Ratios as Internal Determinants of Profitability on Real Estate Sector in Kenya: Case of Registered Real Estate Firms

Maurine N Mang'ong'o, Dr. Thomas Githui & MrJohn Omurwa

Ratios as Internal Determinants of Profitability on Real Estate Sector in Kenya: Case of Registered Real Estate Firms

[1*]**Maurine N Mang'ong'o, [2]Dr. Thomas Githui & [3]Mr John Omurwa**

[1]**Postgraduate Student, The Catholic University of Eastern Africa**

[2]**Lecturer, The Catholic University of Eastern Africa**

[3]**Lecturer, The Catholic University of Eastern Africa**

*E-mail of corresponding author: rinengate@gmail.com

Abstract

The research objective of the study was to examine how higher profitability not only allows firms to survive and succeed in a risky business environment, but also how important it is for sustainable economic growth. Besides, the study's focus was on analysis of the relationship between firm profitability and ratios as its determinants is critically crucial for both shareholders, uncountable stakeholders and investors. Given that profitable firms make a great contribution to Gross Domestic Product (GDP) and provide prosperity and employment opportunities, what determines the profitability of firms is significant. The current study, therefore, sought to investigate ratios as determinants of profitability on real estate sector firms registered by Kenya Property Developers Association in Kenya which was the main focus of the study. Because in Kenya real estate investment plays crucial role in providing employment opportunities, offering shelter to households, enhancing income distribution and alleviating poverty. Four major objectives guided the study. To analyze the effect of size of the firm on profitability of registered real estate firms, to explore how liquidity affects the profitability on registered real estate firms, to investigate the effect of capital adequacy on profitability of registered real estate firms, to investigate the effect of credit risk and profitability of registered real estate firms. The study adopted a longitudinal research survey design. The target population was 66 real estate registered firms by Kenya Property Developers Association based in Kenya. The study used Stratified random sampling techniques. For purposes of this study, only secondary data on the sampled firms was collected for the period of 9 years from 2009 to 2017. Diagnostic and model specification tests were done on the data. A panel least squares regression analysis was estimated with the aid of Eviews software to establish the relationship between the variables and profitability of real estate firms. The results showed that, the model explained 83.7% of variations in profitability among the sampled firms as represented by adjusted R^2. Based on this finding, we conclude that, firms registered by Kenya Property Developers Association, are efficient enough in determining their own profitability and are significant for the real estate managers to having a positive perspective about determinants of

profitability in expanding of the Kenyan Real Estate Sector. The model was also fit to explain the relationship as the F-Statistic with *p*=0.00000 was significant at 5% level. Empirical findings show that capital adequacy and credit risk factors had a positive effect in determining profitability of the firms. Furthermore, the study concludes that firm size and liquidity had a negative effective in determining profitability of the firms. The study recommends emphasis on optimal capital adequacy in the firms, because capital adequacy revealed a positive relationship on profitability. Besides that, real estate managers and investors should have optimal assets that will maintain liquidity in the short run, to upsurge profitability.

Keywords: *Profitability, Sustainable economic growth, Capital adequacy, Liquidity, Firm size, Credit risk and Real estate sector.*

1.0 Introduction

1.1 Background of the Study

Limbago & Juniarti (2014) define real estate as an asset form with limited liquidity relative to other investments. Real estate investing involves the purchase, ownership, management of rental land or sale of real estate property for profit. Globally real estate property covers all property categories including single and multi-family residential dwellings, commercial and agricultural land, office space, go-dawns and warehouses, retail outlets and shopping complexes. If the factors affecting the growth in the investment are not well understood and managed by an investor, real estate becomes a risky investment. Thus Real estate investors typically use a variety of appraisal techniques to determine the value of properties prior to purchase (Bernard & Messah, 2011).

Resulting from the global financial crisis, keen interest has been in formulating macro-prudential indicators framework for monitoring financial risk (Kanas &Vasiliou, 2012). The center of discussion is about real estate profitability, this is due to the fact a sound profitable real estate firm must have an enhanced ability to overcome risks and positively impact the durability of the entire economy's system (Delis, 2009). Real estate profitability level and its drivers are key components of the stability of a financial system of a country (Vesala, 2010). If it is efficient enough then it should show profits, thus from the above we can see that, profitability of the firm is an indicator of the efficiency and wellness of an economy.

The fast thriving real estate sector has attracted quite a number of investors both locally and internationally. The financial institutions have equally experienced a tremendous growth as the number has increased significantly. Today there are 43 commercial banks alongside a very vibrant micro-finance institutions sector, both offering credit facilities to firms (Mehta, 2014). This growth has seen both a reduction and relative stabilisation of interest rates, which has made debt financing more affordable and attractive. Kenya's capital market, the Nairobi Securities exchange (NSE) has by far provided the largest platform for public listed companies to raise funds whether debt or While the prices for land and housing have been on the raise this has not been matched by raise in building materials, as a result we end up having excessively high profits. This has attracted even foreign investors into the real estate sector. Some of the foreign companies include United Kingdoms' (UK) Knight Frank, which has been among the largest letting firms such as the latest Garden City Mall set to be home for over 120 retail stores.

The Kenyan middle and upper class have embraced a new kind of shopping which has led to a leapt of shopping malls around the city center and now escalating to the outskirts of the city. (Muchoki, 2013). The real estate firms require a huge initial investment to finance their projects.

While this may not be attainable by a majority of the investors, most turn to debt financing from financial institutions (Kamau, 2011). Financial institutions however prefer short term debt as opposed to long-term debt thus making long-term debt more expensive (Kamau, 2011). Most of the firms in this sector are characterized by a higher level of debt compared to equity (Odongo et al, 2014). The high debt structure tends to raise their liability to equity ratio which effectively impacts the cost of capital and profitability as well. In Kenya, the real estate sector has been experiencing a boom since mid-2000 and analysts over the years have termed this as a bubble waiting to burst similar to the happenings in the United States of America, (USA) compared to the previous 2008/2009 global financial crisis. This sector is largely dominated by a few wealthy Kenyans owing to the high property prices that have rocked the country (Geoffrey, 2011)

The growth in this sector is largely attributed to a growing middle class occasioned by increasing young educated people able to secure jobs, which provide residual income necessary to service mortgages and loan facilities (Muchoki, 2013). A close look at 10 years and now, the infrastructure around major cities seem to have significantly improved. This has therefore attracted many locals as well as foreign investors here, which further increase the demand for property in the real estate sector (Odongo et al, 2014). Real estate investments and prices are good measures for reflecting expected real estate demand, and serve as good predictors of economic growth (Knight Frank, 2011).

1.2 Statement of the Problem

The modalities of real estate sector have changed in recent times compared to how they used to be some years back (Sehrish, Irshad & Khalid, 2010). The real estate sector industry especially in the developing countries has witnessed momentous changes over the past few years due to technological advancement in innovations and the irresistible forces of globalization (Al-Jarrah, Ziadat & El-Rimawi, 2010). The forces have continued to create expansion opportunities as well as challenges to the managers to ensure that the real estate sector remains profitable and competitive (Scott & Arias, 2011). As a result, the sector faces more degree of risks which are capable of adversely affecting the real estate's profitability compared to other business (Adeus, Kolapo & Aluko, 2014).

Given the relation between the well-being of the real estate sector and the growth of the economy, it is vital to define and understand dynamics of well-being of real estate sector. Flamini, Schumacher and McDonald (2009), proposed that increased profitability level in a real estate sector, may imply increase in financial stability, hence wellness of the real estate sector. If profits are not paid out as dividends but are retained in the firms as part of equity. The retained equity can be utilized for real estate sector growth. Therefore, level of profitability is an important component of the health of real estate sectors.

The real estate firms require huge capital to begin and sustain their projects. Therefore, debt financing has been a popular feature of most firms in the real estate sector. The sector requires long-term financing as opposed to short-term financing because of the nature of the investment. Because of the growth experienced in the sector, there is also growing competition for financing (Kamau, 2011). The lending institutions have a high preference for short-term debt thus creating a mismatch in the sector (CBK, 2012) this study sought therefore to fill that literature gap.

1.3 Objectives of the Study

    i.   To determine how capital adequacy affects profitability of registered real estate firms
   ii.   To examine how credit risk affects profitability of registered real estate firms
  iii.   To determine how liquidity affects profitability of registered real estate firms
  iv.   To explore the relationship of firm size and profitability of registered real estate firms

1.4 Hypotheses of the study

    i.   Capital adequacy has no statistical significance on profitability of registered real estate firms
   ii.   Credit risk has no statistical significance on profitability of registered real estate firms
  iii.   Liquidity has no statistical significance on profitability of registered real estate firms
  iv.   Size of the firm has no statistical significance on profitability of registered real estate firms

2.0 Literature review

2.1 Theoretical Framework

2.1.1 Signaling Theory

The signaling theory emanated from Arrow (1972) and Spence (1973). Signaling theory presupposes that best performing or profitable firms supply the market with positive and better information (Bini, Dainelli & Giunta, 2011). This theory presupposes that a superior capital structure is an optimistic signal to market worth of the organization (Adeusi, Kolapo & Aluko, 2014). The signaling theory further postulates that majority of the profitable firms signal their competitive power through communicating new and important information to market. Thus, information is disclosed by means of specific indicators or ratios which, very often, measure specific conditions on which to enter into or renew the agency contract (Bini, Dainelli & Giunta, 2011). According to the signaling theory, the management of real estate signals good future expectation by increasing of capital. This indicates that less debt ratio necessarily mean those firms perform better than their identical (Alkhazaleh & Almsafir, 2014). In addition, the theory argues that managers who strongly believe that their real estate firms can outperform other firms in the industry will want to relay such information to various stakeholders in order to attract additional investments. Thus, the signaling theory affirms that when a real estate performance is excellent, directors will signal the firm's performance to its stakeholders and market by making various disclosures which poor performing firms cannot make. By enhancing more disclosure most managers will wish to receive high benefits and a good reputation which may increase the value of the firm and profitability (Muzahem, 2011).

2.1.2 Market Power Theory

Market power theory emanated from Bain (1951). This theory stresses that an increase in market power results to a monopoly, profits (Athanasoglou, Brissimis & Delis, 2005). The theory is based on the premise that concentration of the market is a best measure for market power since more concentrated markets exhibit superior market imperfections facilitating various entities to set prices for their products and services at levels which is less favorable to their clients or customers

(Punt & Rooij, 2001). The theory also affirms that companies with a large market share and sound differentiated products and services can easily earn monopolistic profits and succeed or win against their competitors (Nkegbe & Yazidu, 2015). The market power theory assumes that extra profits results from a higher market concentration which allows real estate firms to collude and earn supernormal profits which arise due to the firm's portfolio of differentiated products that also increases the market share and market power in determining prices for products (Mirzaei, 2012). The market-power theory also affirms that market power is the major variable which makes profitability to change and concentrated markets frequently involve market imperfections which arise from collusion, made possible by market concentration, and by various legislative barriers to entry or exit (Punt & Rooij, 2001). Market power theory is applied in a real estate sector, to explain real estate profitability and how it is affected by its investment. The theory explains a positive relation between firm's size and financial performance. Market power theory suggests that real estate profitability is as a result of the industries market structure (Onuonga, 2014). In addition, this theory states that market structure of real estate sector influences the industry's profitability (Ntow & Laryea, 2012). According to Obumuyi (2013), this theory assumes that firms' profitability is a function of external market factors and the theory also assumes that the industry structure which is measured using market concentration in term of market share ratio effects the profitability of real estate firms (Fisseha, 2015).

2.2 Empirical Review

2.2.1 Capital Adequacy and Profitability

Capital is one of the firm's specific factors that influence the level of a firm profitability. It is the amount of own fund available to support the firm's business and act as a buffer in case of adverse situation (Athanasoglou et al, 2005). For the case of real estate firm's capital creates liquidity due to the fact that investments from rental income are fragile, thus greater firm capital reduces the chance of distress (Diamond, 2000). According to Dang (2011), the adequacy of capital is judged on the basis of capital adequacy ratio (CAR). Capital Adequacy Ratio is directly proportional to the resilience of the firm to crisis situations. It also has direct effect on the profitability of firms by determining its expansion to risky but profitable ventures or areas (Sangmi & Nazir, 2010). Researchers argue that real estate firms have higher levels of capital post better financial results than their counterparts who have less capital at their disposal. Abreu and Mendes (2001), show a positive impact of the equity level of firm on the financial performance of that firm. Goddard et al. (2004) supports the prior finding of a positive relationship between capital/asset ratio and firm's earnings.

2.2.2 Credit Risk and Profitability

Pervan *et al* (2015) proposed that credit risk is measured as the debt ratio of reserves to total loan Investments. So there is a possibility for real estate firms to find themselves in a situation where after borrowing they become unable to fulfill their obligations, that is, cannot pay the whole or part of the principal or interest, which has a negative impact on incomes and the reduction of the firm capitalization level. Hence from this it is predicted that credit risk should have a negative effect on profitability level of firms. Further Pervan et al, concluded that credit risk turned out to be a negative and insignificant indicator. A reduced level of profitability will be generated by firms that cannot execute the policy of identifying, specifying, measuring and managing credit risk sufficiently. Sufian (2009) asserts that credit risk is positively correlated with profitability level of

firms in China. Credit risk may also be determined by economic growth, inflation rate and the value of the collateral provided. Debt ratio indicates the percentage of company's assets that are supported by external financing (short- and long-term debt). The higher the ratio, the greater the amount of debt used to operate and generate profits. A firm is required to maintain a manageable optimal debt ratio to reduce the cost of capital, which also means maximizing firm's profitability (Modigliani and Miller, 1963). Several previous studies like Deloof (2003), Kebewar (2013), and Enqvist *et al.* (2014) showed a negative relationship between higher debt ratio and profitability.

2.2.3 Liquidity and Profitability

Liquidity is also another measure of profitability as it is considered to have influence on the financial performance, insufficient liquidity of firms is considered to be one of the major reasons why they fail. (Panigrahi,2013). Current Ratio is an indicator of a company's short-term liquidity, and is measured by: current asset / current liabilities. The higher the ratio, the more capable the company is to pay back its current liabilities and continue its daily operations. Previous studies, such as Zubairi (2010) and Enqvist *et al.* (2014) proposed positive relationship between current ratio and profitability, because of maintained liquidity in the short-run. It is however important to note that when a firm holds a lot of liquid assets, then it incurs an opportunity cost of getting higher returns from investing with those assets. It is noted from the previous studies there is a positive relationship between liquidity and the performance of real estate firms, although it is noted that during times of instability in the business environment, firms will tend to increase their cash reserves (holdings) as a way of mitigating themselves against risks. For this reason, it is seen that there is a negative correlation between the level of liquidity and performance of real estate firms.

Cash Conversion Cycle (CCC) is a measure of ongoing liquidity, as introduced by Gitman (1974). According to Panigrahi (2013), he stated that the adequate liquidity and a careful management of its liquidity can make significant difference between success and failure of a firm. The maximum liquidity management can avoid a firm from having a lower liquidity ratio which can give creditors a doubtful situation because the firm is unable to meet their obligation on specified time. Therefore, some improvement should be made in terms of liquidity performance with the measurement of quick ratio. Liquidity ratio is very essential for a company because it measures the company capability in holding enough cash to purchase from suppliers with better pricing during purchasing process which can increase the company's profit. So, having liquidity affects the firm profitability based on study (Lazaridis &Tryfonidis, 2005).

For more improvement, this company should diversify investment activity in order to maximize its profit. By applying liquidity management, companies can ensure themselves not suffer from the lack-of or excess liquidity to meet its short-term obligation. It quantifies the days between the expenditure of raw material procurement and the collection of finished goods' sales. Enqvist et al. (2014) explained that the shorter time of CCC, the higher the profitability, since short CCC indicates quick collection of receivables and delays in payments to suppliers, thus, increases efficiency of working capital management. The CCC aims to shorten the number of days' account receivable, number of days' inventory; and the number of days' account payable. Deloof (2003), Lazaridis and Tryfonidis (2006), and Enqvist *et al*. (2014) all claim a negative relationship between the length of CCC, and corporate profitability.

2.2.4 Size of firm and Profitability

This is a factor that researchers have evaluated to the financial performance of firms, normally measured in terms of total Assets. Goddard *et al* (2004) identified only size of the firm and their financial performance. Another researcher Smirlock (1985) carried out a study that showed that there is significant and positive relationship between size of the firm and its performance. This is associated with the fact that the bigger the size of the firm the lower the cost of raising capital for that particular firm thus higher profitability ratios. Other studies by Bikker and Hu (2002) and Goddard et al (2004) agree with the previous study and they note that an increase in the firm's size has a positive influence on the performance of that firm due to the fact the cost of seeking capital for that firm is reduced significantly. Size will be measured by the company's total asset. It is assumed that huge companies with bigger assets optimize operations to create more profit. According to the studies of Deloof (2003), Lazaridis and Tryfonidis (2006), and Garcia-Teruel and Martinez-Solano (2007), the relationship between company size and profitability is positive, which means that the bigger the company, the higher profitability the company has than smaller firms. However, Enqvist *et al.* (2014) showed a result of negative relationship between the size and profitability. It's important to note that researchers have not had a consensus on whether an increase in size of the firm through increased assets provide economies of scale to real estate firms which eventually leads to the improved financial performance. Hence it's an issue that needs to be evaluated further through more studies.

2.3 Conceptual Framework

The conceptual framework of this study will be based to identify ratios as determinants of real estate profitability hence independent variables will include liquidity, credit risk and capital adequacy. The dependent variable will be profitability (ROA) and firm size proxied by total asset was our moderating variable.

Independents Variables   **Dependent Variable**
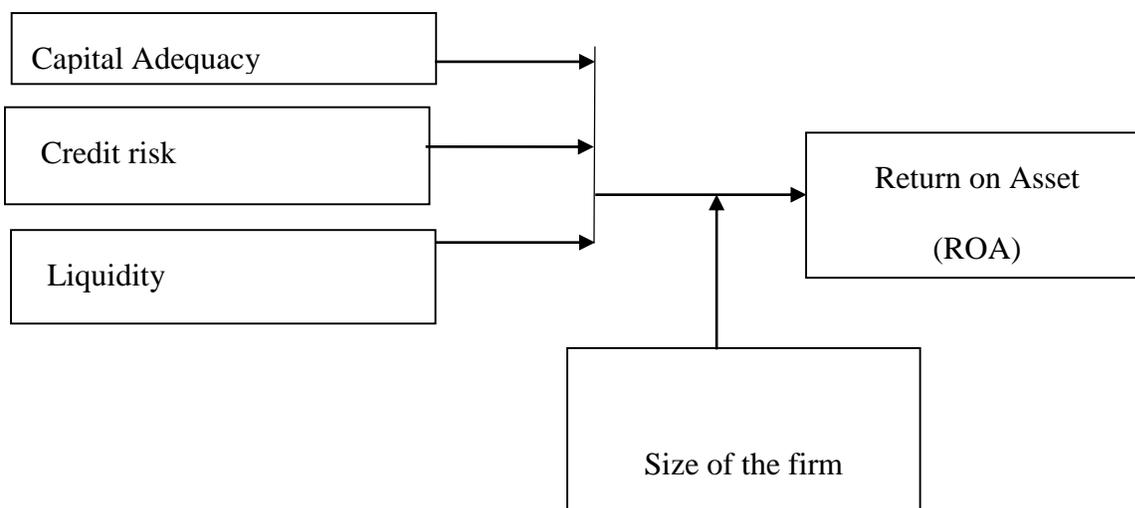
Moderating variable

Figure 1.1: Conceptual Framework.

3.0 Research Methodology

The research design employed for the study was longitudinal survey design. The target population for this study was all registered real estate firms by Kenya Property Developers Association and were in total 66. The population was selected for the study using stratified sampling to ensure that the desired representation from all the sectors in the population is achieved. According to Gay (1992), for a population of less than 1000 units, a sample size of respondents 20% of the population was selected. Hence, for this study 12 companies were selected. The longitudinal study was based on secondary data of the sampled companies' annual published financial statements. They are usually prepared based on standardized accounting principles in every industry. The financial statements were; statement of financial position, income statement and statement of changes in equity. Diagnostic and model specification tests were done on the data. A panel least squares regression analysis was run with the aid of a computer software, Electronic Views to establish the relationship between variables and profitability of real estate firms. The Regression analytical model was stated as follows:

Return on Assets=f (Size of firm, Liquidity, Capital adequacy, credit risk)

$$ROA_{it} = \beta 0 + \beta_1(FS_{it}) + \beta_2(CA_{it}) + \beta_3(CR_{it}) + \beta_5(LIQ_{it}) + \varepsilon_t$$

Where:

ROA: Performance of firm i for time t

βo: Intercept

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$: Coefficients of the various dependent variable

FS: Firm Size natural logarithm of total assets of firm *i* at time *t*

CA: Capital Adequacy ratio of firm *i* at time *t*

LIQ: Liquidity ratio of firm $_i$ at time *t*

CR: Credit Risk ratio firm *i* at time *t*

ROA: Return on Asset of firm *i* at time *t*

ε_t is the error term which is assumed to be normally distributed.

4.0 Results and Findings

4.1 Descriptive Statistics

Table 1 gives the summary statistics of the variables that have been included in the model, they are as follows, minimum, maximum, mean, standard deviation, skewness, kurtosis and Jarque-Bera test for normality.

Table 1: Descriptive Statistics

	CA	CR	LIQ	ROA	SIZE
Mean	-0.865023	-0.562790	-0.270061	1.961613	0.146060
Median	-0.580688	-0.204278	0.000000	2.001056	0.075168
Maximum	3.258935	1.722440	0.975930	2.347231	3.803543
Minimum	-5.427268	-4.826985	-8.332710	1.356851	-3.852183
Std. Dev.	2.169109	1.227347	0.952776	0.217786	0.776657
Skewness	-0.317136	-1.138672	-5.966799	-0.798366	0.003408
Kurtosis	2.110895	4.688411	49.08221	3.519896	13.42508
Jarque-Bera	5.367644	36.16662	10196.92	12.68930	489.0709
Probability	0.000830	0.000000	0.000000	0.001756	0.000000
Sum	-93.42248	-60.78127	-29.16654	211.8542	15.77453
Sum Sq. Dev.	503.4387	161.1828	97.13274	5.075069	64.54194
Observations	108	108	108	108	108

The Jarque –Bera test tests null hypothesis of normality against the alternate of non-normality. From the Table 1 the p-values for the Return on Assets, Credit Adequacy, Credit Risk, size of the firm and liquidity ratio are less than 0.05 (5% significant level). This shows that the Jarque Bera values are significant at 5% level of significance and therefore we reject the null and conclude that all the variables under study are not normally distributed. By allowance, the skewness value of size of the firm indicates that it is positively skewed while the skewness values for return on asset, credit adequacy, credit risk and liquidity indicate that they are negatively skewed with higher than normal kurtosis values.

4.2 Diagnostic tests

4.2.1 Hausman Test

Table 2 presents the Hausman test on whether the fixed or random effects model is suitable for the panel.

Table 2: Hausman Test

Correlated Random Effects - Hausman Test

Equation: Untitled

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	11.572265	4	0.0208

The Hausman test tests the null hypothesis of applying random effects. Table 4.2 shows that probability value is less than 0.05. We thus reject the null and accept the fixed effects model.

4.2.2 Normality Test

The normality test, of the residues from a fixed effect regression model was run on E-Views for all the variables. Table 4.3 indicates a probability value less than 0.05, thus the conclusion is that residuals were not normally distributed. Consequently, the skewness value was not significantly different from zero and kurtosis value was not very far from three and the Jarque Bera value was not significantly large. Hence the disturbance is not seriously leaving from normality.

Series: Standardized Residuals
Sample 2009 2017
Observations 108

Mean	-1.64e-17
Median	0.019737
Maximum	2.339733
Minimum	-2.680871
Std. Dev.	0.812306
Skewness	-0.084176
Kurtosis	4.492380
Jarque-Bera	10.14993
Probability	0.006251
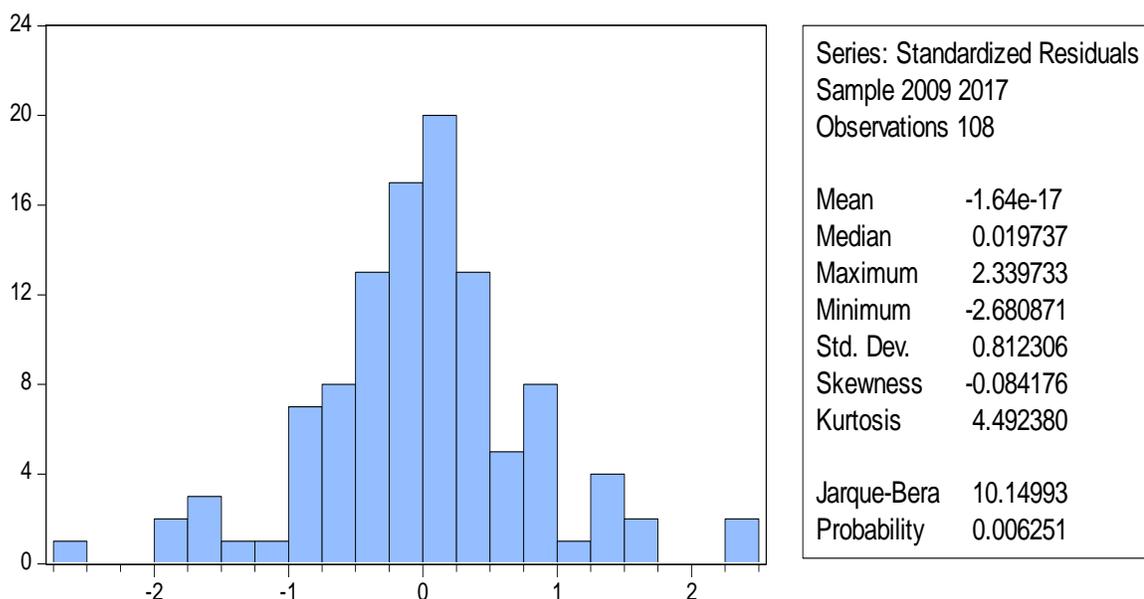
Figure 2: Normality Test

4.2.3 Stationarity Tests

Tests for stationarity were conducted using root test suggested by the Levin, Lin & Chu t* in e-views software. All the unit root tests were done at 5% significant level.

Table 3: Capital Adequacy Unit Root Test

Panel unit root test: Summary
Exogenous variables: Individual effects
User-specified lags: 1
Newey-West automatic bandwidth selection and Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-6.68445	0.0000	12	84
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-1.56311	0.0590	12	84
ADF - Fisher Chi-square	37.8526	0.0359	12	84
PP - Fisher Chi-square	36.6155	0.0478	12	96

** Probabilities for Fisher tests are computed using an asymptotic Chi
-square distribution. All other tests assume asymptotic normality.

From the table 4 the Levin, Lin &Chu t* of -6.68445 has a p-value of 0. 0000. Meaning that Levin, Lin & Chu t* value is significantly lower than 0.05 significant level (*p* less 0.05) thus we reject null hypothesis of a unit root in capital adequacy and conclude that the panel is stationary at level.

Table 4: Credit Risk Ratio Unit Root Test

Panel unit root test: Summary

Exogenous variables: Individual effects

User-specified lags: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-4.65184	0.0000	10	60
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-1.34071	0.0900	9	54
ADF - Fisher Chi-square	29.0638	0.0476	9	54
PP - Fisher Chi-square	70.1028	0.0000	9	63

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

From the table 5 the Levin, Lin & Chu t* of -4.65184 has a p-value of 0. 0000. Therefore, we reject the null hypothesis of a unit root in credit adequacy ratio panel and conclude that the panel is stationary at first difference since probability value is less than 0.05 significant level.

Table 5: Size of Firm

Panel unit root test: Summary
Series: SIZE
Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-4.34448	0.0000	12	84
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-0.51665	0.3027	12	84
ADF - Fisher Chi-square	31.6339	0.1363	12	84
PP - Fisher Chi-square	47.6258	0.0028	12	96

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

Table 6 shows the Levin, Lin & Chu t*of -4.34448 has a p-value of 0.0000. It is less than 0.05. Thus we reject the null hypothesis of a unit root in Size of the firm ratio and conclude that the panel is stationery at level.

Table 7: Liquidity Ratio Unit Root Test

Panel unit root test: Summary

Series: LIQ

Newey-West automatic bandwidth selection and Bartlett kernel

Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-5.22045	0.0000	12	84
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-0.93413	0.1751	12	84
ADF - Fisher Chi-square	34.3662	0.0784	12	84
PP - Fisher Chi-square	36.5407	0.0486	12	96

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

From table 7 the Levin, Lin & Chu t* of -5.22045 has a p-value of 0.0000. We reject the null hypothesis and conclude that the panel is stationery at level.

Table 7: ROA Unit Root Test

Panel unit root test: Summary
Series: ROA
Newey-West automatic bandwidth selection and Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-3.84624	0.0001	12	84
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-1.13758	0.1276	12	84
ADF - Fisher Chi-square	32.3477	0.1186	12	84
PP - Fisher Chi-square	61.2589	0.0000	12	96

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

Table 8 presents the Levin, Lin & Chu t* of -3.84624 with a p-value of 0.0001, thus we reject the null hypothesis of a unit root in return on asset panel and conclude that the panel is stationary at level.

4.2.4 Multicollinearity Test

Table 8: Credit Adequacy Ratio Multicollinearity

Dependent Variable: CA
Cross-sections included: 12
Total panel (balanced) observations: 108

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.183559	0.579900	0.316536	0.7522
CR	0.098609	0.274472	0.359269	0.7201
SIZE	0.076398	0.068039	1.122857	0.2641
LIQ	-0.011457	0.023708	-0.483245	0.6299
Adjusted R-squared	0.027230	S.D. dependent var		0.980749

VIF=1/1-0.027230
   = 1.027999

Table 9: Credit Risk Multicollinearity

Dependent Variable: CR
Cross-sections included: 12
Total panel (balanced) observations: 108

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.261943	0.232063	5.437933	0.0000
CA	0.036803	0.029974	1.227855	0.2223
SIZE	-0.060205	0.031455	-1.914014	0.0584
LIQ	0.025641	0.006312	4.062090	0.0001
Effects Specification				
			S.D.	Rho
Cross-section random			0.159314	0.2602
Idiosyncratic random			0.268653	0.7398
Weighted Statistics				
Adjusted R-squared	0.119102	S.D. dependent var		0.300753

VIF = 1/1-0.119102=1.135205

Table 10: Size of Firm Multicollinearity

Dependent Variable: SIZE
Cross-sections included: 12
Total panel (balanced) observations: 108
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.600720	0.421368	18.03820	0.0000
CA	0.023112	0.060354	0.382943	0.7026
CR	-0.370537	0.195450	-1.895819	0.0608
LIQ	0.007293	0.013086	0.557365	0.5785

	Effects Specification			
			S.D.	Rho
Cross-section random			1.293357	0.8622
Idiosyncratic random			0.516992	0.1378

	Weighted Statistics			
Adjusted R-squared	0.034322	Mean dependent var		0.960239

VIF =1/1-0.03322=1.034340

Table 11: Liquidity Ratio Multicollinearity

Dependent Variable: LIQ
Cross-sections included: 12
Total panel (balanced) observations: 108
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-7.164205	2.356852	-3.039735	0.0030
CA	-0.197446	0.418177	-0.472159	0.6378
CR	5.117837	1.046577	4.890073	0.0000
SIZE	0.584462	0.284817	2.052060	0.0427

	Effects Specification			
			S.D.	Rho
Cross-section random			0.000000	0.0000
Idiosyncratic random			4.109923	1.0000

	Weighted Statistics			
R-squared	0.225130	Mean dependent var		1.826052
Adjusted R-squared	0.195038	S.D. dependent var		4.475761

VIF = 1/ 1-0.195038= 1.24229

From the above calculated VIF, it is obvious that Multicollinearity problem does exist in the model since the VIF values of all the variables under study do not surpass 10.

4.2.5 Panel Cointegration Test

Table 12: Panel Cointegration Test

Kao Residual Cointegration Test

Series: ROA CA CR SIZE LIQ

Null Hypothesis: No Cointegration

Trend assumption: No deterministic trend

User-specified lag length: 1

Newey-West automatic bandwidth selection and Parzen kernel

	t-Statistic	Prob.
ADF	0.559964	0.2878

The ADF test tests the null of a unit root in the panel against an alternate of no unit root in the process. Table 13's p-value of 0.2878 is more than 0.05% significance level. Thus we do not reject the null hypothesis of Cointegration and there is a deterministic trend in the panels.

4.2.6 Cross Section Dependency Test

Table 13: Cross section dependency test

Null hypothesis: No cross-section dependence (correlation) in residuals

Test	Statistic	d.f.	Prob.
Pesaran CD	0.450859		0.6521

From the table 14 the Pesaran CD test statistic of 0.450859 with a p-value of 0.6521, shows that we accept null hypothesis of cross section dependence and conclude that the panels do not suffer from the problems of cross-section dependence.

4.3 Research Findings

After the diagnostic and specifications tests, followed by the subsequent adjustments and transformations, in the data and the model. The following output was obtained from the Electronic views software (E-Views).

Table 14: Panel Least Equation Output

Dependent Variable: LOG(ROA)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.900487	2.914633	0.995147	0.3223
LOG(CA)	0.222424	0.091209	2.438631	0.0167
LOG(CR)	0.240299	0.116985	-2.054107	0.0428
LOG(SIZE)	-1.887102	1.492383	-1.264489	0.2092
LOG(LIQ)	-0.023721	0.130238	-0.182133	0.8559
	Effects Specification			
Cross-section fixed (dummy variables)				
R-squared	0.859758	Mean dependent var		-0.865023
Adjusted R-squared	0.836893	S.D. dependent var		2.169109
S.E. of regression	0.876027	Akaike info criterion		2.709115
Sum squared resid	70.60300	Schwarz criterion		3.106468
Log likelihood	-130.2922	Hannan-Quinn criter.		2.870227
F-statistic	37.60075	Durbin-Watson stat		1.639632
Prob(F-statistic)	0.000000			

4.4 Hypotheses Testing

4.4.1 Effect of Capital Adequacy on Profitability of Listed Real Estate Firms by KPDA

H_0: Capital Adequacy does not affect profitability of listed real estate firms by the KPDA. The first objective of this study was to analyze the effect of capital adequacy, using the sales to equity ratio on the registered real estate firms by KPDA. From the above table, it shows that an increase in a unit of the sales to equity ratio, would lead to an increase in profitability of the registered companies by factor 0.222424, hence a positive relationship between capital adequacy ratio and profitability. Conversely the t-value of 2.438631 with a probability of 0.0167 less than 0.05, shows that this relationship is statistically significant. Therefore, we reject the null hypothesis.

4.4.2 Effect of Credit Risk ratio on profitability of registered real estate firms by KPDA

H_0 Credit Risk does not affect profitability of registered real estate firms by KPDA. The second objective sought to explore the extent to which credit risk affect profitability of registered real estate firms by KPDA. Debt ratio was used as a proxy for credit risk. The above regression shows a positive relationship. For instance, a unit increase in debt ratio would lead to an increase in profitability by factor 0. 240299. This relationship is statistically significant since its t-value is

associated with a probability of 0.0428 less than 0.05. We therefore reject the null hypothesis in favor of the alternate.

4.4.3 Effect of Size of firm ratio on profitability of registered real estate firms by KPDA

H_0 Firm size does not affect profitability of registered real estate firms by KPDA. The study at hand used firm size as logarithm of total asset as the moderating variable. From the findings, the t-test statistic of -1.264489 for size is insignificant at 0.05 significant level, since it has a p-value of 0. 2092. Therefore, the study found a negative insignificant relationship between size and profitability of registered real estate firms by KPDA. Therefore, we accept the null hypothesis.

4.4.4 Effect of Liquidity ratio on profitability of registered real estate firms by KPDA

H_0 Liquidity does not affect profitability of registered real estate firms by KPDA. The Fourth objective sought to explore the extent by which liquidity affects the profitability of real estate firms registered by KPDA. Current ratio was used in this study as a proxy for liquidity. From the findings, the t- test statistic value of -0.182133 with a probability of 0.8559, shows insignificant relationship between liquidity and profitability of registered real estate firms by KPDA. Because the p-value is greater than 0.05, therefore we accept the null hypothesis.

4.4.5 Testing the Strength of model

The adjusted R-Squared shows the variation of percentage elaborated by the independent variables, which affect the dependent variable in reality. The model had an adjusted R squared of 0.836893, this shows that 83.6893% of variations in profitability of registered real estate firms by KPDA can be expounded by the variations of the independent variables under study. The remaining variation can be further developed by other factors. The adjusted R squared value of 83.6893% displays that the model had a good projecting power in using the independent variables to explain profitability, which is the dependent variable under this study.

4.4.6 Testing the validity of the model

Hypothesis used is as follows:

H_0 The model is statistically significant

H_1 The model is not statistically significant

From the above table, the processed data had a significant level of 37.60075 with a p(F-statistic) 0.0000 which is less than (0.05). Further, the Durbin Watson (DW) test statistic of 1.639632 was very close to 2.000 indicating that the data and model did not suffer from problems of serial correlation. Thus we accept the null hypothesis and reject the alternate hypothesis.

5.0 Conclusions

This study surveyed the effect of ratios as determinants of profitability on registered real estate firms by KPDA. The results revealed that all the independent variables that were studied explain 83.7% of variations in profitability among the sampled firms as represented by adjusted R^2. Based on this finding, we can conclude that firms registered by Kenya Property Developers Association are efficient enough in determining their own profitability. However, this study focused on 12 firms registered by KPDA, thus the conclusion does not have all variables with an expounding influence on profitability. Subsequently, a research including all the registered firms by KPDA would provide more perfect results. This remains a viable area of further research for the new upcoming investors in the real estate sector.

6.0 Recommendations

Based on the findings, emphasis on optimal capital adequacy in the firms should be there, since capital adequacy ratio revealed to have a significant positive relationship on profitability. Firm size on the findings negatively influence the profitability of the firm, we recommend that the real estate investors and managers should have optimal assets that will maintain the liquidity in the short run. Credit risk in this study was measured using the debt ratio, which revealed a positive relationship between profitability. We recommend that registered real estate firms should engage in activities and adopt strategies that will maintain low amount of debt to increase flexibility of real estate firms in running the firm. This builds confidence among the lenders such as commercial banks and micro finance institutions. Liquidity having a negative relationship with profitability, real estate firms should reduce overstock or back orders and still maintain a reasonable amount of cash to sustain smooth running of the day to day operations.

7.0 References

Abraham, M (2009) *An Exploratory study of the factors that influence the capital structure of Real Estate firms in Kenya*, Unpublished MBA, Thesis, Strathmore, University.

Adlington, Gavin; Grover, Richard; Heywood, Mark; Keith, Simon; Munro-Faure, Paul; Perrotta, Louise (2008*): Developing Real Estate Markets in Transition Economies. In: UN Intergovernmental Conference Paper, RICS Research Foundation, 6.-8. December*.

Aissa, S. B., & Goaied, M. (2016). *Determinants of Tunisian Hotel Profitability*: The Role of Managerial Efficiency. Tourism Management,52, 478-487. https://doi.org/10.1016/j.tourman.2015.07.0154(4), 263-279.

Akhmedjonov, A.& Izgi, B. (2014). *The effect of Bank Capital on Profitability of Turkish*

Banks During the recent Financial Crisis. Macroeconomic and Finance in Emerging Market Economies.

Apriliyani, M. (2011*) Analysis the Influence of Profitability, Asset Structure, and Size of the Company to Capital Structure*. (The Case of Listed Property and Real Estate Companies in Indonesia Stock Exchange 2003-2009). (Unpublished Undergraduate Thesis). Bandung: Universitas Komputer Indonesia.

Apulensis, *Series Oeconomica, Estate Companies in Indonesia* Journal of Dynamics of Accounting, *7(1), 1-9. 13(2), 215-224.*

ASE DAFI, nr.6, 2012.

Athanasoglou, P.P., Brissimis, N.S., (2004). The effect of mergers and acquisitions on bank efficiency in Greece. *Bank of Greece Economic Bulletin*. 22(1): 7-34.

Ayele, H.N (2012) *Determinants of Bank Profitability*: An Empirical Study on Ethiopian Private Commercial Banks, Unpublished MBA Project, Addis Ababa University.

Baum, A. (2009): *Commercial Real Estate Investment*: A Strategic Approach. (2nd Edition). Short Run Press Exter.

Bernard, M (2011). *Determinants of profitability on real estate firms*, unpublished MBA Thesis, Kenya school of business & Management Studies Kenya Methodist University.

Brooks, C. (2009). *Introductory econometrics for finance*. Cambridge: Cambridge University Press.

Burja, C. (2011). *Factors Influencing the Companies' Profitability*. Annales University Apulensis, Series Oeconomica, 13 (2), 215-224.

Central Bank of Kenya (2014): *Bank Supervision Annual Report*. Nairobi Kenya. Central Bank of Kenya.

Chen, J.H. and J.F. Diaz. (2014). *Study of Macroeconomic and Monetary Factors in Reoccurring Economic Recessions*. Journal of Applied Economics and Business Research. conference, 2005.

Chronopoulos, D. Liu, McMillan, F & Wilson, J. (2015). *The dynamics of US Bank Profitability*. The European Journal of finance.

Cooper, D& Schindler, P. (2014). *Business Research Methods*. New York, NY. McGraw Hill.

Costea, V., (2012). *Determinants of profitability on Corporate financial performance*. Revista ASE DAFI nr.1

Chen and Hobb (2003) Global Real Estate Index – *To Capture different levels of market risk*. The journal of portfolio management, Special Issue, pp.66-76.

Dahmash, F. N. (2015). *Size Effect on Company Profitability*: Evidence from Jordan. International Journal of Business and Management, *10(2), 58-72.* https://doi.org/10.5539/ijbm.v10n2p58.

Deloof, M (2003). *Does Working Capital Management Affect Profitability of Belgian Firms?* *Journal of Business Finance and accounting* 30 (3-4), 573-558. https://doi.org/10.1111/1468-59.00008.edition, EG Books.

Emoh, F.I & Uzuanje, I (2015). *The effect of increasing cost of capital on the Profitability of Real Estate.* Development in Benin City, Nigeria. Research journal of finance and accounting, 6(20), 81-91.

Enqvist, J. Graham, M, & Nikkinen, J (2014). *The impact of Working capital management on firm profitability in Different business cycles:* Evidence from Finland. Research in International business and finance, 32, 36-49. https://doi.org/10.10116/j.ribaf.2014.03.005.

Estate Gau, G. W. (1983). *Determinants of return in real estate investment and the role of real estate management*. Chicago, Ill: Institute of Real Management Foundation.

Feng, Y., & Guo, Y (2015). *The Relationship Between Capital Structure and financial Performance of China's Real Estate Listed Companies*. *Journal of finance and economics*, 3(4), 72-76.

Feng, Y., & Guo, Y. (2015). *The Relationship between Capital Structure and Financial Performance of China's Real Estate Listed Companies*. Journal of Finance and Economics, 3(4), 72-76 Jarad, I. A., & Sulaiman, M. (2011). The Impact of Design Innovativeness on the Profitability of Housing Developers in Malaysia. *World Applied Sciences Journal*, 12 (11), 2041-2052.

Gall, M.D., Gall, J. P. & Borge, W. R. (2006). *Educational Research*: An Introduction. (8th Ed.). New York; Pearson.

Garcia-Teruel, P.J., & Martinez – Solano, P. (2007). *Effects of working capital Management on SME Profitability.* International Journal of Finance and Economics, 3(4), 72-76.

Geoffrey, M (2011) *Behavioral factors influencing investment decision in Kenya property Market,* Unpublished MBA Thesis, Strathmore University.

Gitman, L. J. (1974). *Estimating Corporate Liquidity Requirements*. A simplified Approach Financial Review, 9(1), 79-88. https://doi.org/10,1111/j.1540-6288.1974.tb01453.x.

Hammes, K., & Chen, Y (2005). *Performance of European Real Estate Companies*: An Empirical Comparison. https:// doi.org/10.2139/ssrn.828050.

Hammes, K., & Chen, Y. (2004). *Performance of the Swedish Real Estate Sector*. 1998-2002.*Working papers in Economics,* 124, 1-27.

Hartley Keith and Pater. A Watt, (June,1981). *"Profits Regulation and The U.K. Aerospace Indus1ry"*, *Journal of Industrial Economics*, vo1.29, pp.413-449.

Hassanein & Barkouky (2008). *The Egyptian mortgage practice, International Journal of managing Projects in Business,* Vol 1, No 2, Emerald group publishing Limited.

Hass Composite Index, (2009), *Hass Consultants.*

Hausman, J. A (1978). *Specification Tests in Econometrics*, Econometrics, Vol.46, pp.1251-1271.

Hines, M. A. (2011). *Investing in International Real Estate*. Westport, Conn: Quorum Books.

Hoseininassab, E., Yavari, K., Mehregan, N., and Khoshsima, R. (2013). Effects of risk parameters (credit, operational, liquidity and market risk) on banking system efficiency (studying 15 top banks in Iran). *Iranian Economic Review. Vol.17, no.1.*

Ibrahim El-Sayed E. (2009). "*The Impact of Capital-structure choice on firm Performance: Empirical evidence from Egypt.*" The Journal of Risk Finance, 10(5),477-487.

Investment and Portfolio Managers. In: Journal of Real Estate Portfolio Management, vol. 13, no. 1, pp. 87-92.

Jarad, I.A., & Sulaiman, M. (2011). The impact of Design Innovativeness on the Profitability of Housing Developers in Malaysia. *World Applied Sciences Journal*, 12 (11), 2041-2052.

Karadeniz, E. Serkan, Y. Omer, I. and Onal, B. (2009) "*Determinants of Capital Structure: Evidence from Turkish Lodging Companies*", International Journal of Contemporary Hospitality Management, 21(5),594 – 609.

Karina, F., & Khafid, M. (2015). *Determinants of Profitability in Listed Property and Real Estate Companies in Indonesia.* Journal of Dynamics of Accounting, 7(1), 1-9.

Kebewar, M. (2013). *Does Debt Affect Profitability?* An Empirical Study of French Trade Sector. (January 23, 2013). https://doi.org/10.2139/ssrn.2205794.

Knight Frank Kenya (2011) *Kenya Property Report*, Nairobi.

Kanas, A. Vasiliou, D. & Eriotis, N. (2012). *Revisiting Bank Profitability's semi –Parametric Approach.* Journal of International Finance Markets, Institutions and Money.

Kibirige.M.(2006), *Mortgage Financing. How it works in Uganda.* The journal of capital markets industry, Uganda. (10(2):1-15.

Kothari, C R (2004) *Research methodology: Methods and techniques*. New Delhi: New Age International (P) Limited Publishers.

Kusumajaya, D. K O. (2011). *The influence of capital structure and Company's Growth Towards Profitability and Company's value at Manufacture's Company at Jakarta Stock Exchange.* Journal of financial management and analysis.

Lazaridis, I & Tryfonidis, D. (2006). *Relationship between Working Capital Management and Profitability of Listed Companies in the Athens Stock Exchange*. *Journal of Financial Management and Analysis*, 19(1).

Lim, Lay Cheng; McGreal, Stanley; Webb, James R. (2006): *Perception of Real Estate Investment Opportunities in Central/South America and Africa*. In: *Journal of Real Estate Portfolio Management,* vol. 12, no. 3, pp. 261-276.

Limbago, E., & Juniarti (2014). *Pengaruh Family Control Terhadap Profitability* dan Nilai

Lipunga, A.M (2014). *Determinants of Profitability of Listed Commercial banks in Developing Countries*: Evidence from Malawi, Malawi Polytechnic.

Lynn, David J. (2007): *The Tectonic Forces of Global Real Estate: Implications for Global market,* Unpublished MBA Thesis, Strathmore University.

Mahmood, WM.W., & Zakaria, R. (2007). *Profitability and Capital Structure of the Property and construction Sectors in Malaysia*. Pacific Rim Property Research Journal, 13(1), 92-105.https://doi.org/10.1080/14445921.2007.11104224.

Makkar A. & Singh S. (2013). *Analysis of the Financial Performance of Indian Commercial Banks*: A Comparative Study. Indian Journal of Finance, 7 (2): 41- 49.

Martani, D., & Munaiseche, R. R (2010). *Factors Affecting Profitability of Multi-Finance Company in Indonesia.* China –USA Business Review, 9(5), 53.

Mehta, A. (2014). *Working Capital Management and Profitability Relationship-Evidences from Emerging Markets of UAE*. International Journal of Management Excellence, 2(3), 195-202.

Mugenda, O M & Mugenda, A G, (2003) *Research methods:* Quantitative and Qualitative approaches. Nairobi Acts Press.

Murigu, J (2005) *An analysis of the decision making criteria for investing in commercial real estate in Kenya,* unpublished PHD Thesis, Department of land development, University of Nairobi.

Mwangi M, Birundu E, (2015). "*The Effect of Capital Structure on the Financial Performance of Small and Medium Enterprises in Thika Sub-County, Kenya*." *International Journal of Humanities and Social Science*. 2015; 1(1):151-156.

Nicolescu, E. (2012). *Analysis of determinant factors of a company's performance*, Revista ASE DAFI nr 4.

Obert, M., & Olawale, F. (2010). *Does Debt Really Matter on the Profitability of small firms?* A Perspective on small Manufacturing Firms in Bulawayo, Zimbabwe. African Journal of Business Management, 4 (9), 1709-1716.

Odongo, K et al (2014), *Capital structure, profitability and firm value*: panel evidence of listed firms in Kenya, MPRA paper No 57116.

Ooi & Liow, (2004). *Risk Adjusted Performance of Real Estate Stocks*: Evidence from developing countries.

Pandey I M, (2013), *Financial Management* (10th edition). Vika Publishing India.

Pervan, M., & Višić, J (2012*). Influence of Firm Size on Its Business Success*. Croatian Operational Research Review, 3 (1), 213-223.

PKF Kenya, (2013) Shubita, M. and Alsawallah (2012), *The relationship between Capital Structure and Profitability, International Journal of Business and Social Science* .3 (16), Amman, Jordan. Banking Review Newsletter.

Profitability and Company Value in Property and Real Estate Sector]. Business Accounting Real Estate Go Public di Indonesia [Determinants of Profitability in Listed Property and Real Review, 2(1), 151-159.

Roshanak, H. (2013). *The study of the Impact of Capital Structure Determinants on Small and Medium size Enterprise Leverage in Iran.* Unpublished MBA Thesis, Soderton University.

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students*. New York: Prentice Hall.

Sharma, P. & Gounders, N. (2015). *Resilient Through the GFC and Beyond: What Drives Bank Profitability in Small Open Pacific Economies? Journal of Asia-Pacific Business*.

Swanson, R., & Chermack, T. J (2013). Theory building in applied disciplines.

Subramaniyam A, Nimalathasan B (2009). *Measurement of operational performance. Through ratio analysis:* A Case study of selected listed manufacturing Companies in Sri Lanka, J. IPM Meerut, 6:59-69.

Sufian, F. (2009). *Determinants of Bank Profitability in a Developing Economy: Empirical Evidence from China Banking Sector*. *Journal of Asia-Pacific Business*.

Thal mann P. (2006). *Triggers for housing development,* Ecole Polytechnic Federale de Lausanne, station 16 CH 1015.

Tong Kong, S., *Key factors influencing capital structure decision and its speed of adjustment of Thai listed real estate company,* Ed. Elsevier, *Volume 40, 2012, pp. 716-720 Velnamby T, Nimalathasan B (2007).* Organizational Growth and Profitability: A case study Analysis of Bank of Ceylon, J. Bus. Stud.

Vieira, R. S. (2010). *The relationship between Liquidity and Profitability*. Doctoral dissertation. Sweden: Umea University.

Vijayakumar, A. (2002), "*Determinants of Corporate Size, Growth and Profitability. The Indian Experience",* In the book "Research Studies in Commerce and Management", Classical Publishing Company, New Delhi, pp. 66 - 74.

Waemustafa, W., & Sukri, S. (2015). *Bank specific and macroeconomics dynamic determinants of credit risk in Islamic banks and conventional banks*. *International Journal of Economics and Financial Issues*, 5(2), pp. 476-481.

Webb, C (2008). *Measuring Social Capital and Knowledge Networks, Journal of knowledge management,* Vol 12, No 5, Emerald group publishing Limited.

Zubairi, H. J (2010). *An Investigation of the influence of Key Financial and Economic Indicators on Profitability of Cement Sector Companies in Pakistan*. In Finance and Corporate Governance Conference. https://doi.org/10.2139ssrn.1534186.