

**EFFECT OF FINANCING STRATEGIES ON FINANCIAL PERFORMANCE
OF REAL ESTATE FIRMS IN KENYA**

**BY
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DECLARATION

I declare that this dissertation is my original work and has not been previously published or submitted elsewhere for award of a degree. I also declare that this contains no material written or published by other people except where due reference is made and author duly acknowledged.

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ABSTRACT

With the ballooning state of real estate companies and entrance of new financing strategies in Kenya, it is vital to investigate the role of some of the newly adopted financing strategies. Besides, volatility of returns for real estate companies appears high with some collapsing in the last decade. This study examined the relationship between financing strategies and financial performance of real estate firms in Kenya. The financing strategies considered included: private equity, joint venture, mortgage and retained earnings. The study also examined the moderating effect of firm size on the relationship between financing strategies and financial performance. The study utilised secondary data that was drawn from a sample of fifty five real estate firms for a time span of six years from 2015 to 2020. In data analysis, panel estimation procedures were performed. Empirical results from the study show that financing strategies play a significant role on financial performance of real estate firms. Specifically, private equity, joint venture and mortgage finance had a positive but statistically insignificant influence on financial performance. Retained earnings positively and significantly influenced financial performance. Further, it was found that firm size had a moderating effect on the relationship between financial components and financial performance. The study recommends that real estate firms should use retained earnings to fund investments as this has highest positive benefits. Moreover, real estate companies should strategically enter into private equity, joint venture and mortgage agreements as this too can improve financial performance.

Keywords: Financing Strategies, Retained Earnings, Firm Size, Private Equity, Joint Venture, Mortgage Financing, Financial Performance.

DEDICATION

I dedicate this dissertation to God almighty and the people who have supported me throughout my studies. Thanks for pushing me to greater heights and making me see this adventure through the end.

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TABLE OF CONTENTS

DECLARATION.....	ii
ABSTRACT.....	iii
DEDICATION.....	ii
ACKNOWLEDGEMENT.....	iii
TABLE OF CONTENTS	iv
LIST OF TABLES	vii
LIST OF FIGURES	viii
ACRONYMS AND ABBREVIATIONS.....	ix
OPERATIONAL DEFINITION OF TERMS.....	x
CHAPTER ONE	1
INTRODUCTION.....	1
1.1 Background of the Study.....	1
1.2 Statement of the Problem	14
1.3 Objectives of the Study	16
1.3.1 General Objective.....	16
1.3.2 Specific Objectives.....	16
1.4 Research Hypotheses	17
1.5 Justification of the Study.....	18
1.6 Significance of the Study	18
1.7 Scope of the Study	19
CHAPTER TWO	20
LITERATURE REVIEW	20
2.1 Introduction.....	20
2.2 Theoretical Review	20
2.2.1 Resource Dependence Theory	20
2.2.2 Lien Theory of Mortgage	23
2.2.3 Pecking Order Theory of Financing	25
2.3 Empirical Review	27
2.3.1 Private Equity and Financial Performance.....	27
2.3.2 Joint Venture and Financial Performance.....	28
2.3.3 Mortgage Finance and Financial Performance.....	29
2.3.4 Retained Earnings and Financial Performance	30
2.3.5 Firm Size and Financial Performance	32
2.4 Conceptual Framework.....	33
2.5 Summary of Literature Review and Gaps.....	34
2.6 Operationalisation of Variables	34

CHAPTER THREE	36
RESEARCH METHODOLOGY	36
3.1 Introduction	36
3.2 Research Design	36
3.3 Target Population and Sample Frame	37
3.4 Instrumentation and Data Collection Procedure	38
3.5 Data Analysis Techniques.....	39
3.5.1 The Econometric Model.....	39
3.6 Model Specification	40
3.6.1 Exploratory Data Analysis	40
3.6.2 Hausman’s Test for Endogeneity	40
3.7 Assumptions of Regression Analysis	41
3.7.1 Heteroskedasticity	41
3.7.2 Serial Correlation	42
3.7.3 Multicollinearity	42
CHAPTER FOUR.....	44
DATA ANALYSIS, FINDINGS, AND INTERPRETATION	44
4.1 Introduction	44
4.2 Descriptive Statistics.....	44
4.3 Exploratory Analysis	46
4.4 Diagnostic Tests	48
4.4.1 Correlation Analysis	48
4.4.2 Multicollinearity	49
4.4.3 Serial Correlation	49
4.4.4 Heteroskedasticity	50
4.4.5 Hausman’s Test for Endogeneity	51
4.5 Model Fitting	52
4.6 Hypothesis Testing and Discussion of Findings	55
CHAPTER FIVE	58
CONCLUSIONS AND RECOMMENDATIONS.....	58
5.1 Introduction.....	58
5.2 Summary of Findings.....	58
5.2.1 Private Equity and Financial Performance.....	58
5.2.2 Joint Venture and Financial Performance	59
5.2.3 Mortgage Finance and Financial Performance.....	59
5.2.4 Retained Earnings and Financial Performance	59

5.2.5 Moderating Effect of Firm Size on Relationship between Financing Options and Financial Performance.....	60
5.3 Conclusions.....	60
5.4 Recommendations.....	61
5.5 Limitations of the Study.....	62
5.6 Suggestions for Further Research.....	62
REFERENCES.....	64
APPENDICES.....	73
Appendix A: Data Recording Sheet.....	73
Appendix B: Sample Frame.....	74

LIST OF TABLES

Table 2: 1 Operationalisation of Variables	35
Table 3: 1 Sample Frame	38
Table 4: 1 Descriptive Statistics for Financial Performance	44
Table 4: 2 Descriptive Statistics for Independent Variables.....	45
Table 4: 3 Matrix of Correlations	48
Table 4: 4 Variance Inflation Factor	49
Table 4: 5 Wooldridge Test for autocorrelation	50
Table 4: 6 Modified Wald Test for Heteroskedasticity	50
Table 4: 7 Hausman (1978) specification test.....	51
Table 4: 8 RE GLS AR 1 Regression Estimation and Coefficients.....	52
Table 4: 9 Moderated RE GLS regression	54

LIST OF FIGURES

Figure 2: 1 Conceptual Framework	33
Figure 4: 1 Single Plot for ROA	47
Figure 4: 2 Spaghetti Plot	47

ACRONYMS AND ABBREVIATIONS

ANOVA	Analysis of Variance
FE	Fixed Effects Model
FS	Firm Size
JE	Joint Venture
KPDA	Kenya Property Developers Association
MF	Mortgage Financing
NACOSTI	National Commission of Science, Technology and Innovation
OLS	Ordinary Least Squares
PE	Private Equity
RDT	Resource Dependence Theory
RE	Random Effects Model
ROA	Return on Assets
SMEs	Small and Medium Enterprises
SPSS	Statistical Package of Social Science
VIF	Variance Inflation Factor

OPERATIONAL DEFINITION OF TERMS

Financial Performance – is a measure of firm financial returns in a period of time Dhankar and Malik (2016). In this study the expression of financial performance was in form of return on assets.

Firm Size- organisational capacity to venture (Lin, Cheah, Azali, Ho & Yip, 2019). In this study, firm size was expressed in form of total assets.

Joint Venture-entail sharing of project costs and returns between the real estate company and capital contributor in which obligations and returns are shared equally (Abdulatif & Almujaed, 2017). In this study, joint ventures were measured in form of log of value of joint ventures.

Mortgage Financing - entails use of buyers' funds to fund projects (Abdulrehman & Nyamute, 2018). In this study, mortgage financing was measured in form of log of value of mortgage.

Private Equity- entail use of strategic investors for specific projects without exchange of ordinary shares (Thomas, David, & Naranjo, 2019). In this study, private equity were measured in form of log of value of private equity.

Real Estate Companies- firms that deal with property and sale of land (Piet & Nils, 2021).

Retained Earnings - entails ploughing back as opposed to distribution profits as dividends (Hoang et al., 2020). In this study, retained earnings were measured in form of log of value of retained earnings.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Desktop literature review has shown a paradigm shift in financing strategies for real estate companies both in developed and emerging economies (Eilbel, 2020; Manuel, Rodrigo, & Gertjan, 2020; Manuel, 2019; Faye, Zekebweliwai, & Bah, 2018; Ntene, Azasu, & Owusu, 2020). Real estate entities have adopted new capital sources such as joint ventures to supplement internal sources of capital due to heavy capital outlay required to sustain real estate investments (Abdulatif & Almujaed, 2017; Thomas, David, & Naranjo, 2019; Alexander, Piet, & Nils, 2021). Indicatively, real estate sector appears to have an upward trend which has been attributed to various reasons including rise in population, enlargement of urban areas and rise in living standards necessitating change on housing units. For instance, the Chinese market has ballooned to a multi-billion sector and reports show that the volume of outputs in housing units keep rising (Glaeser, Huang, Ma, & Shleifer, 2017).

In addition, real estate companies in China faces critical financing strategies due to technicalities in the sector which has seen options such as joint venture and mortgage dealings rise (Hong & Chan, 2014). The European Commission (2019) reports that real estate sector is a major contributor of new jobs accounting for estimated two percent of new job opportunities. Still, real estate firms in the United States are not able to build housing units in line with increasing demand for houses (United States Bureau, 2019). In India, private equity has gained wide acceptance among real estate firms consequentially increasing in investment activities in real estate sector (Gupta & Prashant, 2021).

Real estate firms have focused on accessing public debt markets irrespective of listing status to boost their investments. For example, US real estate firms have resorted to use of non-recourse debt instruments, more often mortgage arrangements to finance investments. In turn, this is less costly mode of financing which potentially builds financial capacity and returns for the firms (Allen & Letdin, 2020). British real estate firms equally have revolved to specialised peer-to-peer lending solutions and mortgages to avert the complexities in accessing bank credits (Gibilaro & Mattarocci, 2018). Turkish firms on the other hand, prefer private equity from investors in what has been termed as real estate investment funds, as such arrangements have tax exemptions leading to profit savings and improves risk-returns performance for the entities (Camlibel, Sumer, & Ali, 2021).

With the progress of economies and rise in population, real estate sector has become an important sector in promoting development and meeting housing needs, growth of economies of countries. It is true to suffice that real estate sector has a major role in advancement of technologies considering the sector employs new technologies in construction. Lots of engineering practices has seen new techniques in construction ranging from traditional housing constructions to modern green developments (Salzman & Zwinkels, 2017). Moreover, real estate has in deed brought about significant growth in material scheduling and work planning due to space limitations which at the end has enhanced lean activities in countries. In the same time, the real estate sector is responsible for new technologies, such as green buildings which has since promoted sustainable economic growth and development. In the real estate sector, the use of smart technologies has seen emergence of such entities like smart cities that have significantly boosted environmental safety. Also, real estate sector has led to urbanization (Shixiong, Qing, & Cai, 2020).

Growth of the real estate sector has been a key driver in migration of people from rural to urban areas. In essence, this has led to social and economic development in the past two decades. With rise in urbanization, other benefits such as increased employment opportunities, rise in industrialization, betterment in sanitation and infrastructure are realized. In a nutshell, there is a wide array of benefits associated with a robust and growing real estate. In most real estate sectors, around the world, there has been continuous improvements that has led to efficient developments, not only in the sector but also in other related sectors (Baum, 2021). For instance, real estate in modern developed countries uses massive loads of materials and technologies that breed lean material planning, agility and enhanced employee productivity. Use of machines in this sector has been instrumental in establishing building information systems that seek to enhance constructions amidst scarcity of resources and finances. In the same note, real estate worldwide has been characterised by radical and paradigm shifts from poor and inefficient methods of construction to recent innovations that has led to state of the art houses. In essence, development real estate in modern day times is a timely innovation that impact on efficiency, productivity, energy usage and environmental conservation, not only in this sector but in other sectors too (Rogers & Desiree, 2021).

Real estate sector is golden in furtherance of economic and social welfare around the world. Firstly, real estate accounts for a good number of job opportunities in most countries (Saiz & Miranda, 2020). This is because, this sector employs large number of professionals including project managers, project accountants, architects, and quantity surveyors among others. As such, these professional are able to earn a livelihood which would be difficult if the sector was not in good form. At the same time, real estate sector enhances wealth creation for the entrepreneurs.

Realtors are involved in a wide range of real estate activities such as sale of houses, construction, sale of land parcels and offering of auxiliary services such as housing insurance. In this aspect, most people are able to generate wealth and this enhance societal welfare. Additionally, real estate sector is key in boosting development of the financial sectors (Allen & Letdin, 2020). For instance, it is through the real estate sector that new financing options have emerged. For example, mortgage finance is a means of financing that is exclusive to real estate firms in which property owners are allowed to possess houses where they pay in a long period of time thus making real estate properties accessible and affordable (Yannelis, Garlappi, & Baldauf, 2020).

Whilst real estate sectors, does play a major role in bettering societal and economic welfare of nations worldwide, there are major impediments that affects its growth. Foremost, there has been uncertainty in the sector as it has been construed that a real estate bubble is in existence. Sceptics argue that the real estate, will in time, burst and this will collapse the sector occasioning huge losses that will be felt over and above the sector itself (Escobari & Jafarinejad, 2016). For instance, financial markets can be hit since private equity and stocks will be affected. Most realtors in mega economies are publicly traded companies which then means that, a poorly performing real estate sector would have a ripple effect to other sectors too. Secondly, real estate sector is largely affected by capital market risks (Rherrad, Bago, & Mokengoy, 2021). In essence, real estate companies achieve full growth potential when they can access and afford capital from lenders, mostly banks and private equity funds. In absence of affordability, real estate sector stagnates and experiences stunted growth. Hence, capital access is a major impediment that tends to influence the overall growth of the real estate in Kenya. Essentially, real estate sector thrive on ability to have large projects that enable them to enjoy economies of scale.

This sector too has many players and it has been considered a free competitive markets (Abdulatif & Almujaed, 2017; Allen & Letdin, 2020). Thus, firms in entry stages find it challenging when they venture as already established firms are able to price products competitively. Also, real estate can lead to environmental degradation due to mining, land fragmentation and destruction of vegetation cover. In view of the discussion, it is apparent that one of the common challenges affecting real estate firms around the globe is financing. In consideration of this, new financial market apparatus have been formed to specifically offer funding to real estate companies.

Shavrov, Marina, Kauko and Siniak (2020) argue that real estate sectors' creativity has led to discovery of new funding options that would otherwise not exist. The funding means have since been implemented in other sectors in the economy. A robust and booming real estate sector exist where financing is available and is affordable to firms (Shaw, 2020; Gallo & Avantaggiato, 2019). Moreover, real estate sector is demand driven which means that its performance is somewhat dependent on flow of money from other sectors as well as rise in disposable incomes of consumers. All these matters are hypothetical and some are empirical from developed nations, it has become plausible to research and policy value to investigate how new financing mechanisms, such as private equity, mortgage financing and joint ventures contribute to wellness of real estate firms.

In Africa, finance has been a major challenge for most entities and real estate companies are not exempted. For instance, in Nigeria, access to finance from conventional lenders has proved futile and this hampers stability and growth of the real estate entities (Adetiloye & Eke, 2016). Real estate companies face financing challenges because their returns are not immediate, cash flows take longer time to recover the initial investment.

In the Nigerian real estate, entities are critically crippled by poor finance infrastructure limiting access to funds, low profits, escalating inflation rates and growth of economy (Ogbenjuwa, Egbu, & Robinson, 2018). In Ghana, due to high interest on bank loans, lack of high value collaterals, real estate companies have resorted to venture capital to finance their projects (Kissi, Duodu, & Somiah, 2016). Thus, in the regional level, it is evident that poor financial markets have critically excluded real estate firms from accessing capital.

With the rising rates of urbanization and human population in Africa, the demand for real estate products is undoubtedly at the highest levels in the last half a decade. Africa population has been predominantly based in rural areas and practicing subsistence agriculture (Taderera & Omokolade, 2020). However, the interaction with developed countries has seen a rise in urban centres and this has radically changed the ways of life. For instance, urban settlements have mushroomed in most parts as people seek work in factories and industries in those areas. Moreover, most industries in Africa are located in places that have good infrastructure, energy connections and sizable transformation in order to facilitate transport of goods and services. In this aspect, the demand for housing units, land and other real estate products is not going to drop any time soon (Marimo, Nikiwe, & Akinsomi, 2018).

It is true to suffice that Africa is experiencing steadfast growth in urbanization and industrialization. Moreover, Africa has become an attractive investment hub for large investors in the global arena. These expatriates come with new demand for housing units that meet the form and quality in their home countries. This has driven the real estate to heights unprecedented.

The real estate sector has the potential of growing and blossoming to a full sector that is substantially important in economic welfare of African countries (Ntene & Owusu, 2020; Chikafalimani, Kibwani, & Moyo, 2021).

In spite of the pertinent benefits associated with real estate in Africa, the sector's performance is significantly impaired several factors. To start with, Africa's financial markets are underdeveloped in comparison to those of other continents. Given this fact, real estate players seldom get sufficient capital to invest in real estate activities which limits not only their growth but also their performance (Oloke, Oni, Babalola, & Ojelabi, 2017). It is hard to find a real estate sector in Africa that can withstand shocks and negative externalities that are experienced during times of financial crises. Most real estate companies in Africa collapse due to inadequate capital, inhibiting financial markets and restrictive financial policies. To avert financing challenge, firms in Africa has resorted to strategic means of raising funds such as real estate issue trusts, private equity and joint ventures. Countries that have good financial markets in Africa, are capable of sustaining a robust real estate sector. On the other hand, poorly performing financial markets do not efficiently distribute finance among those with surpluses and those with deficits (Adetiloye & Eke, 2016).

In Africa, economic growth is slow and most people seldom get sufficient income to meet recurrent expenditures. This is evidenced by low Gross Domestic products which indicates that the levels of economic activities in this countries is low. Poor spending habits of African governments too contributes to stunted growth in real estate sector (Agava, Bello, & Dairo, 2021). Whereas, most African countries have budgets for affordable housing projects, the fruits are rarely realized due to corruption and embezzlement of funds. At the same time, most of African wealth is in the hands of few individuals which impairs purchasing power of other people.

Only the few individuals that are able to purchase houses do so and this is not done repetitively leading to poor performance of realtors in Africa. Most discourses in real estate performance has shown that unemployment rates too affects performance of real estate sector. Notably, real estate works well where people have disposable income in absence of which purchasing of real estate products is significantly impaired. Needless to mention, Africa is a poor continent where wealth disparities are so large (Taderera & Omokolade, 2020). This has led to unsustainable development which in the end does not better real estate sector. Again, high inequality in wealth distribution between rural areas and urban areas has shown that only urban areas have exhibited growth in real estate.

Africa lending market is unfriendly and this is so because of escalating interest rates and inflation rates coupled with inefficient regulations of financial markets (Baaki, et al., 2020). For example, interest rates are haphazardly determined by market players which discourages real estate customers from seeking mortgages and other loans for housing units. Real estate sector is, as mentioned in the case of global perspective, is driven by the demand for real estate products. Where people are able to access affordable loans, they can go for bank loans and purchase housing units instead of renting spaces. Whereas it is true that real estate sectors in most of African countries is growing, African cities have recorded slow growth in real estate due to limited domestic purchases. Moreover, the real estate returns are low in comparison to other countries outside the African continent. Pricing of real estate properties is difficult and more often than not done arbitrary which exposes the firms to market risks. Without efficient pricing mechanisms, real estate companies incur huge losses which can hurt the entire sector if unchecked in a timely fashion.

Real estate managers are expected to make subtle, robust and prudent decisions pertaining to operations, pricing, market development and financing options for the firms (Umeh & Okonu, 2018; Awa, Anih, & Nwanekezie, 2020). Although the real estate sector in Africa is not at par with other sectors, most discourses note that is potential and that it will pick up and reach unprecedented levels in the next two decades (Dabara, 2022). However, the good performance and growth of real estate thereof, is only possible if substantive efforts and boost financial markets that fund the sector, improve economic growth to enhance purchasing power of people and create an environmentally friendly real estate sector. Equally, real estate firms need to engage in best corporate governance practice considering that most are not regulated and thus prone to malpractices on the side of owners and managers. Energy consumption during construction and after construction too should be critically considered by real estate firms. All these are only feasible and possible if sufficient finances will be made available to real estate firms. In realization of this, lenders are coming up with new financing options for real estate companies such as REITs, private equity and joint ventures (Abdulatif & Almujaed, 2017).

Real estate companies undertake business in a tough environment that is characterised by stiff competition, product indifference and unfriendly financial markets. Moreover, real estate firms with sufficient revenue and finances can diversify which can in turn lead to improvement in firm stability and financial results (Kola & Kadongo, 2017; Ijasan, Junior, Adam, & Tweneboah, 2021; Ntuli & Omokolade, 2017). Although discourses on financing matters for real estate firms in Kenya are scarce, available information shows similar perspective like the global and regional perspectives.

Real estate sector has recorded positive growth rates between 2004 and 2014 (Kioko, 2014). Moreover, in the last ten years real estate sector in Kenya has exponentially flourished and this has been attributed to a rise in demand for housing units for residential, industrial, and commercial use (Cytton, 2022). Despite this growth, large urban centres are congested, overcrowded with most having dense population. This suggests that real estate is yet to achieve its optimum performance and growth. Real estate firms in Kenya has exhibited tremendous development from a small sector to an industry that has some of the biggest firms. Moreover, real estate firms are instrumental indicators in the welfare of people in Kenya (Murungi & Gatauwa, 2015).

Real estate sector in itself is a major indicator that is used an index of measuring economic progress in Kenya. This is because, where real estate sector is thriving and stable, there is intense activities in the economy which evidence economic growth. In addition, good performance of real estate is a major measure of improvement in the living standards among the people in a given country. This is because, where an economy is improving, there is robust real estate sector. At the same time, a rise in demand of real estate products indicates that liquidity among economic units is high and that the economy is thriving well. This means that an intricate web of factors, benefits and challenges that affect real estate is at play (Ndinda, 2014; Nyamute & Abdulrehman, 2018).

Real estate firms in Kenya too improve living standards of people for several reasons. To start with, the fact they build and sale housing units indicates that they are instrumental in ensuring that societal welfare is improved (Mwathi & Karanja, 2017). Some real estate firms offer products that are subsidized making even those who earn low income manage to acquire parcel of lands where they can ultimately become home owners.

Also, influx of real estate firms and their well-being has seen places that were considered remote grow (Ngugi, 2015). For instance, real estate firms in Kenya are now focusing on suburban areas adjacent to large cities where they sell properties to residents of the cities. In effect this has seen congestion reduce in some places as with good infrastructure, people are able to commute to their job places. With the well-being of the real estate firms, Kenya is bound to enjoy more benefits which can not only lead to economic growth but can also enhance social welfare (Githae, 2019; Ngunjiri, 2022).

Realistically, real estate in Kenya is characterised by constant and rampant changes that affect the wellness and stability of firms and the overall performance of entities. Real estate firms are far affected by market imperfections (Mugambi & Karugu, 2017). The real estate is a perfect case of a scenario where a market is characterised by information asymmetry. The property sellers and home buyers seldom have same information and this has occasionally hampered success of this sector. It is for this reason, the real estate in Kenya has been termed as a bubble. Those that are sceptic of the sudden flourishing of the real estate in Kenya argue that market imperfections cause distortions in prices of real estate commodities in the entire economy (Cytton, 2022). Nevertheless, Kenya has a strategic national goal of offering cheap and affordable housing to her citizens especially those in lower and middle income brackets. Without a wide range of finance sources, this dream may remain unachievable, considering that the real sector in Kenya is controlled by private companies and government playing a minor role. Moreover, private real estate firms are in dire need of funds to expand their activities in a highly competitive sector which them makes studying financing and performance a worthwhile study.

One major stiff challenge that hampers growth and results of real estate firms is financing (Githui, Omurwa, & Ongeto, 2018). This is because real estate firms deal with products that customers purchase for few times in their lifetime in comparison with other consumer goods. In this light, real estate companies are unable to fund activities and expand to other markets that can supplement their revenues. Real estate sector in Kenya has seen product prices increase over time, which in turn has made it harder for people to afford the houses. This does not infer well to real estate firms as they hold properties for longer times thus holding capital that would otherwise be used in other income generating activities.

Most real estate firms in Kenya, have sought to subsidize property products in order to increase on affordability of houses. Nevertheless, with a shrinking economy, people are unable to acquire such houses at the set prices (Kamweru & Ngui, 2017). This in effect the revenues for real estate companies. This is more harmful to firms that have debts that keep accruing interests even when sales are not made. Whilst real estate firms in Kenya are in pursuit growth and good performance, this has been inhabited too by inadequate regulations. This sector is largely unregulated in which individual firms decide on what to do without corporate governance practices. This has made it difficult for individual firms to achieve best performance.

In Kenya, bank loans are insufficient to fund real estate firms' activities (Githae, 2019). This is because, the bank loans are less due to scramble by other sectors that are in good credit worthy status and whose repayment abilities are assured. Still, the government borrows from local lenders crowding out the private sector. This therefore has made it necessary for real estate firms to seek alternative financing mechanisms that are cost effective and affordable. Secondly, the real estate firms target a market that is already shrinking and this has made them unattractive borrowers from banks.

For instance, REITs, joint ventures and private equity funds have become common in Kenya in order to cover for the shortfall that is present due to inability of banks to offer credit to real estate firms. Additionally, mortgages have made it possible for buyers of houses to do so in the best prices and costs for longer period of times (Mang'era, 2019).

A vibrant real estate in Kenya can only be feasible in presence of financing. Even though the existence of financing options tends to advance financial markets, it is rather unclear on how they influence wellness of firms that consume the funds. In deed there is divergent of opinions on whether financial options such as REITs, joint ventures, mortgage financing and private equity benefits firms. In view of this this study dealt with four predictors namely; joint ventures, mortgage finance, private equity and retained earnings. Retained earnings is considered key in this study as firms use internal funds before they seek external finances.

Kitavi (2013) notes that real estate financing requirements are a challenge for most developers thus making them turn to mortgage and joint ventures. Moreover, costs incurred in building housing units or selling parcels are high and this has more often rendered some companies exhibit dismal returns and eventually leads to collapse. Equally, Kimani and Memba (2017) opine that finance costs characterised by interest rates and variety of finance sources contributes to stability of real estate ventures. Given this background, this study examines the effect of financing strategies on firm performance of real estate companies in Kenya. All financing strategies have costs and benefits associated with them. Private equity strategy entail use of strategic investors for specific projects without exchange for equity (Thomas, David, & Naranjo, 2019). The investors earn interest from funds distributed but ranks higher than other creditors in case of dissolution.

Joint venture entail sharing of project costs and returns between the real estate company and capital contributor in which obligations and returns are shared equally (Abdulatif & Almujaheed, 2017). Mortgage strategy entails use of buyers' funds to fund projects which create an expanded market for real estate products. This is because, the collateral for the product is the product itself and this improves accessibility of the real estate products.

Lastly, use of retained earnings entails ploughing back as opposed to distribution profits as dividends. However, their influence on performance of real estate firms has not been substantially tested, at least for the case of Kenya. In a nutshell, the commercial real estate is characterised by changing traits in form of financing. All round perspectives have shown that real estate firms are adopting new models of financing where a hybrid combination comprising of own finance, private equity and commercial debts are used (Mellisa, 2021). In the end, these paradigm shifts have seen firms deviate from traditional finance sources to new ones enabled by developments in financial markets. Moreover, in view of costs and benefits of these financing sources, it is not clear which financing strategy yields higher returns (Adetiloye & Eke, 2016). This provides motivation for this study.

1.2 Statement of the Problem

Real estate sector contributes to economic growth through job creation, provision of market for construction materials and improves access to housing units. The demand for real estate products is on the rise in line with population growth, urbanisation, and growth of businesses (Nguyen, Nguyen, & Dang, 2017). Moreover, growth of real estate firms is expected to exhibit an upward trend in the next century (Glaeser, Huang, Ma, & Shleifer, 2017). Kenya has a robust real estate sector which can be attributed to growth of urban centres, increase in population and demand for houses for investments.

Despite real estate companies increasing in number, they face acute challenges in accessing finance from traditional lenders (Cytonn, 2019). Owing to this, real estate companies have resorted to special finance sources such as private equity and joint ventures to realise their profitability, stability, and growth goals. However, there has been reports of real estate companies collapsing such as Goldenscape Limited and Gakuyo Real Estate (Muiruri, 2019). This has seen many real estate investors lose their investments. Moreover, in Kenya, 73 % of the real estate projects experience delays which is partly due to cost implications, material defects and time risks (Muema & Kimutai, 2018). This shows that real estate face financing difficulties which eventually reduces their financial performance.

A number of studies have attempted to examine the relationship between financing strategies and performance but results have either not been conclusive or contradicted each other or with existing theories. Mwathi and Karanja (2017) delved on finance sources and development of real estate in Kenya. Results indicated that mortgage finance has led to growth of the sector. Moreover, it emerged that own equity and venture capital improved growth of the sector. However, this study had its outcome variable being growth while current study focuses on real estate firm performance. Moreover, the study did seek to determine moderating effect of firm size on potential influence of financing sources and firm returns. In essence, in theoretical terms, a large firm is expected to have more of own finances and is attractive to venture capital funds than a small firm.

The current study determined subtly this theoretical position. Kimani and Memba (2017) also examined finance sources and growth of real estate sector. Results implicated high interest rates as stumbling block towards growth of the sector. Also, this study focused on growth of sector while the current study has a narrow scope as it focuses on firm performance for real estate firms. Moreover, the study does not rigorously test other input components of finance such as mortgages that are key in real estate firms.

Nyoro (2017) investigated factors influencing firm performance for real estate investments trusts in Kenya. The outcomes revealed that government policies, state of economy, interest rates and demographic trends had a bearing on firm performance. However, this study focused on real estate investments trusts while the current study attempts to establish role of finance sources and firm performance for real estate companies. At the same time, the study took a wide scope merging demographic aspects and firm traits while the current study delves in finance attributes. In realisation of this and considering that there are few empirical inquiries done in Kenya on financing strategies, study aims at investigating the role of financing strategies on firm performance.

1.3 Objectives of the Study

1.3.1 General Objective

To investigate the influence of financing strategies and financial performance of real estate firms in Kenya.

1.3.2 Specific Objectives

- i. To assess relationship between private equity on financial performance of real estate firms in Kenya.

- ii. To determine the influence of joint venture on financial performance of real estate firms in Kenya.
- iii. To establish the effect of mortgage on financial performance of real estate firms in Kenya.
- iv. To find out the role of retained earnings on financial performance of real estate firms in Kenya.
- v. To ascertain the moderating role of firm size on relationship between financing strategies on financial performance of real estate firms in Kenya.

1.4 Research Hypotheses

This study attempted to test the following hypotheses:

H₀1: Private equity has no significant association with financial performance of real estate firms in Kenya.

H₀2: Joint venture has no significant effect on financial performance of real estate firms in Kenya.

H₀3: There is not significant association between mortgage and financial performance of real estate firms in Kenya.

H₀4: Retained earnings has not significant effect on financial performance of real estate firms in Kenya.

H₀5: Firm size has no moderating role on the relationship between financing strategies and financial performance of real estate firms in Kenya.

1.5 Justification of the Study

A stable real estate sector benefits the economy through creation of job opportunities, provision of housing units and contributes to economic growth. Where real estate sector is unstable and exhibit dismal performance, it hampers the associated benefits. For instance, real estate cut on jobs through retrenchment where performance is not good. Nevertheless, critical evaluation of financing strategies for real estate firms is minimal and even those available inquiries have focused on single variables like venture capital, private equity, joint ventures and mortgage financing and not overall effect of the strategies on firm returns. At the same time, research in Sub-Saharan Africa where Kenya belongs is scanty thus justifying this instant study.

Kenya has a developing financial market and is slowly becoming a major financial hub in East and Central Africa. In this aspect, new means of raising finance such as private equity are being adopted. It is therefore, plausible to substantiate role of this new financing options by doing research. This makes this study crucial as it delved on relating pertinent financing strategies used by real estate firms. These are private equity, joint ventures, mortgage finance. The study too did not exclude retained earnings that is ranked highest in order of preference as per the pecking order theory.

1.6 Significance of the Study

This study delves on financing strategies and their role on firm performance. The outcome in respect to results and recommendations are likely to be valuable to at least three users; real estate firm, real estate associations or regulators and it further contributes to theory of finance. Results of this study immensely benefits real estate firms. Findings documents lengthy and subtle discussion of empirical outcomes in respect to role of each independent construct on firm performance.

These findings in turn may be used by finance managers of real estate companies in Kenya in making financing decisions. A robust framework of organisational decision making is built on evidence from findings of research. Besides, finance managers are able to rank various sources of finance in respect to costs and benefits as it has been established by the study.

This study aims at linking financing strategies and firm performance. It advances and crystallises on available literature and fills both conceptual and contextual gaps. Whilst there are several research on financing decisions and resultant effect on firm performance, few have been in Sub-Saharan Africa where financial markets are moderately underdeveloped. This noted, this study adds to finance theories in the region.

Additionally, the study opens up new levels for research in Kenya, in respect to sector-specific financing strategies. Results of the study can further benefits regulators and real estate associations. The findings were documented following a systematic and critical review of data analysis output to associate financing strategies and firm returns. The findings and conclusions thereof can be used by, say Kenya Private Developers Association to educate members on new frontiers in real estate financing.

1.7 Scope of the Study

There are four dimensions of scope defined in this part. Firstly, the conceptual scope of the study entails four predictors (private equity, joint venture, mortgage and retained earnings) and one response factor (financial performance). Secondly, the geographical scope identifies that only real estate entities operating in Kenya were considered. Thirdly, for time scope, data was collected from each firm in the sample for year 2015 to 2020. Lastly, observations for the variables were collected and collated in a panel data set.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Chapter two delves on six thematic areas. It starts with detailed discussion of theoretical anchorage. Secondly, scrutiny of past studies is done under empirical review. Thirdly, a pictorial association of variables is depicted by a conceptual framework. Afterwards, a summary of gaps to be dealt with is presented. At the tail end of this section is a tabular illustration of variables, their measures and type of analysis.

2.2 Theoretical Review

Research is anchored on theories for two reasons. Firstly, theories provide insights on expected association between variables. Theories posit a good framework for setting up hypothesis. Secondly, theories are included in research for purpose of evaluating their applicability in respect to the perspectives being examined. This inquiry is pegged on several theories that are linked to study concepts and factors being assessed.

2.2.1 Resource Dependence Theory

Simply, resource dependence theory as originated by Salancik and Pfeffer (1978) is principled on two major inclinations; that is the external environment does play a role on firm wellbeing in terms of ability to remain stable and profitable and that how firms source resources externally is key towards their survival. RDT largely showcase that it is not only the internal affairs that matter but also the external environment in relation to finance, supplier, customers and labour sourcing (O'Keeffe, 2016). Moreover, the theory presents that for long term profitability, sustainability and growth, critical sourcing and teaming-up with other external organisation is paramount.

The basic and most important tenet for this theory is how to strategically source inputs from other external parties to create strategies for stability and profitability (Schiele, Ellis, Ebig, Henke, & Kull, 2015). In addition, resource dependence theory idealises that resources are generally multidimensional (Cambria, Poria, Bajpai, & Schuller, 2016). This means that entities must not only focus on single resources, but rather should seek to competitive reach in accessing capital, materials, labour and technology from the outside environment. The theory has advantages and disadvantages. To start with, the pros are: it recognises role on external environment in providing resources, posits that resources creates power which can in turn boost profitability has practical applications in managerial decisions (Kholmuminov, Shayzak, & Wright, 2019). In contrast, the theory has been criticised for lack of clarity in that over-dependence of external resources can impair continuity of firms (Kengne, 2021). Also, the theory fails to recognise that use of external resources, for instance, in joint ventures and venture capital, does dilute organisation's autonomy. Lastly, it fails to robustly deal with what should be done after external resources have been acquired so as to lower over-dependence on other entities' resources for survival (Tashaman, 2020; Miia & Joana, 2020).

In essence, resource dependent theory's use in this study is crucial as the tenets in it overlaps across explanatory variables. The theory indicates that resources that matter are sourced externally and to this extent it provides key information on why real estate adopt private equity funding as source of finance. Resource dependence theory tactically base its tenets on wide coverage on resources, mostly those originating externally. Private equity is essentially, capital in form of venture capital, buyouts and growth capital without necessarily acquiring share capital in the investee firms (Kissi, Duodu, & Somiah, 2016). It is thus a robust mechanism of access to funds by firms.

Even though resource dependency theory has immense benefits, has received wide acceptance in organisational studies and still a practical theory in finance, it suffers from a few limitations. The theory has not been substantially substantively been tested in order to legitimize its arguments (Assenga & Hussainey, 2018). The theory is therefore not suitable in deciphering problems in different sections of an organisation. The theory views are abstract and may not be indicative in any way in respect to how procurement of external resources enhance performance. Again, it may be of limited use to market leaders where external resources are not required because firms are able to handle all activities by themselves. Moreover, this theory pictures that only firms in similar lines are instrumental in enhancing performance (Sapat, Esnard, & Kolpakov, 2019). This may not be the case because, resources interdependence is not restrictive to industries. This theory too fails to consider other factors such as socio-economic dimensions which are critical in influencing performance of firms. The modern world is complex and offering a single solution to a problem does not seem plausible. Whilst the theory advocates for synergy, it fails to focus on political implications that result from such interdependence. Lastly, this study discourages international dependence and this overlooks possible benefits of multinational synergies such as transfer of technologies (Umukoro, Eluyela, & Inua, 2020).

Resource dependency theory provides perfect underpinning in this study. In this study, one aim is to empirically test and thereafter substantiate if private equity affects firm performance. At the same time, RDT points that external resources affect organisational structures internally. The relative ease of a firm to link with other players in the industry can too bring about joint ventures in the firm. Given this scenario, RDT can too provide a theoretical underpinning for joint venture variable.

This is because resource dependence theory, in practice can be used to structure strategies for finance sources through private equities and joint ventures. This study too, elucidated on role of joint ventures on firm performance. There are other studies that too have used this theory. For example, Kholmuminov, Shayzak and Robert (2019) examined autonomy of organisations in the light of recommendations of resource dependency theory and found out that in as much as autonomy is reduced, external resources and independence is impossible to eliminate. Moreover, it emerged that resource dependency is an apt proposition for strategic financing and resource spread that can enhance firm performance.

2.2.2 Lien Theory of Mortgage

Originally, lien theory of mortgage was coined by Lloyd (1923) although it has over time evolved. Lien theory, typically elucidates on why firms use mortgage in their business. Conceptually, lien theory of mortgage is based on three principles. To start with, it posits that it is a form of credit issuance by lenders, more often in real estate sector, where lenders hold lien on the property during the time of credit. Mortgage arrangements legally permits a borrower to enjoy economic benefits of the property during the time they are paying the credit (Harris, 2017). Secondly, lien theory of mortgage identifies that both borrower and lender are cushioned by the credit arrangements in at least two ways; the debtor uses the house during credit payment thus there is no loss of time value of money and the lender equally retains the title till full credit payment is done. Thirdly, lien theory of mortgage identifies that the title for the house or real estate products is the security for the product (Pancak & Miceli, 2017).

Lien theory of mortgage has both pros and cons. In respect to pros, the theory has practical applications in the real estate sector. Most financial entities including commercial banks have done product development on the basis of this theory and offered mortgage to home buyers (Mwaura & Jagongo, 2022). As a result, most households and firms have been able to acquire houses and factories respectively, which could otherwise be impossible. At the same time, lien theory of mortgage has been immensely used govern land and real estate transactions. There are law stipulations governing mortgage business in most countries, which then indicates it big role in fostering real estate business.

In view of its cons, the major one relates its abstract focus on lien trade. Mitzi (2021) argues that lien theory oversimplifies facts because there are so many factors that home buyers look other than accessibility of credit. At the same time, the theory fails to offer solutions to some situations like if the borrower desires to dispose of property midway before credit is repaid in full. The theory idealises that the lien ends not until and unless all credit is repaid and that borrowers cannot dispose the property until loan repayment is effected in full as per the contractual terms in the deed (Abdulrehman & Nyamute, 2018).

Lien theory has been used to back up several studies. For instance, Abdulrehman and Nyamute (2018) delvent into mortgage financing. In use of this theory, they identified that lien is a practical way of ensuring that economic units without collateral are able to co-own the asset they purchase under lien contracts. Their study concluded that mortgage financing is a paradigm shift from traditional lending practices for lenders and results into better performance.

In Nigeria, Anidiobu, Okolie and Ugwuanyi, (2018) scrutinised mortgage financing vis a vis its role in housing delivery. By using lien theory, the researchers plausibly structured the conceptual framework. In turn, results showed that lien theory is the fundamental theoretical underpinning for mortgage business. There are several reasons back up the use of lien theory of mortgage in this scholarly work. The third explanatory factor is mortgage finance which then expressly relates to this theory.

Mortgage finance is a finance strategy has been adopted by real estate firms to make products accessible and affordable. Affordability of housing units is a major concern for buyers. Where purchase arrangements are flexible, chances of increase in sales, profitability can be accepted to be higher than the reverse case. In essence, mortgage seek to make housing units affordable. It is the interest of this study to examine if the affordability and accessibility associated with mortgages is actually beneficial to the firms. In the end, the study reports on the extant role of mortgage on financial outcomes for selected entities in Kenya.

2.2.3 Pecking Order Theory of Financing

Simply, this theory outlines the priority that firms should adopt in making financing choices as coined by Majluf and Myers (1984) in line with costs, safety, information access and ownership dilution. It is structured in light of the concept of symmetry of information that is basic realm in business decision making environment. The theory showcase that different choices of finance have different costs which is dependent on information asymmetry. Thus, the theory characterises sources of finance and thereafter categorises the sources into three broad spectrums namely internal source, debt and equity. Decision on financing, as per pecking order theory follows that order, that is, firms need use funds from within, then get debts and ultimately issue equity as the last option (Yakubu, Kapusuzoglu, & Ceylan, 2021).

There are reasons for the ranking. Firstly, internal funds such as retained earnings, being sourced from within and thus do not have any transaction costs (Onatca, Sefika, Erbas, & Gokhan, 2019). Technically therefore, internal funds are best source of finance for firms and should be used until and unless depleted or are insufficient to cover expenses. The hierarchical rank considers debt as second-best source for financing, basically for two reasons. Firstly, debts do not dilute ownership and secondly, costs for servicing debts, like interest expense are essentially considered as expenses for furtherance of business and thus tax allowed (Yakubu, Kapusuzoglu, & Ceylan, 2021). At the far end, the theory advocates for equity only if it must be done because it invites new owners into the business hampering autonomy of initial promoters. Notably, this theory has many merits. For instance, it offers practical guidelines that can be employed in structuring robust finance strategies as it prioritizes in-house financing, then debts and finally equity (Yuan, 2018).

At the same time, it ranks external financing in reference to capital and safety associated with the financing strategies. Moreover, its use extends to all sectors (Onatca, Sefika, Erbas, & Gokhan, 2019). Nevertheless, it has a few demerits. To start with, this theory assumes that only risk, safety and costs of financing matters. This assumption is elusive as some firms want to have debts to instil positive signalling on stock prices and ensure managers are prudent with resources (Kwaku & Yosuff, 2020). Again, it narrows down to three source of financing while firms can perhaps use modified financing strategies where they have both internal and external capital. Lastly, it misses a critical point of developing a mathematical model for risk and rewards and perhaps establish an optimum portfolio for the various source of financing available in financial markets. (Chimwemwe & McClelland, 2018; Zelia & Caetano, 2015).

In emphasis, this theory underpins the fourth predictor (retained earnings). It aids in getting insights on financing strategies, in respect to costs, benefits and safety. The theory views retained earnings as most safe source of financing. This study entails an empirical test on this tenet. This theory has received wide acceptance in research. For instance, Martinez, Scherger, and Guercio (2019) analysed SMEs capital structure in terms of its compatibility with pecking order theory. In the review, most SMEs were noted to adopt mainstream pecking order theory in financing decisions. In another study, Ahmad and Atniesha, (2018) examined pecking order theory and its impact on SMEs financing in Libya. Results of the study showed that in line with the theory, internal sources of funding are considered beneficial, followed by debts and equity. Use of pecking order theory in this study is because it offers plausible guidelines in financing. For instance, the theory reasons that internal sources are the best, and this has been confirmed by this study.

2.3 Empirical Review

The theme of section 2.3 is to showcase empirical review. In essence, it is an evaluation of global, regional and local research within the contextual perspectives a given research. Typically, it aims at creating and establishing gaps that are not addressed by the research. This part is done for every variable as outlined by objectives.

2.3.1 Private Equity and Financial Performance

Salerno (2019) purposed to evaluate the relationship that exists between family involvement in ownership and performance of private equity backed SMEs. Data was obtained from the databases of the firms established from the 15 old member states of the European Union. It was established that the private equity had a significant relationship to the financial performance of the family owned SMEs as compared to those that had no private equity.

Gatauwa (2022) examined the extent at which private equity affected the performance of firms in the Fintech sector in Kenya. Secondary data from the already carried out similar researches were used to gather data for this study. The link between private equity and financial success in enterprises was shown to be moderated by firm specific variables.

Dhankar and Malik (2016) delved on firm performance as a function of equity dimension. The focus was to assess private equity on firm returns. In this investigation, secondary data was used. Private equity was found to have a substantial relationship with a company's financial performance.

2.3.2 Joint Venture and Financial Performance

Oktaviani and Hendratmi (2020) undertook a discriminant analysis review among insurance firms in Indonesia. In a broad perspective, they examined difference of firm returns against firm traits in joint ventures and Sharia insurers. This study used secondary data from financial reports published between 2012 and 2015. For the study of the data collected, a discriminant analysis test was used. In terms of the Early Warning System's profitability ratios. At the same time, outcome showed that sharia insurers, sharia joint ventures did not exhibit much difference in firm performance. Hence, joint ventures did not necessarily infer higher firm performance.

Nguyen, Larimo and Wang (2019) evaluated the how parent control strategies affect innovation among the international joint ventures. Secondary data was used in this study. Both descriptive and inferential statistics were used for data analysis in this research. The association between innovation strategies and international joint venture performance is moderated by external environmental factors.

Ranabhat (2019) adopted a pooled Ordinary Least Squares (OLS) analysis to attempt to substantiate association between bank factors and firm returns. Information was gathered from the Nepal Rastra Bank's supervisory report and the annual reports of the six banks in question for a period of ten years. It was discovered that the financial performance of joint venture banks had a strong and substantial association.

2.3.3 Mortgage Finance and Financial Performance

Githae (2019) was inspired to investigate the impact of government laws on the relationship between mortgage financing methods and real estate firm performance in Kenya. The sampled respondents self-administered standardized questionnaires, which were used to obtain primary data. Secondary data was gathered from the internet and other researchers' study. The data was analyzed using the ordinary least squares regression model. Mortgage financing procedures were discovered to have a strong association with real estate firm performance.

Abdulrehman and Nyamute (2018) endeavoured to substantiate role of mortgage borrowing on firm performance. They narrowed to banks in Kenya. Secondary data was used to provide observations for variables. Moreover, correlation and regression analysis models were applied to get outputs for statistical interpretation. It was discovered that mortgage interest rates have a large favourable impact on commercial banks' financial performance.

Mang'era (2019) examined the correlation between mortgage interest rates and the financial performance of the mortgage firms in Kenya. Secondary data was processed. Descriptive and inferential statistics were deployed for data analysis. The researcher concluded from the research that size of the bank had a significant impact on the profitability of the firms while interest rates had no significant correlation to the return on assets.

Mwengei and Ipa (2019) focused on real estate firms in Kisumu, with the aim of ascertaining the influence of financing alternatives on the performance of real estate enterprises was assessed. Data was collected from a sample of 97 respondents using questionnaires. The data collected was analyzed using descriptive and inferential statistics. Mortgage finance was discovered to significantly influence performance of real estate businesses.

Ndirangu (2013) was motivated to examine how different forms of mortgages affect the financial performance of mortgage companies in Kenya. Annual reports, journals, periodicals, and financial statements from sampled mortgage institutions were used to compile data. For the examination of the data acquired, SPSS and regression models were used. It was discovered that the types of mortgages and the financial performance of mortgage institutions had a substantial relationship.

2.3.4 Retained Earnings and Financial Performance

Hoang et.al., (2020) were inspired to investigate the link between retained earnings and company performance. For a sample of 37 construction listed businesses, secondary data was acquired from the Hochiminh Stock Exchange, Vietnam. The data was analyzed using descriptive statistics. The impact of retained earnings on the firm's performance was discovered to be beneficial.

Using a sample of seventy five entities Yemi and Seriki (2018) empirically tested role of retained earnings on organisational performance. In respect to relevance of variables, the study related retained earnings and its influence to market performance. Regression outputs manifested that use of retained earnings, at the overall betters firm's organisational performance.

Focusing on credit cooperatives, Waithira and Wepukhulu (2020) examined retained earnings and firm results. The main source of data in this study was financial reports from deposit-taking SACCOs. For data analysis, descriptive statistics were used. It was established that role of internal funds is immense as it betters firm performance, more financial returns.

Pibowei, Odong and Jimoh (2021) delved on influence of retained earnings on the financial performance of selected Nigerian breweries was evaluated. Secondary data sourced from financial records of four brewers. ANOVA, F-test, and T-test statistics indicated that retaining earnings in the capital structure was insufficient to boost firm performance (share performance, return on equity and return on assets).

Thuranira (2014) dealt with firm results in respect to how it is influenced by retained earnings. In this study, secondary data was analysed. For data analysis, regression analysis was used. The researcher discovered that retained earnings and stock returns had an unfavourable connection.

2.3.5 Firm Size and Financial Performance

Focusing on Chinese firms, Li and Chen (2018) inquired on firm traits and company performance. Among the variables examined included firm size and board components like size and diversity. This study relied on secondary data. It was discovered that the positive influence of board gender diversity on business performance may be hampered by the size of the company. Moreover, a smaller firm size better performance where gender diversity was evident.

Delving on automobile entities, Lin, Cheah, Azali, Ho, and Yip (2019) reviewed firm performance against innovation and size. A period of eight years, from 2011 to 2017, was used to analyse data from 163 automobile companies. Findings portrayed a negative association between green innovation and company performance. Moreover, business size was found to moderate the extent of the association.

Dorothy and Edward (2017) were motivated to evaluate the effect of operation practices on company performance for manufacturers, moderating role of firm size in Kenya. Data was collected using self-administered questionnaires among a sample of 180 manufacturing firms. Descriptive statistics, regression and correlation techniques were used for data analysis. It emerged that firm size was a significant moderator between firm traits and company performance.

Focusing on commercial banks in Kenya, Alex and Ngaba (2018) examined firm size and its role on firm performance. Observations for variables were extracted from annual reports. The time scope was five year. It emerged that firm size perfects firm returns. Moreover, larger firms were noted to be profitability in contrast to small firms.

Eyigege (2018) purposed to substantiate on role of business size on the financial performance of Nigeria's deposit-taking banks. To aid with data collection, questionnaires were distributed to a sample of five banks. For data analysis, a pooled OLS regression model was used. Due to diseconomies of scale, it was discovered that business size had a negligible and negative impact on outcome of activities of deposit-taking banks listed on the Nigerian Stock Exchange.

2.4 Conceptual Framework

A pictorial representation of tentative influence of variables on each other is defined a conceptual framework. It is built from expected outcome in respect to literature that is currently available. At the same time, a conceptual framework summarises the content scope of a study in reference to different types of variables. This study has four explanatory variables, one moderating variable and one response variable as illustrated on Figure 2.1

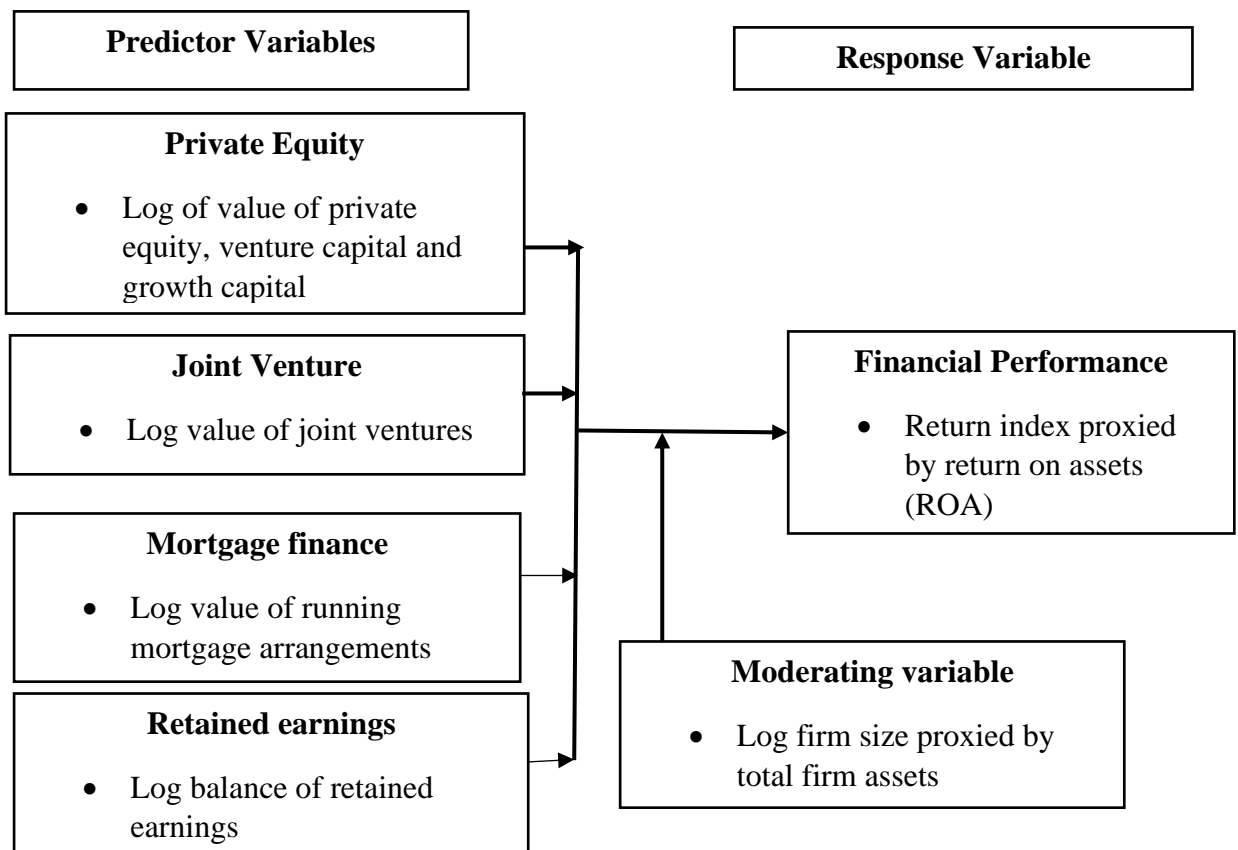


Figure 2: 1 Conceptual Framework

2.5 Summary of Literature Review and Gaps

In summary, this section has critically presented theories that enhance understanding of concepts and in turn relate them to variables. Following theories, is an empirical scrutiny of past studies and research to showcase research gaps. Majorly three gaps were identified, namely theoretical, contextual, and conceptual gaps. Most studies were done out of Kenya which presents contextual gaps. Salerno, 2019; Dhankar and Malik, 2016; Oktaviani and Hendratmi, 2020; Nguyen, Larimo and Wang, 2019; Ranabhat, 2019). Studies done in Kenya, have focused on at most two of the explanatory factors while the current study has four input and further moderates with firm size (Githae, 2019; Mang'era, 2019; Mwengei and Ipa, 2019; Ndirangu, 2013).

2.6 Operationalization of Variables

To operationalise means to relate or link concepts to variables. Moreover, it is a brief process of showcasing how variables are defined, measured and how analysis was done to provide empirical evidence on variables' association. Another importance of a conceptual framework is that it characterises observations for the different variables. Table 2.1 showcases the operationalisation of variables.

Table 2: 1 Operationalisation of Variables

Identity	Nature of variable	Operational definition	Measurement and scale	Type of analysis
Financial performance	Response	Returns of firm activities expressed in financial parameters	Return on assets by dividing net income by total assets. Ratio scale	Panel estimation technique
Private equity	Independent	Capital in form of venture capital, growth capital from project buyouts	Log value of private equity. Ratio scale	Panel estimation technique
Joint venture	Independent	Sharing of projects on equal basis in respect to resources requirements and returns.	Log joint ventures value. Ratio scale	Panel estimation technique
Mortgage finance	Independent	Sale of property on lien basis where credit security is the property	Log mortgages in force at certain balance sheet liabilities. Ratio scale	Panel estimation technique
Retained earnings	Independent	In-house funds appropriated from profits for use in investments	Log retained earnings. Ratio scale.	Panel estimation technique
Firm size	Moderating	Resource ownership in both current and non-current assets	Log value of assets, Ratio scale	Panel estimation technique

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section entails a discussion of key techniques that aided in providing valid and reliable answers to research questions. It embarks on presenting procedures for data sourcing and analysis to elucidate on research problem. Thus, it commences with a discussion of research design followed by identification of target population and sample size. Moreover, data instrumentation and data sourcing procedure is defined. At the end of this section is a vivid presentation of data analysis method to be adopted.

3.2 Research Design

A framework that at the overall identifies key components of a research and how the components are integrated to provide reliable solutions to research problem is known as a research design (Lewis, 2015). This study is grounded on descriptive research design in a quantitative approach. Typically, a quantitative descriptive design focuses on collection of data as is in natural settings as opposed to experimenting and scrutinize the data to substantiate the nature and significance of associations among variables (Xie, 2016).

At least two reasons make this descriptive design to be a well-crafted framework that is fit for this study. Firstly, this study aims at defining the relationship that exist between selected financing strategies and firm financial outcomes. In so doing, data was sourced from the entities and the resultant relationship explained. The relationship could be direct or inverse, statistically significant or non-significant. Secondly, in descriptive analysis, observations for variables and concepts are collected without any control experimentation.

As such, it takes a positivism philosophy as it hypothetically opine that there is a chance of variables being correlated as they are. Again, in this study, variables were operationalised and measured in quantitative terms and be extracted from firm annual reports. Lastly, descriptive design permits model development in which an explanatory relationship can be established. This study focused on relating private equity, mortgage finance, retained earnings on firm performance. The existence or absence of a causal effect between the variables was established by use of regression analysis.

3.3 Target Population and Sample Frame

Considering that target population depicts a universe of all units that results of a research are generalised for, the target population of this study were all firms in real estate sector in Kenya. Judith and Burke (2017) notes that target population represents entire units that conclusions and generalisations applied to. Real estate firms in Kenya exists in many legal forms such as limited companies, sole proprietorships, subsidiaries of savings and credit cooperatives, commercial banks' product lines and mortgage firms among others. The target population for this study comprise of 55 member- firms of Kenya Property Developers Association.

Simply, a sample frame is subset of target population with identifiable number of units. At the same time, a sample frame contains a list of units from which a sample is drawn. One key feature of a sample is its clarity in inclusion criteria. For this study, the sample frame were all 55 incorporated real estate companies that are active members and who are in good standings of Kenya Property Developers Association. This list is annexed to this study as Appendix B. A census of all the 55 member was undertaken in data collection

Table 3: 1 Sample Frame

Sample frame	Number of real estate firms
Members of KPDA in good standing as at April 2022	55

Source: KPDA (2022)

3.4 Instrumentation and Data Collection Procedure

In this study, secondary data was collected from real estate records. In particular, a secondary data sheet in form of Excel was used to record and collate observations for variables. Data was collected for a period of six years, from 2015 to 2020. Moreover, the observations were firm-specific thus building a panel data set. A panel data has time series properties and longitudinal properties since observations are collected for different periods (t) and for different firms (i). Thus, it offers more explanations in variability of response variables across individual entities or within groups. Moreover, it is more efficient in predicting variables' variability and thus tends to minimise estimation biases that are common with other model like pure cross-sectional analysis.

The procedure for collecting data largely entailed three phases. Firstly, authority from NACOSTI and KCA University was obtained. Secondly, annual reports and audited financial statements was gathered and summarised in Excel to collate a panel data. Lastly, observations were derived as defined in the operational framework. All variables were ratio scale as true zeroes existed in the data. The variable names and labels are: Private Equity (PE) was measured as ratio of value of private equity, Joint Venture (JE) was measured as ratio of Joint ventures value divided. Mortgage Financing (MF) was proxied by value of mortgages in force at certain balance sheet date and financial performance by return on assets (ROA) measured as a ratio of retained earnings. Firm size (FS) was proxied as value of assets. It is envisioned that data collection took a period of four weeks.

3.5 Data Analysis Techniques

This study proposes to adopt panel estimation techniques in substantiating role of financing strategies on firm performance. The correct method must be selected to achieve valid and reliable estimates. (Tobi & Kampen, 2018). A panel data regression is a model that combines time series and longitudinal approaches to deduce more variability in data.

3.5.1 The Econometric Model

This study has four predictors, one moderating variable and one response variable. The analytical model is specified as shown on Equation (2).

$$FP = f(PE, JV, MF, RE) \quad (2)$$

Where FP is financial performance, PE is private equity, JV is joint venture, MF is mortgage financing and RE is retained earnings. In a panel approach, the econometric model is specified as shown on Equation (3).

$$Y_{it} = \beta_0 + \beta_1 X1_{it} + \beta_2 X2_{it} + \beta_3 X3_{it} + \beta_4 X4_{it} + \varepsilon_{it} \quad (3)$$

Where Y is financial performance, X1 is private equity, X2 is joint venture, X3 is mortgage financing and RE is retained earnings, ε is error term, i individual firm and t is time period. β_1 is financial performance void of model predictors and β_2 to β_4 coefficients of predictors in their respective order.

The moderated equation was obtained by forming interaction terms between each predictor and firm size. Moderation was conducted to investigate whether firm size has a significant role influencing the already existing relationship between predictors and financial performance. The model following introduction of interaction term (moderator effect) is specified as shown on Equation (4)

$$Y_{it} = X * FS1_{it} + X * FS2_{it} + X * FS3_{it} + X * FS4_{it} + \varepsilon_{it} \quad (4)$$

3.6 Model Specification

In panel data analysis, model specification is an integral procedure of data analysis as it serves at least two purposes. Firstly, it forms the basis of validating model selection and efficacy of results from the estimated model. In this study, two specification evaluation was done; exploratory data analysis and Hausman's test for endogeneity of unique errors.

3.6.1 Exploratory Data Analysis

The response variable (financial performance) was examined for presence of outliers and time related fixed effects. This was graphically done by use spaghetti plots to visualise the response variable. Where response variable manifests time related fixed effects and or many outliers, pooled OLS is preferred to panel data regression (Cox, 2021). Both single and overlay plots were used to visualise the data for financial performance of real estate companies. In absence of many outlier or time related effects, panel estimation techniques is followed.

3.6.2 Hausman's Test for Endogeneity

A panel data analysis is subjected to an augmented regression test for endogeneity in order to aid in making a decision on whether to use random effects model (RE) or fixed effects model (FE). Simply, random effects model assumes existence of random and unpredictable values in the model in contrast to fixed effect model that assumes non-random features of at least some parameters in the model (Janot, Vandonjon, & Gaitier, 2016). FE is adopted where variables change at constant rates. Thus, FE model characteristically suffer from one main limitation; they do not control for variables that change over time. (Bell & Jones, 2015).

In contrast, random effects model accounts for individual specific effects that exhibit random variations over time although they may not be expressly measurable in panel data (Baltagi & Liu, 2015). This study adopts Hausman's test to select the panel model to use. Simply, Hausman test null hypothesis is to use random effects model. The null hypothesis is that there is no significant correlation between unique residuals and regressors in predicted model.

3.7 Assumptions of Regression Analysis

Regression analysis draws from linear equation modelling whose efficacy is high when some assumptions are met. Regression model estimates are acceptable if the following assumptions are not violated.

3.7.1 Heteroskedasticity

Where residuals do not exhibit constant variance across combinations of predictors and response variables, the situation is termed as heteroskedasticity (Halunga, Orme, & Takashi, 2017). Essentially, residuals or error terms are expected to be homoscedastic by having equal variance or scatter from line of best fit. Thus, residuals should conform to homogeneity of variance for regression estimates to have high efficacy. This study used Breusch-Pagan test to examine existence or absence of same finite residual variance.

Rule of thumb is that a BP test statistic whose p-value is less than 0.05 leads to rejection of null hypothesis for data set being void of homoscedastic. The null hypothesis tested here is that regression residuals are not distributed with equal variance. The hypothesis is rejected if the p-value is less than 0.05.

3.7.2 Serial Correlation

Where a given variable is correlated with lagged version of itself, the phenomenon is termed as serial correlation (Qingfei, Misaki, Ben, Chung, & Jerzy, 2020). It means that serial correlation happens when observations for variables follows a pattern from past observations in different time points. It is also known as autocorrelation as it infers a situation where observations for a variable are related to past values. This is common problem with panel data and may distort model estimates, for instance by yielding a higher R^2 than it should be in absence of it (Wursten, 2018). This study used Wooldridge Test to verify this assumption. The null hypothesis is that there is no first order autocorrelation.

Presence of either first order autocorrelation or heteroskedasticity or both does not lead to a methodology collapse in panel estimation. Rather, there are remedies to reduce the violations such as using first differences in regression or transforming observations into natural logarithms. Alternatively, panel corrected standard errors (PCSE) method may be used. One such method is Prais Winstein panel regression that this study considered if the two assumptions won't be met (Ling, Tsay, & Yang, 2021; Liao, Choi, & Bai, 2021).

3.7.3 Multicollinearity

Multicollinearity occurs when input factors (predictors) are materially correlated with each other (Kim, 2019). Multicollinearity, therefore, is a situation where there is a high degree of linear relationship between a predictor with another predictor or predictors. In turn, this significantly harms model precision which erroneous p-value are achieved leading to wrong conclusions. The precision of estimates is high where predictors are independent of each other. Moreover, it can make some predictors to be insignificant while in real sense ought to be significant and vice versa (Kalnins, 2018).

This study used two complementary statistics to gauge strength of multicollinearity: tolerance and variance inflation factor. Variance inflation factor (VIF) depicts the amount of collinearity. Tolerance is reciprocal of VIF. Typically, VIF of less than 10 with tolerance of more than 0.1 is permitted although a VIF of less than 4 with tolerance of more than 0.25 is most profound (Noora, 2020; Lavery, Acharya, Sivo, & Xu, 2019; Ullah, Aslam, Ahmed, & Altaf, 2019).

CHAPTER FOUR

DATA ANALYSIS, FINDINGS, AND INTERPRETATION

4.1 Introduction

Data analysis was done using Stata software whose output is presented and interpreted in this section. This chapter is sectioned into three main parts namely descriptive statistics, exploratory data analysis and model fitting. Further towards the end of the chapter results of hypotheses testing are also presented.

4.2 Descriptive Statistics

This study had four predictors namely private equity, joint venture, mortgage finance and retained earnings. The moderating variable was firm size that was proxied by total assets. On the other hand, the outcome factor was financial performance that was proxied by return on assets. The descriptive statistics for the variables are as shown on Table 4.1 and Table 4.2

Table 4: 1 Descriptive Statistics for Financial Performance

Variable	Mean	Std. Dev.	Min	Max	Observations
roa overall	.2561912	.6144752	-1.258466	4.989631	N = 240
between		.5364589	-.1760141	3.198791	n = 40
within		.3095355	-1.67834	2.047031	T = 6

Source: Author's estimation (2022)

Drawing from Table 4.1, mean return on asset was 0.256 with a standard deviation of 0.615 and the best performance was identified to be 4.99. Some firms were in a loss position as shown by the minimum return on asset of -1.26. These results indicates that real estate firms that were sampled had low performance. Further, it the high standard deviation and between the companies indicates high volatility in terms of performance.

Equally, the volatility of firm returns within the companies was lower than that of between firms which evidences disparity in returns on assets. Table 4.2 shows results for descriptive statistics of predictors and firm size measures in terms of values as at the balance sheet date for the six year period under consideration.

Table 4: 2 Descriptive Statistics for Independent Variables

```
. xtsum LogMortgage_Finance Log_Retained_Earnings Log_Joint_venture Log_Private_Equity
```

Variable	Mean	Std. Dev.	Min	Max	Observations
LogMortgage overall	17.79099	2.192933	12.74312	22.91354	N = 240
between		1.70345	14.66537	21.33764	n = 40
within		1.402824	12.69367	21.72043	T = 6
Log_Re~s overall	18.2524	1.990833	13.7087	22.64521	N = 236
between		1.870778	15.14001	22.50847	n = 40
within		.7055103	15.04124	19.89047	T-bar = 5.9
Log_Jo~e overall	18.81529	2.25367	13.31972	25.09122	N = 240
between		1.704795	15.5712	22.13192	n = 40
within		1.494491	13.62995	22.91805	T = 6
Log_Pr~y overall	17.57611	2.386686	11.62043	24.14224	N = 240
between		1.996882	14.23936	22.17297	n = 40
within		1.338714	12.76142	20.88477	T = 6

Source: Author's estimation (2022)

This study had four predictors. Mortgage finance had a mean of 17.79 with a standard deviation 2.19. This indicate high disparities of mortgage finance among real estate firms. The highest mortgage value was 22.91 and the lowest was 12.74. It emerged that mean retained earnings was 18.25 with a standard deviation of 1.99 showing high volatility in internal funding sources. Best retained earnings recorded was 22.64 and the worst retained was of 13.70. This result infers use of internal funds for financing activities was immense among the sampled real estate firms.

Mean private equity funds was 17.57 whose standard deviation was 2.38 indicating high volatility. Lowest recorded private equity was 11.62 and the highest private fund for the period among the real estate entities were 24.14. Further results showed that joint ventures were the most common financing strategies adopted by firms in Kenya as this component of financing had the highest average of 18.81 with a standard deviation of 2.25. This implies that joint ventures are the most commonly strategies used by firms probably because of shared risks and returns enabling undertaking of huge investments projects. The mean for firm size was 18.60 with a standard deviation of 1.41 which evidences existence of large and small sized real estate firms in Kenya. The largest firm had a total asset base of 21.49 and the smallest had total asset of 15.70. These summary statistics indicates that there were variations in observations for the variables within the firms and in overall.

4.3 Exploratory Analysis

A decision was to be made in respect to the best model to use in presentation of results. This essentially tested the movement of financial performance (outcome variable) in order to elucidate on whether a panel data analysis or simply use of pooled ordinary least squares regression was most preferred. This was done by use of graphical methods, where the observations for the outcome variable was subjected to single plots and overlain graphs as shown on Figure 4.1 and Figure 4.2 respectively.

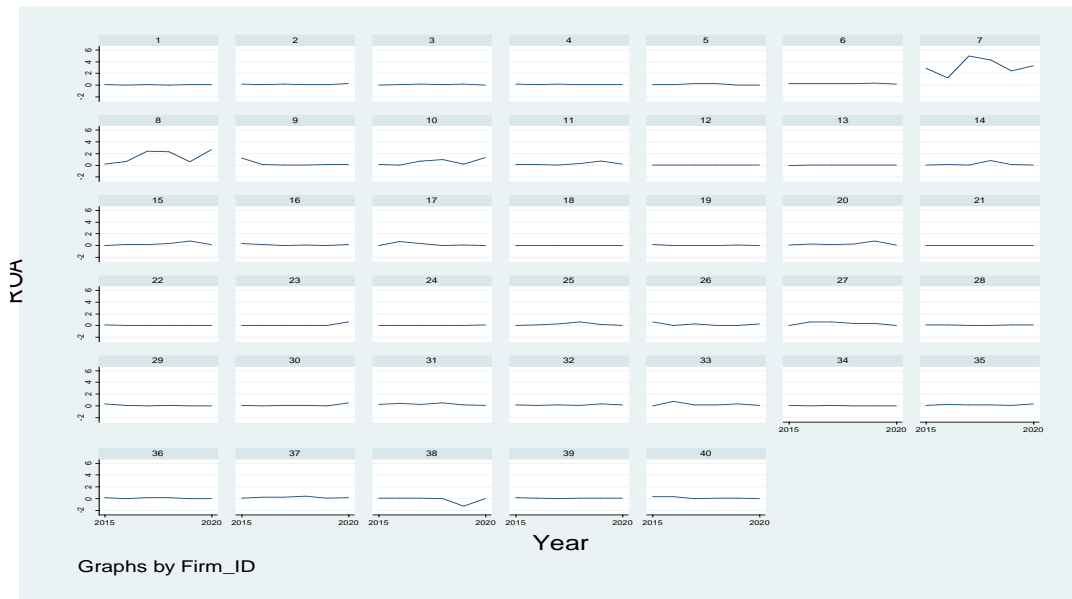


Figure 4: 1 Single Plot for ROA

Source: Data Analysis Output (2022)

Movements on Figure 4.1 characterises data as fit for use in panel regression because there is absence of outliers in measure of financial performance. The trend plot further portrays non-existence of biased changes in financial performance that could otherwise render the results of panel estimate spurious.

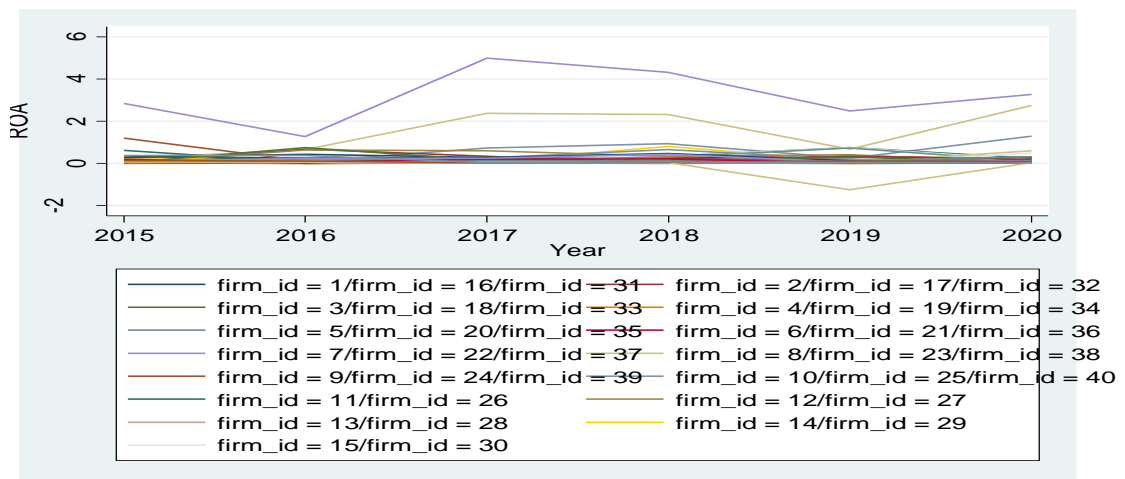


Figure 4: 2 Spaghetti Plot

Source: Data Analysis Output (2022)

The trend shown on spaghetti plot on Figure 4.2 shows that financial performance did not deviate much within the companies across the period of data collection which implies absence of time related fixed effects. At the same time, the y-intercept for the ROA for most firms are within the same range which characteristically suggest that there could be random effects in the panels. However, this does not expressly qualify the data analysis to be done by use of RE model, but rather distances the set of data from serial correlation between panels and input variables.

4.4 Diagnostic Tests

Having noted that the data set was fit for panel estimation, several diagnostic tests were done. These included correlation analysis, serial correlation, multicollinearity and heteroskedasticity.

4.4.1 Correlation Analysis

Table 4.3 has results for correlation matrices obtained when the four predictors and the dependent variables were tested for correlation.

Table 4: 3 Matrix of Correlations

Variables	(1)	(2)	(3)	(4)	(5)
(1) Mortgage	1.000				
(2) Private_Equity	0.169	1.000			
(3) Retained_Earnings	0.176	0.291	1.000		
(4) Joint_Venture	0.139	0.387	0.089	1.000	
(5) Return_on_Asset	0.328	0.480	0.222	0.232	1.000

Source: Data Analysis Output (2022)

From Table 4. 3, none of the predictors had high correlation with other predictors which indicated that all variables could be used in the same estimation model. Ideally, where correlations do not exceed 0.8, it indicates uniqueness of independent variables.

Strong correlation impairs results of regression estimates. In this study, the four input variables were thus used in estimating regression function linking financing strategies and financial performance.

4.4.2 Multicollinearity

Multicollinearity occurs when input factor (predictors) are materially correlated with each other. This was tested by used of Variance Inflation Factor whose outcome is shown on output Table 4.4

Table 4: 4 Variance Inflation Factor

Variable	VIF	1/VIF
Private Equity	1.285	.778
Joint Venture	1.185	.844
Retained Earnings	1.114	.898
Mortgage	1.056	.947
Mean VIF	1.16	.

Source: Data Analysis Output (2022)

The results of multicollinearity on Table 4.4 shows that private equity had a vif of 1.285 and tolerance of 0.778, joint venture had vif of 1.185 with tolerance of 0.844, retained earnings had a vif of 1.114 and tolerance of 0.898 and mortgage finance had vif of 1.056 and tolerance of 0.947. Mean VIF was 1.16. This outcome showed that none of the predictors materially correlated with each other. In conclusion, all predictors were independent of each other as VIF were less than 10 and tolerance more than 0.1.

4.4.3 Serial Correlation

Where a given variable is correlated with lagged version of itself, the phenomenon is termed as serial correlation. This study used Wooldridge Test to verify this assumption whose result is shown on Table 4.5

Table 4: 5 Wooldridge Test for autocorrelation

Wooldridge test for autocorrelation in panel data
H0: no first-order autocorrelation
F(1, 39) = 4.601
Prob > F = 0.0382

Source: Data Analysis Output (2022)

Null hypothesis (H₀): no first order autocorrelation.

Rejection criteria: reject null hypothesis, if p-value<0.05, otherwise alternative hypothesis.

Conclusion. Null hypothesis rejected and it is concluded that there was serial correlation in the data set. Presence of either first order autocorrelation or heteroskedasticity or both does not lead to a methodology collapse in panel estimation. Rather, there are remedies to reduce the violations such as using first differences in regression or transforming observations into natural logarithms. Alternatively, panel corrected standard errors (PCSE) method may be used. One such method is Prais Winstein panel regression that this study considered if the two assumptions won't be met.

4.4.4 Heteroskedasticity

Where residuals do not exhibit constant variance across combinations of predictors and response variables, the situation is termed as heteroskedasticity. This study used Breusch-Pagan test to examine existence or absence of same finite residual variance.

Table 4: 6 Modified Wald Test for Heteroskedasticity

Modified Wald test for groupwise heteroskedasticity
in fixed effect regression model
H0: $\sigma(i)^2 = \sigma^2$ for all i
chi2 (40) = 2.2e+08
Prob>chi2 = 0.0000

Source: Data Analysis Output (2022)

Null hypothesis (H₀): residuals are not distributed with equal variance.

Rejection criteria: reject null if, p-value<0.05, otherwise accept alternative hypothesis.

Conclusion: Null hypothesis rejected. This means that the data set had heteroskedasticity problem and therefore a modified method was adopted as shown later in this report.

4.4.5 Hausman's Test for Endogeneity

The model was subjected to an augmented regression test for endogeneity in order to aid in making a decision on whether to use random effects model (RE) or fixed effects model (FE). This study adopts Hausman's test to select the panel model to use. Simply, Hausman test null hypothesis is to use random effects model. The observations for the predictors were transformed into natural logarithms to base 10 testing for Hausman.

Table 4: 7 Hausman (1978) specification test

```
. hausman fe re
```

	Coefficients		(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
	(b) fe	(B) re		
RE	.1184828	.1154616	.0030212	.0157884
JV	.0208945	.0253278	-.0044333	.0037794
PE	.0202219	.0261793	-.0059574	.0049924
FS	-.114675	-.1155978	.0009228	.0289559

b = consistent under H₀ and H_a; obtained from xtreg
B = inconsistent under H_a, efficient under H₀; obtained from xtreg

Test: H₀: difference in coefficients not systematic

$$\text{chi2}(4) = (b-B)' [(V_b-V_B)^{-1}] (b-B)$$

$$= 3.16$$

Prob>chi2 = 0.5320

Source: Data Analysis Output (2021)

Null hypothesis (H₀): there are no significant correlation between unique residuals and regressors in predicted model.

Rejection criteria: reject H_0 , if p-value < 0.05 , otherwise adopt alternative hypothesis (Yacine & Dacheng, 2018).

Conclusion: use of random effects model is appropriate.

4.5 Model Fitting

The result for Hausman test showed that the appropriate model was RE model. However, the data set did not meet the assumption of absence of serial correlation and equal variance of residuals. Therefore, RE model could not be used but a random effect generalised least square model (RE GLS regression). The model was panel corrected standard errors whose results are shown on Table 4.8. The results were obtained by regressing Return on Assets against logs of the predictors.

Table 4: 8 RE GLS AR 1 Regression Estimation and Coefficients

```

RE GLS regression with AR(1) disturbances      Number of obs      =      159
Group variable: firm_id                      Number of groups   =      40

R-sq:  within = 0.1216                      Obs per group: min =      3
       between = 0.1668                      avg =      4.0
       overall = 0.1534                      max =      4

corr(u_i, Xb) = 0 (assumed)                  Wald chi2(5)       =      22.69
                                              Prob > chi2        =      0.0004

-----+----- theta -----+-----
min      5%      median      95%      max
0.6114   0.6565   0.6565   0.6565   0.6565

```

ROA	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
Mortgage_Finance	.0177821	.0221098	0.80	0.421	-.0255522	.0611164
Retained_earnings	.0955645	.0376511	2.54	0.011	.0217696	.1693594
Joint_venture	.0313563	.0185342	1.69	0.091	-.0049701	.0676827
Private_Equity	.0288859	.021006	1.38	0.169	-.012285	.0700568
_cons	-2.899256	.6995682	-4.14	0.000	-4.270385	-1.528128
rho_ar	.0179571	(estimated autocorrelation coefficient)				
sigma_u	.45936857					
sigma_e	.33153336					
rho_fov	.65751706	(fraction of variance due to u_i)				

modified Bhargava et al. Durbin-Watson = 1.965935
Baltagi-Wu LBI = 2.4960055

Source: Data Analysis Output (2022)

The economic model had been specified as follows

$$Y_{it} = \beta_0 + \beta_1 X1_{it} + \beta_2 X2_{it} + \beta_3 X3_{it} + \beta_4 X4_{it} + \varepsilon_{it}$$

Where X1 is private equity, X2 is joint venture, X3 is mortgage financing and RE is retained earnings, ε is error term, i individual firm and t is time period. β_1 is financial performance void of model predictors and β_2 to β_4 coefficients of predictors in their respective order. Where on fitting the coefficients, the model was established to be:

$$Y_{it} = -2.90 + 0.029X1_{it} + 0.031X2_{it} + 0.018X3_{it} + 0.096X4_{it} + \varepsilon_{it}$$

Where -2.91 is ROA representing financial performance of real estate companies in absence of the study variables, 0.029 is the increase in financial performance of real estate firms attributed to an increase on 1 unit of private equity, 0.031 is the increase in financial performance of real estate companies in response to an increase in 1 unit of joint venture, 0.018 is the increase in financial performance attributable to 1 unit increase in mortgage financing and 0.096 is increase in financial performance attributable to an increase in retained earnings by 1 unit.

The R^2 was 0.1534 which indicated that 15.34 % of volatility in financial performance, proxied by return on assets, for real estate companies in Kenya is attributable to changes in financial options. This influence is statistically significant, given that the P-value for the RE GLS regression model was 0.0004 which implied significance. Further, the results showed that 84.66 % of volatilities in financial performance of real estate companies is because of other variables, other than mortgage finance, joint venture, private equity and retained earnings. The most contributing factor was noted to be retained earnings, possibly because use of retained earnings is cost effective. Ploughing back of profits into business does not require much paperwork, management decision making and does not have interest on it.

Moderating Effect of Firm Size on Financial Performance

The study sought to establish moderating effect of firm size on the relationship between financing components and financial performance. The results are presented on Table 4.9

Table 4: 9 Moderated RE GLS regression

RE GLS regression with AR(1) disturbances	Number of obs	=	159
Group variable: firm_id	Number of groups	=	40
R-sq: within = 0.1287	Obs per group: min =		3
between = 0.2968	avg =		4.0
overall = 0.2579	max =		4
corr(u_i, Xb) = 0 (assumed)	Wald chi2(10)	=	33.41
	Prob > chi2	=	0.0002

----- theta -----				
min	5%	median	95%	max
0.5526	0.6021	0.6021	0.6021	0.6021

ROA	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
Mortgage_Finance	-.0809158	.3202313	-0.25	0.801	-.7085577	.5467261
Retained_earnings	.6108751	.5944985	1.03	0.304	-.5543206	1.776071
Joint_venture	-.3189982	.2695393	-1.18	0.237	-.8472854	.2092891
Private_Equity	.3523411	.3139601	1.12	0.262	-.2630093	.9676915
FS	.1305106	.523944	0.25	0.803	-.8964007	1.157422
Mortgage_interaction	.0046559	.0170672	0.27	0.785	-.0287952	.038107
Retained_Interaction	-.0240463	.0308638	-0.78	0.436	-.0845383	.0364456
Joint_V_Interaction	.0193673	.0144973	1.34	0.182	-.009047	.0477816
Private_E_interaction	-.0168172	.0169601	-0.99	0.321	-.0500584	.016424
_cons	-6.685565	10.06343	-0.66	0.506	-26.40953	13.0384
rho_ar	.01522285	(estimated autocorrelation coefficient)				
sigma_u	.39739283					
sigma_e	.34079732					
rho_fov	.5762199	(fraction of variance due to u_i)				

modified Bhargava et al. Durbin-Watson = 1.9720337
 Baltagi-Wu LBI = 2.4997494

Source: Data Analysis Output (2022)

Results on Table 4.9 indicates that the R² increased from 0.1534 to 0.2579 and prob > chi2 was 0.0002 showing that the model improved in terms of significance. Therefore firm size moderated the relationship between financing components and financial performance.

4.6 Hypothesis Testing and Discussion of Findings

The first hypothesis was H_{o1} Private equity has no significant association with financial performance of real estate firms in Kenya. The results on Table 4.8 reveal that the coefficient was as $\beta_1=0.029$, ρ -value 0.169 which is more than 0.05 which implies that relationship was statistically insignificant therefore this hypothesis failed to be rejected. This means that private equity affects firm financial performance positively but not significantly. Private equity is a modern way of funding activities that is cheaper than traditional debts. It is for this reason that it has a positive effect on financial wellbeing of realtors. This outcome is in congruency with results of Salerno (2019) who equally delved in substantiating role of private equity on firm returns and realised that PE boosts financial performance. The results also agrees with those of Dhankar and Malik (2016) who established that firms that had adopted private equity as source of finance exhibited better financial performance than those that did not.

The second hypothesis was H_{o2} Joint venture has no significant effect on financial performance of real estate firms in Kenya. The results on Table 4.8 reveal that the coefficient was $\beta_2=0.031$, ρ -value 0.091 which is more than 0.05 which implies that relationship was statistically insignificant therefore this hypothesis failed to be rejected. This means that joint venture affects firm financial performance positively but not significantly. Joint venture is a collaboration between firms to undertake capital intensive projects. For this reason, joint ventures enable firms to enter into markets where it would not be possible if they entered alone. This aids in risk sharing and can result into synergies that occasion better performance.

This outcome is opposite to what Oktaviani and Hendratmi(2020) found in Indonesia as they noted that joint venture delayed projects thus leading to poor performance. However, similar results were noted by Nguyen, Larimo and Wang (2019) who revealed that joint venture boosts financial performance but does so moderately. Also, Ranabhat (2019) found out that joint venture boosts performance.

The third hypothesis was ***H_{o3}*** there is no significant association between mortgage and financial performance of real estate firms in Kenya. The results on Table 4.8 reveal that the coefficient was $\beta_3=0.018$, ρ -value 0.421 which is more than 0.05 which implies that relationship was statistically insignificant therefore this hypothesis failed to be rejected. This means that mortgage finance affects firm financial performance positively but not significantly. Mortgage funding enables sharing of risks between property buyers and property sellers where the security is the property. This makes real estate products accessible and affordable to customers who do not have other forms of collateral. Mortgage increases volume of business for a real estate firms which ceteris paribus boosts financial performance. This results are in congruent with those of Abdulrehman and Nyamute (2018) who noted that mortgage creates an expanded market for real estate products. Additionally, Ndirangu (2013) discovered that the types of mortgages and the financial performance of mortgage institutions had a substantial relationship.

The fourth hypothesis was ***H_{o4}*** Retained earnings has not significant effect on financial performance of real estate firms in Kenya. The results on Table 4.8 reveal that the coefficient was $\beta_4=0.096$, ρ -value 0.011 which is less than 0.05 which implies that relationship was statistically significant therefore this hypothesis was rejected. This means that retained earnings affects firm financial performance positively and significantly.

Use of retained earnings is more effective as internal funds have no costs. Internal sources of funds are crucial in establishing stable firms and therefore leading to improved firm performance. Other studies that have found out that retained earnings boosts financial performance (Hoang et.al., 2020; Yemi & Seriki,2018: Pibowei, Odong & Jimoh,2021).

The fifth hypothesis was ***H_{o5}*** Firm size has no significant moderating effect on the relationship between financing strategies and financial performance of real estate firms in Kenya. The results on Table 4.9 revealed that the model significance had a p-value of 0.0002, R^2 is 0.2579 indicating that the moderated model accounted for 25.79 % of variations in financial performance (measured by return on assets). Equally, the moderated model showed that there was a negative effect of both mortgage finance and joint venture, which was a departure from the unmoderated model that showed all variables were significant. Similarly, all predictors did not affect return on assets in a significant manner and which was a departure from the original model in which retained earnings was found to boost financial performance for real estate companies.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter summarises findings in respect to objectives that had been set out on the first chapter. This section presents findings, conclusions, recommendations, limitations and suggestions for further studies

5.2 Summary of Findings

The study sought to elucidate on role of financing components on financial performance of real estate firms. Whilst, 55 firms were targeted, 40 real estate firms were reached which gave 240 observations as data was set out in panel format. Descriptive statistics indicated that retained earnings was most common financing component. Regression analysis was done by use of RE GLS model in which it was found out that 15.34 % of variations in financial performance was influenced by changes in private equity, joint venture, mortgage finance and retained earnings. The model too was significant. The outcome for each objective is presented in the next section.

5.2.1 Private Equity and Financial Performance

This study found out that private equity has a positive influence on financial performance of real estate companies in Kenya. Further, it emerged that private equity has insignificant role on financial performance. Private equity entail use of strategic investors for specific projects without exchange of ordinary shares and this method is cheaper than use of conventional debts. Private equity funds enables pooling of funds to facilitate undertaking of huge investments. It is for this reason that results portrayed that firms benefited from use of private equity in investments.

5.2.2 Joint Venture and Financial Performance

The study found out that there is a positive correlation between joint venture and financial performance of real estate companies in Kenya. It emerged that joint venture has statistically insignificant association with financial performance. Joint venture entail sharing of project costs and returns between the real estate company and capital contributor in which obligations and returns are shared equally. This improves risk management among firms and equally benefits real estate as it enables undertaking risky projects which could be possibly done by a single firm.

5.2.3 Mortgage Finance and Financial Performance

This study found out that mortgage finance too has a positive effect on financial performance of real estate companies in Kenya. The relationship between the two variables was statistically insignificant. It meant that use of mortgage arrangements boosts firms' returns leading to good performance. Mortgage finance entails use of buyers' funds to fund projects. This in essence makes real estate products accessible and affordable to buyers who may not have any other form of collateral other than the product they purchase under mortgage.

5.2.4 Retained Earnings and Financial Performance

The study found out that retained earnings have a positive relationship with financial performance of real estate companies in Kenya. It further emerged that retained earnings have statistically significant effect on financial performance. Use of retained earnings to fund projects is cost effective as it does not have interests on it, it does not require application as it appropriation of profits. Therefore, a firm with more retained earnings is likely to achieve superior performance than the one that uses debts to fund its investments activities.

5.2.5 Moderating Effect of Firm Size on Relationship between Financing Options and Financial Performance

The study found out that firm size had moderating effect on the relationship between financing options and financial performance for real estate companies in Kenya. This is because the R^2 for moderated model was 0.2579, p-value 0.0002 that was lower than that of unmoderated equation that was 0.1534, p-value 0.0004. Also, in absence of firm size interaction, all variables had positive effect on financial performance while on moderating with firm size, the relationship between mortgage finance and joint venture on financial performance become negative. Further, in terms of significance of each predictors on financial performance, none of the factors in the moderated model had significant role which was a departure from the original model in which retained earnings had a significant positive association with financial performance. This indicates that firm size does change the nature of role of private equity, joint venture, mortgage and retained earnings on financial performance of real estate firms in Kenya.

5.3 Conclusions

This study concluded that financing options are significant elements in financial performance of real estate companies in Kenya. This is because, the model linking financing components and financial performance was significant. Secondly, the study concluded that all components, that is, private equity, joint venture, mortgage finance and retained earnings have positive role on financial performance. This means an increase in usage of these four components boosts financial performance as measured in return on assets. However, of the four only retained earnings has significant influence on financial performance of real estate companies in Kenya. This means that the most strategic component to focus on is retained earnings as this can enhance performance of real estate companies than any of the other variables examined in this study.

The study further concluded that firm size moderated the relationship between financing strategies components and financial performance. The moderated equation accounted for a higher variation in financial performance for realtors. Also, the significance of variables was negated upon moderation.

5.4 Recommendations

This study made the following four recommendations. To start with, real estate firms should prioritise use of retained earnings in funding projects in line with the pecking order theory as it emerged that retained earnings has a positive and significant effect on financial performance. Real estate companies should use plough more profits into the business in order to increase financial performance.

Secondly, real estate firms should enter into strategic joint ventures with other firms in order to undertake large projects. Large projects earn more income, *ceteris paribus*. Equally, joint venture enable undertaking of risky but profitable projects that firms may not be able to undertake on their own. Moreover, joint venture enables firms to access new technologies, knowledge, new markets and distributions mechanisms which in confluence can enhance performance.

Thirdly, real estate firms in Kenya should use mortgage finance to fund projects as this can increase their financial performance. Mortgage finance makes real estate affordable and accessible to those without other form of collateral. This improves business of the companies thus boosting sales and financial performance.

Lastly, the study recommends that firms should use private equity to fund activities. Private equity funds provide funds to real estate firms without interfering with their independence and does not lead to dilution of ownership. Instead, private equity offers investment advisory, experience and enhances the strength of real estates in undertaking investments activities.

5.5 Limitations of the Study

This study has three major limitations. The study sampled real estate firms and this meant that sample biases could not be fully eliminated. The results could be different if a census of all real estate firms was done. Secondly, the study used panel estimation methodology in which the historical observations were sourced from financial reports of the selected companies. The reports were assumed complete and up to date. Lastly, the results may not be applicable to other firms not included in the study and data validation faced a bottleneck as real estate companies are not regulated in Kenya and therefore, it was difficult to authenticate the accuracy of the figures presented by the finance managers.

5.6 Suggestions for Further Research

This study intended to relate financing strategies and financing options of real estate companies in Kenya. The study used secondary data and it revealed that financial options played a role on financial performance. A similar study can be done using primary data to compare and contrast results. In addition, another study can be done among non-members firms of KPDA in order to have more results on the themes examined in this study.

Lastly, it is true to suffice that financial performance is not only dependent on financial strategies, other factors can play a role too and therefore a study should be done whose model includes other firm-specific factors such as capital structure and liquidity on top of financing components examined in this study.

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APPENDICES

Appendix A: Data Recording Sheet

Name of Corporation.....

All amounts in Kenya shillings.

Year	Private Equity	Joint venture	Mortgage value	Retained earnings	Total assets	Net income
2015						
2016						
2017						
2018						
2019						
2020						

Appendix B: Sample Frame

1. Wood Products (K) Ltd
2. Vishwa Developers Ltd
3. Unity Homes Ltd
4. Tilisi Developments Ltd
5. The GoDown Arts Centre
6. The Combined Warehouses Ltd
7. Tatu City Ltd
8. Superior Homes Kenya Ltd
9. Soma Properties Ltd (Sarit Centre)
10. Sohail Developments Ltd
11. Sky Management/ SJR Properties Ltd
12. Sayani Investments Ltd
13. Sanghani Investments Ltd
14. Rozana Properties Ltd
15. Prism Residential Ltd
16. Pioneer Holdings (Africa) Ltd
17. PDM (Kenya) Ltd
18. Optiven Ltd
19. Nova Homebuilders Limited
20. Natureville Homes
21. Mugumo Developments Ltd
22. MML Turner & Townsend
23. Mlima Construction Ltd
24. Manrik Group Ltd
25. Lordship Africa /Epix Investments
26. Laser Property Services Ltd
27. Kzanaka Ltd
28. Koto Housing Kenya Ltd
29. Koibatek Ltd
30. Kings Developers Ltd
31. Kaydee Realty LLP
32. Karume Holdings Ltd/ Forest Road Flats Ltd
33. Karibu Homes
34. Jabez Properties
35. Jenga Ventures Ltd
36. Homescop Properties Ltd
37. Hass Consult Ltd
38. Golden Compass Ltd
39. Fedha (Management) Ltd
40. Fairdeal Development & Infrastructure Ltd
41. Elm Ridge Ltd
42. Dunhill Consulting Ltd

43. Daykio Plantations Ltd
44. Coral Property International Ltd
45. Chigwell Holdings Ltd
46. Canaan Developers
47. BuildX Studio
48. Blueline Properties Ltd
49. Bahati Ridge Development Ltd
50. AMS Properties Ltd
51. Amazon Projects Ltd
52. Alville Royal Ltd
53. ALP Management Kenya Ltd
54. Acorn Management Services Ltd
55. 14 Trees Ltd