major investment asset class, but it posed considerable problems for portfolio managers in valuing direct real estate investment. Real estate illiquid nature increases transaction costs yet it is assumed to be a safer asset

for long-term investment. Real estate can be purchased (direct investment), or the investment can take place through land held by listed or unlisted companies (indirect investment). REITs are the only truly liquid assets related to real estate investment. Indirect investment in real estate investment trusts (listed REITs) transforms the illiquid nature of direct real estate and offer more liquid investment vehicles thus forms part of a well-diversified investment portfolio. Public REITs did not exist in Kenya at the time. This study investigated whether there exist REITs needs among institutional investors trading at Nairobi Stock Exchange. A sample of 30 institutional investors consisting of pension fund managers and unit trusts was used. The findings showed that investors would invest in REITs if they were to be introduced at the exchange and therefore confirmed that REITs needs do exist among institutional investors at the NSE.

Alias and Tho (2011) analyzed the performance of REITs comparison between M-REIT and UK-REITs. The United Kingdom was one of the recent countries to enter the tax efficient REITs regime. This took place early in the year 2007. Now, it ranks fourth regarding market capitalization based on the Global REITs report 2008. Malaysia, with a long history of Unit Trust Funds with some recently converting to REIT, has yet to achieve the size of UK-REITs. This research analyzed the performance of six selected REITs in both countries. Nevertheless, before the performance analysis, the mechanism, as well as the legislation adopted in regulating the several REITs regime, was discussed. Also, factors which contributed to the variance of performance of REITs are presented, and further discussions are made based on the performance analysis done. The findings and analysis of the study showed that the total revenue was the main factor affecting the performance for both the largest M-REITs and UK-REITs. Furthermore, the study

views demonstrated that for every billion increases in market capitalization, the profit margins generated by the REITs would rise by approximately 9%. This study was a basic comparison of REITs growth in the various countries since it took off in the U.S. and had concluded that's the REITs investment is quickly catching up in the different countries.

Hoesli and Oikarinen (2012) did a study, and this study aims to examine whether securitized real estate returns reflect direct real estate returns or general stock market returns using international data for the U.S., U.K., and Australia. In the U.S., the research included four real estate sectors which were apartments, offices, industrial, and retail while for the U.K. it included just two real estate sectors which were offices and retail in the study analysis. For the Australian market, the researchers used the overall REIT and direct market indices given that no reliable sector data were available. For securitized real estate, the FTSE/NAREIT Equity REIT sector level indices are used for the U.S. and the S&P/ASX 200 A-REIT index for Australia. For the U.K., the study constructed the REIT indices from the company level price, dividend and market cap data provided by EPRA. It estimated the vector error-correction models and investigated the forecast error variance decompositions and impulse responses of the assets. Both the variance decompositions and impulse responses suggest that the long-run REIT market performance is much more closely related to the direct real estate market than to the general stock market. Consequently, REITs and direct real estate should be relatively good substitutes in a long-horizon investment portfolio. This study

was testing the securitizing of real estate assets and if such a venture would generate returns to the public as it does in the private sector. The two sectors both private and public are closely linked, and through the private sector, one can be able to analysis if the securitizing of such real estate assets would generate returns to the public investors.

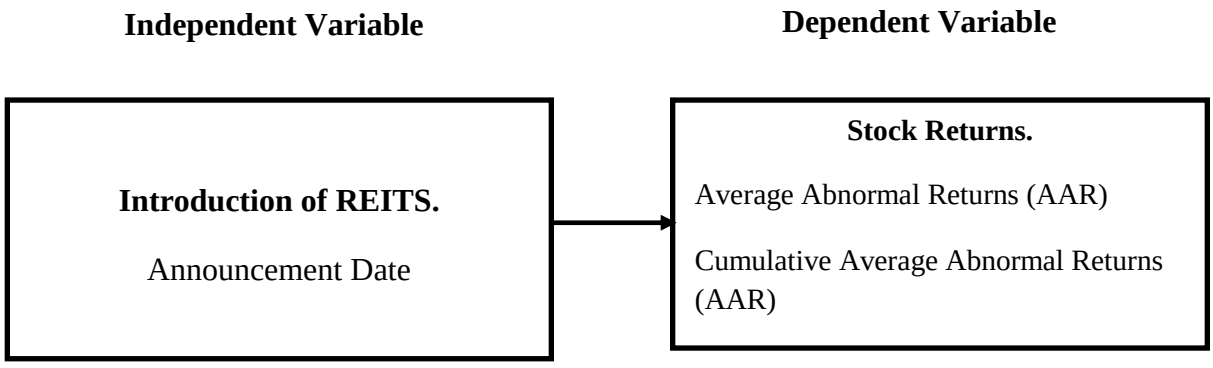
Nzalu (2013) did an assessment which looked at the factors that affected the growth of the real estate sector in Kenya. The study investigated factors such as GDP Growth, the influence of interest rate, inflation rates, and population growth. The design of the study used both quantitative and descriptive research design to obtain information. The study, therefore, investigated the contribution of the current status of the phenomenon. The population in this study was real estate investors while the target population included private and public property investors. Data for analysis was based on the real estate and renting businesses as sourced from the various Economic Surveys and Kenya Statistical Abstracts Issues. The data obtained were analyzed by use of the Statistical Package for Social Sciences (SPSS) to get descriptive statistics and a regression model. From the results, the contribution of the factors affecting real estate growth as measured by Pearson correlation coefficients indicated that GDP took the highest share with a value of 83% followed by inflation growth at 78% while interest rate came third with a value of 75%. Population growth contributed the least to the growth in real estate investment with a value of 29%. The data supported the study hypothesis that GDP is the most significant contributor to the growth in real estate. Also, GDP growth, interest rate variation and increase in inflation were found to be a statistically significant determinant of real estate growth. A summary of the regression results showed that the variables considered could explain up to about 70% of variations in the investment

growth. The study recommended that Policy measures geared toward improving the economic growth and curbing rising inflation rates and interest rates should be undertaken as they increase the investment levels. This shows the need for growth is the real estate developments across the country, and this can be facilitated by the use of REITs as a financing vehicle for such properties that are required.

Mwathi (2013) did a study on the effect of funding sources on real estate development in Kenya. The purpose of this study was to establish the sources of funding real estate in Kenya. In specific terms the study reviewed whether funding in the real estate originates from; mortgage financing, savings, venture capital and equity financing. This study employed the descriptive survey design since it was conducted to describe the present situation, what people currently believe, what people were doing now and so forth. The population of the study was all the real estate firms in Nairobi. This study used secondary data for five years. Data were analyzed using Statistical Package for Social Sciences (SPSS), and results were presented in frequency tables and charts. The findings indicated that mortgage financing is the most used source of funding, with equity and venture capital being the least source of financing used. The findings also stated that there is a significantly positive relationship between mortgage financing and real estate development. However, the findings recommended that to increase use of equity and venture capital as a source of funding will require businesses to sell their ideas to people who have money to invest. Equity and venture capital financing can be a reliable source of funding if well implemented in the country

2.5 Conceptual Framework

The conceptual framework for this study shows the effects of introduction of real estate investment trusts on stock returns.



Source: Author (2017)

2.6 Summary

This chapter has highlighted the different literature reviews behind the REITs development and the determinants of stock return. These determinants and prospects were by the objectives of chapter one and the literature review prove that they are independent variables of real estate investment trusts (REITs) on stock returns.

CHAPTER THREE : RESEARCH METHODOLOGY

3.1 Introduction

The study is aimed at establishing the effects of the introduction of Real Estate Investment Trusts at the Nairobi Stock Exchange. The chapter explains the various methodologies used to obtain a valuable observation.

3.2 Research Design

The study utilized quantitative research design. More specifically, an exploratory research design was employed. In this case, the study sought to give an in-depth insight into what was the nature of volatility of returns at the Nairobi Securities Exchange with the introduction of REIT into the market (Nairobi Securities Exchange Report, 2015). By doing so, the study has provided a more detailed explanation on the volatility in the stock returns of all the listed companies at the NSE before and after the introduction of REITs. Therefore it is a build up from the expected random walk hypothesis of the stock market about stock returns. By doing so, the study has laid out groundwork for the future studies about the stock returns at the NSE with the introduction of new instruments in the market.

3.3 Population

The study aimed at investigating the effects of the introduction of REIT on the stock market performance more specifically on the stock returns volatility and the leverage effect. As such the study aimed to analyze the entire market meaning that it utilized the stock market indices for the entire market (Okunev,1997). As a result, all the 64 listed

companies were used as the study population. Since the study focused on all the companies, therefore, there was no sampling.

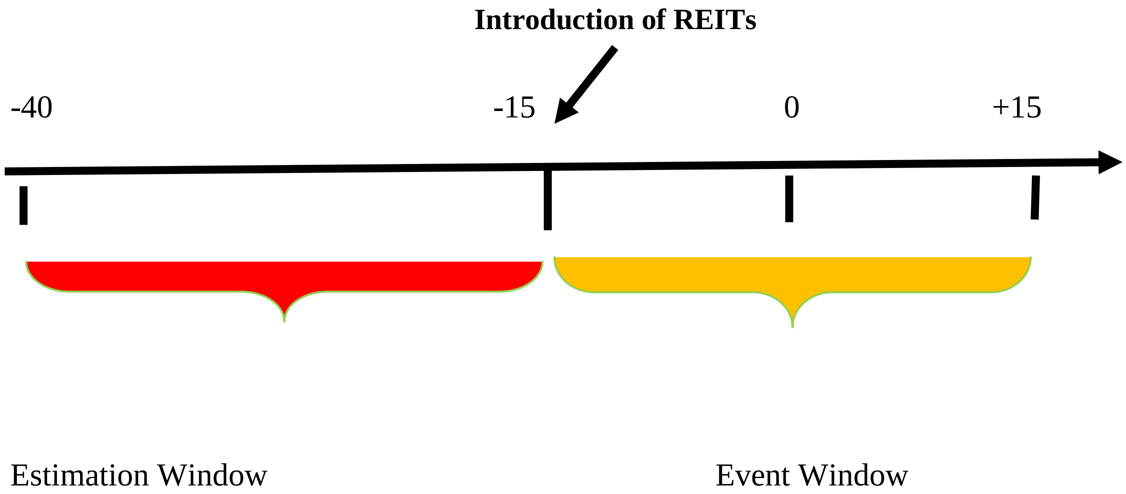
3.4 Data Collection

The study utilized secondary data in attempts to investigate the effects of the introduction of REIT on stock returns in the market. To achieve these objectives, the Nairobi All Share Index (NASI) was used. NASI was introduced in the market in 2008 as a fair indicator of market performance given that it's computed from the prices of all the shares of all the companies listed on the bourse unlike the NSE – 20 Share index which is computed from the top 20 blue chip listed companies. NASI data was sourced from the Nairobi Securities Exchange. The study utilized daily data of the Nairobi All Share Index (NASI) for the period between 1st October 2015 to 14th November 2015 (Nairobi Securities Exchange Report, 2015).

3.5 Data Analysis and Presentation

The study was an event study following the standard methodology of event studies.

The data was analysed using SPSS version 20. The event period was 31 days (-15 to +15); - 15 days before the event and 15 days after the event with the event day being 0. An estimation window of 25 days before the event period was used to derive α and β to derive expected returns.



Stock returns were computed using the formula below:

$$R_t = {P_t - P_{t-1}}/{P_{t-1}} \quad \ldots\ldots (1)$$

Where:

Where R_t =Daily Stock Return

P_t = Stock price at the end of the day

P_{t-1} = Stock price at the start of the day

Upon the computation of stock returns, expected stock return of each security were calculated as follows:

$$ER_t = \alpha + \beta R_{mt} + \varepsilon_t \quad \ldots\ldots (2)$$

Where:

ER_t = Expected stock return in period t

α = Alpha (the intercept of the characteristic line on the vertical axis.

β = Beta (slope characteristic line) that depicts the sensitivity of the security's

excess returns to that of the market portfolio.

R_{mt} = Market return in period t.

ε_t = Unsystematic risk (avoidable risk).

Alpha (α) and Beta (β) was calculated using data from the estimation window. Efficient diversification reduces the total risk of a portfolio to the point where only systematic risk remains. Thus, investors are only compensated for systematic risk. Therefore, upon compensation expected returns model were reduced to be:

$$ER_{it} = \alpha + \beta R_{mt} \quad \ldots\ldots (3)$$

After computing then expected returns, the Daily Abnormal Stock Returns (AR) were calculated as follows:

$$AR_t = R_t - ER_t \quad \ldots\ldots (4)$$

Where AR_{it} = Abnormal Stock Returns in period t

R_{it} = Actual Stock Returns in period t

ER_{it} = Expected Stock Return in period t

Average abnormal stock returns per day were calculated using the formula below:

$$AAR_t = \frac{1}{n} \sum_{t=1}^{n} AR_t \quad \ldots\ldots (5)$$

Where AAR = Average Abnormal Stock Returns

n = Number of securities at that particular day

AR= Abnormal Stock Returns in period t

Cumulative average abnormal stock returns for the whole market were then aggregated as follows:

$$CAAR = \sum_{t=1}^{n} AAR \quad \text{..... ....} (6)$$

Where CAAR = Cumulative average abnormal stock returns

AAR = Average abnormal stock returns

In this study the null and the alternative hypothesis was specified as follows:

Null hypothesis: There is no variation in stock returns for the period before and after the introduction of REITs at the Nairobi Securities Exchange.

Alternative hypothesis: There is a variation in stock returns for the period before and after the introduction of REITs at the Nairobi Securities Exchange.

CHAPTER FOUR : DATA ANALYSIS, RESULTS AND DISCUSSION

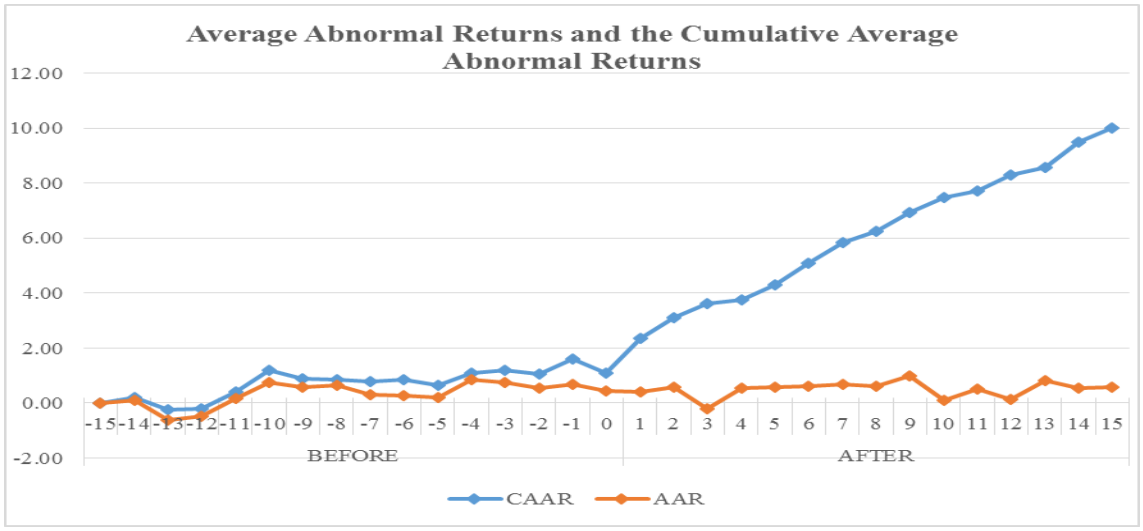
4.1 Introduction

This chapter focuses on the analysis and interpretation of the data that was collected. Specifically, the chapter covers descriptive statistics of the stock returns prior to Real Estate Investment Trusts introduction and after introduction of Real Estate Investment Trusts. In addition, the chapter covers the inferential statistics on the Abnormal Average Returns and Cumulative Abnormal Average Returns prior to and after Real Estate Investment Trusts introduction at the Nairobi Securities Exchange. Finally, the study covers the discussion of the findings.

4.2 Descriptive statistics

The average abnormal returns and the cumulative average abnormal returns were derived from the resulting abnormal returns that were calculated from the daily and expected returns for the period between 1st October 2015 and 15th November 2015. The average abnormal returns and the cumulative average abnormal returns were then plotted on a graph. The graphical representation is reported in figure 1 below:

Figure 1: Trend of average abnormal returns and the cumulative average abnormal returns



Source: Research Findings

From figure 4.1 the results evidence that the average abnormal returns were very low close to zero mark returns for the period before the announcement date. Immediately after the announcement date Average Abnormal Returns slightly urges up after two days by declines on the day three. From day four a sustained surge can be evidenced that lasts till the 9th day. From day 10 all the way to 15th fluctuations are evidence with both the upturns and down turns a trend evidenced earlier prior to Real Estate Investment Trusts introduction.

The Cumulative Average Abnormal Returns graph smoothly moved upwards form day -15 to day 0. For this period, the trend in the Cumulative Average Abnormal Returns mimics the trend in the Average Abnormal Returns. However, a disparity appears from

day 1 onwards where the Cumulative Average Abnormal Returns take a sharp surge that is sustained from day 1 all the way to day 15 as evidenced in figure 1.

4.3 Inferential Statistics

Upon the collection of data SPSS Version 20 was used to analysis the data. This was mainly done by computing the inferential statistics in order to aid in the testing of the hypotheses. More specifically, the paired t-test of significance for average abnormal returns for the period before and after the Real Estate Investment Trusts introduction as well as the paired t-test of significance for Cumulative Average Abnormal Returns for the period before and after the Real Estate Investment Trusts introduction dates were computed.

4.3.1 Test of Significance of Average Abnormal Returns

The results of the paired t-test of significance for Average Abnormal Returns are present in table 1 and table 2.

Table 1: Paired Samples Statistics of Average Abnormal Returns

Paired Samples descriptive Statistics

	N	Minimum	Maximum	Sum	Mean	Std. Deviation	Variance
CAAR	31	-0.6142	10.020	104.29	3.3642	3.2555	10.598
AAR	31	-0.2400	0.9906	12.7559	0.4115	0.3734	0.1400
Valid N (listwise)	31						

From Table 1, the results indicate that the mean value of the Average Abnormal Returns is 0.4115 after the introduction of Real Estate Investment Trusts with a variance of 0.3734 from its mean value as measured by then standard deviation. The minimum daily AAR value for the period is -0.2400 while the maximum daily AAR is 0.9906 for the period under analysis.

On the other hand the mean value of the Cumulative Average Abnormal Returns is 3.3642 after the introduction of Real Estate Investment Trusts with a variance of 3.2555 from its mean value. The minimum daily CAAR value for the period is -0.6142 while the maximum daily AAR is 10.02 for the period under analysis. This gives a significant increase in the returns in absolute terms upon the introduction Real Estate Investment Trusts.

Table 2: Paired Samples Test for Average Abnormal Returns

Paired One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
AAR	31	0.4115	0.3736	0.0671

One-Sample Test

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
AAR	6.133	30	0.000	0.4115	0.2744	0.5485

The paired t-test statistics was calculated with 5% level of significance. The results are presented in table 2 above. The test was a two tailed analysis. The value of the t- test value was 6.133 which is the in the 95 percent confidence interval with a lower bound of 0.2744 and upper bound of 0.5485. From the results of the test, we accept the null hypothesis that states there is no variation of stock performance before and after the introduction of Real Estate Investment Trusts Real Estate Investment Trusts at the Nairobi Securities Exchange given that the two – tail test probability is less than 5 percent significance level. The probability of the t – statistic is 0.000 percent. We therefore accept the null hypothesis that the variations in the Average Abnormal

Returns between prior and after the introduction of Real Estate Investment Trusts at the Nairobi Securities Exchange is not statistically significant.

4.3.2 Test of Significance of Cumulative Average Abnormal Returns

Table 3: Paired Samples Test for Average Abnormal Returns

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
CAAR	31	3.3642	3.2555	0.5847

One-Sample Test

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
CAAR	5.754	30	0.000	3.36419	2.1701	4.5583

The paired t-test statistics was calculated with 5% level of significance. The results are presented in table 3 above. The test was a two tailed analysis. The value of the t- test value was 5.754 which is the in the 95 percent confidence interval with a lower bound of 2.1701 and upper bound of 4.5583. From the results of the test, we accept the null hypothesis that states there is no variation of stock performance before and after the introduction of Real Estate Investment Trusts at the Nairobi Securities Exchange given that the two – tail test probability is less the 5 percent significance level. The probability of the t – statistic is 0.000 percent. We therefore accept the null hypothesis that the variations in the Average Abnormal Returns between prior and after the introduction of

Real Estate Investment Trusts at the Nairobi Securities Exchange is not statistically significant.

4.4 Discussion of the Findings

From results of the data analysis, the Cumulative Average Abnormal Returns graph went up gradually with the sharp surge experienced after the Real Estate Investment Trusts introduction. This indicates there were positive average abnormal returns after the Real Estate Investment Trusts though not significant. This shows that the stock prices adjusted upon Real Estate Investment Trusts' introduction but the adjustment was not statistically significant based on two – tail test at 5 percent error of margin. From the analysis, both the Average Abnormal Returns and Cumulative Average Abnormal Returns mean for the period after the introduction of Real Estate Investment Trusts was found not to be significantly greater than Average Abnormal Returns and Cumulative Average Abnormal Returns mean for the period before the Real Estate Investment Trusts. This implies that the abnormal returns for the period before the announcement date were not statistically different after the REIT announcement date. This is a pure indication that the introduction of Real Estate Investment Trusts had no effect on the stock returns and hence stock performance. This is also supported by the test of significance at 5 percent error of margin.

The paired t-test of significance carried out indicates acceptance of the null hypothesis and rejection of the alternative hypothesis. The null hypothesis states that there is no variation in stock performance for the period before and after the introduction of Real

Estate Investment Trusts. The alternative hypothesis states that there is a variation in stock performance for the period before and after the introduction of Real Estate Investment Trusts. The t-test showed that performance of the shares in the period before the introduction of Real Estate Investment Trusts is not statistically different from the period after the announcement date.

CHAPTER FIVE : SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The chapter presents the key findings, conclusions, limitation of the study and suggestions of further study.

5.2 Summary of Findings

The main objective of the study was to determine whether the effects of introduction of real estate investment trusts on stock returns at the Nairobi securities exchange in Kenya. The study employed secondary data collected from the Nairobi Securities Exchange for year 2015. The data was daily stock prices mainly captured by Nairobi All Share Index. The average abnormal returns and the Cumulative Average Abnormal Returns were derived from the resulting average abnormal returns that was calculated from the daily actual and expected returns. Average abnormal returns and the cumulative average abnormal returns were then plotted on a graph. Paired t-tests for both average abnormal returns and the cumulative average abnormal returns were done with 5% level of significance.

There were fluctuations of average abnormal returns around the introduction of Real Estate Investment Trusts. Both average abnormal returns and the cumulative average abnormal returns mean for the period after the introduction of Real Estate Investment Trusts was higher than those of the period before the announcement date. The cumulative average abnormal returns graph moved upwards though the incline was higher after the introduction of Real Estate Investment Trusts compared to the period

before. Average abnormal returns was positive throughout the period under study. The t- test value lied in the acceptance region and thus the null hypothesis was accepted. This is an indication that the investors did not react statistically different to the introduction of Real Estate Investment Trusts which in turn did not statistically affect the stock returns, hence stock performance.

5.3 Conclusion and Recommendation

There were fluctuations of average abnormal returns around the introduction of Real Estate Investment Trusts. This implies that there was a reaction to the news towards the introduction of Real Estate Investment Trusts. Average Abnormal Returns and Cumulative Average Abnormal Returns mean for the period after the introduction of REITs was higher than those of the period before the announcement date. This indicates that average abnormal returns increased after the introduction of Real Estate Investment Trusts. This is also be supported by in upward movement of Cumulative Average Abnormal Returns graph. The test of significance accepted the null hypothesis and instead rejected the alternative hypothesis. This therefore means that the there was no statistical difference in the performance of the stocks before and after the introduction of Real Estate Investment Trusts as supported by all the findings. Therefore the study concludes that the introduction of Real Estate Investment Trusts had a positive effect on the performance of stocks though not statistically significant at the Nairobi Securities Exchange. The study recommend to that the Government involves all stakeholders at when formulating fiscal policies in this case the introduction of Real Estate Investment

Trusts in order to realise its expected result in trading – off volatility in the stock market.

5.4 Limitations of the Study

This study was limited to analyzing the average abnormal returns and the cumulative average abnormal returns upon the introduction of Real Estate Investment Trusts in the Nairobi Securities Exchange. As such the study ignores any other news in the market that might have occurred in the market in the period of analysis that might have had effects on market returns in the same period. Given that the securities market is driven by news this could be limiting the analysis of the study.

5.5 Suggestions for Further Research

From this study a number areas for further studies can be elicited. First, similar study can be applied to analyse other studies on other events that have occurred in the market such as introduction of interest capping bill, dividends payouts announcements, announcement of elections among others.

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