EFFECT OF CAPITAL STRUCTURE ON THE FINANCIAL PERFORMANCE OF NON-FINANCIAL FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE

BY

LYDIA CHEPTOEK SABILA

D61/89069/2016

A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF THE DEGREE OF MASTERS OF BUSINESS ADMINISTRATION IN THE SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI

2021

DECLARATION

I declare that this research paper is my original work that has not been submitted for a degree in any other University.

Signature  ---------- Date November 8, 2021----------

Lydia Sabila

D61/89069/2016

This project has been submitted for presentation with my approval as university supervisor.

Signature  ---------- Date November 8, 2021----------

Dr. Winnie Nyamute

Senior Lecturer, Department of Finance and Accounting

University of Nairobi

DEDICATION

I dedicate the project to my husband Geoffrey Wambua, My daughter Nicole Kambua and my son Ricky Kyalo for bearing with my long hours away undertaking this study. May God bless you abundantly.

ACKNOWLEDGEMENT

I wish to sincerely express my humble gratitude to God for his enormous care and protection that he gave me throughout my studies. Indeed I would have not made it without Him. Special acknowledgement goes to my Supervisors Dr. Winnie Nyamute, Dr. Kennedy Okiro and Prof. Cyrus Iraya for their tireless guidance and assistance to ensure that I come up with a good document, without forgetting the contribution of my entire family for being a pillar of encouragement and support. Special thanks to my husband Geoffrey Wambua for paying my school fees and moral support, my father Mr. James Sabila for his prayers, encouragement, love and support and to my siblings Prof. Paul Sabila, Sophy Sabila and Charity Sabila for challenging me to do masters. Reaching this far would not have been possible without your help.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

Company requires funds for financing its projects or investments in order to take care of its operations and also for its growth. Capital structure is very key in the shareholders wealth maximization and firm performance. A bad financial leverage decision will lead to high opportunity cost and as a result, this will lower the net present value of investment hence poor performance. The study sought to determine impact of capital structure on listed non-financial firm's performance from 2011 to 2020. The study adopted descriptive research design. The study population was all the 52 non-financial listed firms from 2011 to 2020 at NSE. Secondary data were employed covering annual data from 2011 to 2020. The study found that leverage, firm size and liquidity explain 54.44% of financial performance of non-financial firms listed at NSE measured using return on assets. The coefficient of leverage had a negative and statistically significant relationship with financial performance of non-financial listed firms. In addition, firm size has a positive and significant relationship with financial performance of non-financial listed firms. Model results further indicated that the coefficient of liquidity had a positive and statistically significant relationship with financial performance of non-financial listed firms. The study concludes that use of debt to finance firms operations should be used with caution. The study concludes that firm size impacts financial performance of non-financial listed firms. Liquidity positively impacts the financial performance of non-financial listed firms. The importance of liquidity to firms' performance results to the conclusion that it predicts the profitability margin of a firm. The study recommends for a balance in financing firms operations using equity or debt. Leverage increases the variability of the contractual cash flows. The study recommends that non-financial firms may need to diversify their products and services with aim of enhancing value aggregate assets. It further recommends that firms should make maximum use of their available resources for example assets to boost their profitability and effectively execute their core functions. The study recommends that firms should consider balancing between financing a firm using short term liabilities and long-term liabilities.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Company requires funds for financing its projects or investments in order to take care of its operations and also for its growth. Capital structure is very key in the shareholders wealth maximization and firm performance. A bad financial leverage decision will lead to high opportunity cost and as a result, this will lower the net present value of investment hence poor performance. Debt to equity mixture will minimize cost of capital of organization and performance will be maximized. Prior studies have established that financial leverage influences the opportunity cost which eventually affects organization's financial performance and share prices, Miller (1977). Therefore, it is very key for every organization to have an optimal capital structure. Company's financial performance is majorly measured by its cash flows and the size. When cash inflows are more than the cash outflows, it is an indication of a good performance and when the cash outflows is more than the cash inflows, then it is an indication of a poor performance of a firm. Large firms is more likely to attract the attention of the public compared to small firms.

Studies on selection of firm's capital structure comprise; trade-off, pecking order and Modigliani and Miller theory. When excluding corporate tax rate, company's capital structure to firm value is not relevant, Modigliani and Miller (1958). By including corporate tax rate, they concluded that firm value of companies whose capital structure has more debt is similar to firm's market value having no debt in their capital structure including "tax shield" and hence, capital structure affects value of firm, Modigliani and Miller (1963). Other studies which came later included agency cost and financial distress. In trade-off, Kraus and Litzenberger (1973), concluded, firm market value of firm incorporating debt is similar with firm value with no debt including tax shield value excluding cost of bankruptcy present value. In trade off theory, tax shield benefits obtained will set off losses arising from bankruptcy. The theory concluded that, ideal capital structure for firm exists whereby tax shield benefits takes care of losses from debts, like agency costs and financial distress. In pecking order theory, firms prefers to utilize internal sources of funds like retained earnings since it is cheaper compared to debt and equity, if this is not sufficient to finance the firm projects the firm will go ahead to utilize its debt and finally equity which is shareholders' funds as

the last resort. In pecking order, internal funds is preferred compared to debts because using local funds definitely reduces firm's reliance on outsiders, increases financial freedom and reduces internal information being leaked to outsiders.

Several studies has been done to establish association of choices of capital structure on firm's performance. Equity and debt are the major sources of capital structure, their use demonstrates the combination and varying conclusion on performance of firms. Agency friction among shareholders and managers is influenced by capital structure leverage, Jensen and Meckling (1976). Therefore, this may change managers' operating choices, it was proved by Ebaid (2009). Sheikh and Wang (2011), established that information imbalance survival has connected interest in selection of capital structure.

1.1.1 Capital Structure

According to (Ross et al, 2005; Hsiao et al, 2009), it is how companies finance projects by mixing debt and equity. It exhibits how firm finance function using various sources of funds.

Use of capital structure leads to maximization of market price of the firm by increasing ordinary shareholder's earnings per share. Also, it will increase shareholder's dividend receipt and hence the firm will have the capacity to realize new investment opportunities that will generate wealth. Ross et al, (2005), capital structure's managing objective is to combine financial sources to maximize shareholders wealth and minimize cost of capital. Brigham and Houston, (2001), an ideal capital structure ensures balance between return and risk to maximize the stock price.

Modigiliani & Miller, (1958) established that decision of capital structure decision is not relevant since future earning power of firm is value of firm only determinant. According to Al-Najjar and Taylor (2008), capital structure determinants includes firm size, business risk, firm, growth opportunity and assets tangibility. In trade off theory, the manager could possibly maximize the firm value using the debt ratio. Fama (1978), established that the firm value will be revealed on their stock price. Jensen (2011), resolved that on maximizing the firm value, other than equity, the management should also consider other sources of funds including preferred stock, warrant and debt. Fama and French (1998) assert that financial management can boost firm value. Capital structure choice is critical since it may influence the firm's value and it entails a trade-off between return and risk. According to Brigham and Houston, (2001), high risk signifies a boost in debt resulting to stock price decline and a rise in anticipated gain of the stock value. Firms which utilizes

more debt than equity to fund business activities have a hostile capital structure and have high leverage ratio. Firms which uses more equity than debt to fund projects have stable capital structure and low leverage ratio. Therefore, hostile capital structure and high leverage ratio could lead to inflated growth rates, on the other hand, stable capital structure could result to reduced growth rates. Firm's management objective is to obtain perfect equity and debt combination in funding its activities.

1.1.2 Financial Performance

Le, (2005), performance of firm is an economic class which outlines firm's capacity to utilize material and human resources in attaining firms target. Also, it is an internal assessment on how productive companies employ resources in its prime approach of trading to create income. Investors and analysts utilize financial performance to measure identical companies across the same industry or sectors in aggregate. This will help management make wise decision on how to choose investment projects that are profitable. It informs investors on the general well-being of a firm and it is a proof of job done by management and economic strength of a firm. Also, it measures financial strength of a firm.

Financial performance are measured by financial statements which includes the income statement, cash flows statement and balance sheet. Firm performance generic variables are RO1, ROA and ROE. Financial performance indicators measures how well a company is doing and therefore, one indicator should not be applied as technique in evaluating financial performance of firms. It's evaluated using ratios at particular periods to assess how well firm's assets have been utilized in creating wealth. Berger and Patti (2002), established that ratios stipulate whether a company is making use of the assets within its reach to attain the target of maximization the owners' wealth. Ratios standardize measurements for comparison across the firms, over a period of years.

In Ghana, Abor (2005), did a research to establish association between performance of firm and financial structure using financial data obtained from 20 listed firms, ROE was used to measure performance. Nieh et al. (2008), analyzed 143 electronic listed firms on Taiwan's stock market from 1999–2004 using tabular data, earnings per share and ROE being firm's performance variables. Listed 320 firms on Tehran stock market was analyzed using a panel data analysis method, Saeedi and Mahmoodi, (2011). EPS, ROE, ROA and Tobin'Q measured performance of firm.

1.1.3 Capital Structure and Financial Performance

Ebaid (2009), capital structure of firms relates negatively and significantly with firm's financial performance which is determined by earnings per share, ROE, and ROA. Therefore, the firm's ROA, EPS and ROE is negatively affected by using a high debt level. When a portion of debt in capital structure exceeds a specific extent, additional cost of debt will lead to a greater financial distress problem and huger bankruptcy cost. It will also lead to a more conflict between debt holders and shareholders. This will harm performance of firms.

Berger and Patti (2006), established that firm performance and capital structure relates positively. Cheng, Liu and Chien (2010), established that firms and capital structure have a critical relationship. Park and Jang (2013) have proved positive relationship between capital structure and performance of firm. Nevertheless, some research proved negative impact on performance of firm and capital structure, Soumadi and Hayajneh (2012). Varying conclusions were founded in regards to influence of capital structure on firms performance. Other capital structure determinants revealed negative, whereas some revealed positive relationship on firm's performance.

1.1.4 Non-Financial Firms Listed at the Nairobi Securities Exchange

NSE was established as Nairobi Stock Exchange in 1954, located in Kenya's capital city Nairobi, and fasted growing economies in Sub-Saharan Africa. It is major stock exchange in East Africa, providing a world class trading services both for its foreign investors and local with an aim of obtaining exposure to the country's growing economy.

Non-Financial Firms Corporation is legal institutions largely producing goods and services. Majorly, they participate in manufacturing of non-financial services and goods and not financial services. Non-financial organization includes currency exchanges, pawn shops, insurance firms, micro loan organizations and venture capitalists. Non-financial firms serve as competition to banks, and concentrate in groups or sectors. Statistics shows that there are 52 listed non-financial firms as at August 2021 (Appendix 1).

1.2 Research Problem

Capital structure is critical for maximizing firm's performance and its value. It is also essential in financial decision making process. Some researchers like Berger and Patti (2006) and Park and Jang (2013), performance of firms and capital structure have positive association, unlike Soumadi

and Hayajneh (2012), established negative relationship. This research revealed a varying conclusion in regards to how firm performance is influenced by capital structure. Other capital structure determinants revealed negative impact, while others revealed positive influence on performance of firm. Therefore, this paper is very crucial since it enables managers to make wise decision in choosing the optimal capital structure which minimizes cost and increase profitability hence good firm performance. This study is a motivation for future scholars to research further.

In Kenya, the extent to which firm performance is influenced by capital structure is still a concern area to scholars. There is still no final empirical confirmation on the subject. Organizations in Kenya are faced with financing decisions on the appropriate capital structure mix which is relevant for the organization and such financing decisions are crucial to the profitability of the firm. Investors in Kenya rarely consider the importance of the details on the capital structure mix and how that mix eventually affects the performance of the firm. Over the years, financial liberation has modified the functioning environment of organizations by giving financial managers more freedom in selecting their firm's capital structure. This financing decision is crucial to the firm's profitability. That is why a need is there to research the extent to which listed non-financial firms performance is affected by capital structure.

Developing countries especially Nigeria, the major factor that affects corporate performance of firms is financial constraints. Deepening and widening of different financial markets form the rationale for the determinant of ideal capital structure of business sections in Nigeria. Akeem at al (2014) assert that the business section is depicted by a larger number of companies functioning in an extensively uncontrollable and growing aggressive environment.

In Kenya, Ringui (2016), established that altering capital structure of listed non-financial revealed negative correlation between investment financial leverage and financial performance. Ringui concluded that listed non-financial firms is affected by capital structure. Mwangi (2017), asserted that investment and liquidity have a negative and substantial relationship. Mwangi concluded that profitability, sales growth and financial leverage have no influence on investments by non-financial listed firms. He also concluded that, investments by listed non-financial firms is greatly affected by the liquidity.

Other studies revealed positive relation whereas others revealed negative association between firm performance and capital structure. Research established the level to which listed non-financial

firms performance is influenced by capital structure. Findings add to existing finance literature on how listed non-financial firm performance is influenced by capital structure. This paper seek to answer: What is the impact of capital structure on listed non-financial firm's performance in Kenya?

1.3 Research Objective

To determine impact of capital structure on listed non-financial firm's performance.

1.4 Value of the study

Research is helpful to managers, investors, financial researchers and shareholders. The study may be used by listed non-financial firms managers on how to have an ideal capital structure so that the cost can be minimized and firm value maximized. Research has enlightened on how to choose which firm to invest in so that they can maximize on their profitability. It is useful to shareholders when they want to apportion their structure to maximize performance of firms. Research may be used by other scholars as an additional reference for future research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Theoretical reviews, determinants of firm performance, empirical studies and conceptual framework are discussed here.

2.2 Theoretical Review

Under theoretical study, pecking order, trade off and capital structure irrelevance theory was discussed.

2.2.1 Capital Structure Irrelevance Theory

It was first developed by Modigliani & Miller (1958), they established that firm value cannot be added by altering capital structure with zero corporate tax rate. Modigliani and Miller (1963), concluded by incorporating tax shield into study, firm's capital structure with more debt is similar to firm's market value whose capital structure has no debt including the "tax shield". In summary, capital structure influences market value of firms. This theory has been criticized since it doesn't take into consideration the current status like distress cost and income tax. Other variables like profitability and assets which affects firms' valuation are not put into consideration. Also, the theory has not been successful in describing company's financial operations. This theory is relevant since it enlightens the managers to put into considerations other factors like distress cost, income tax, profitability and assets when determining how firm performance is influenced by capital structure.

2.2.2 Trade off theory

Kraus and Litzenberger (1973), developed the theory first whereby, they put into consideration a balance between tax savings obtained from debt benefits and weighted costs of bankruptcy. They concluded that market value of firm with debt is same as value of firm with no debt including tax shield while excluding bankruptcy costs present value. Other studies that came later included agency cost and financial distress in their research. Losses resulting from bankruptcy will be set off by the tax shield benefit obtained from debts. Briefly, the theory explains that an ideal capital structure for firms exists whereby the losses from debts likes agency cost and financial distress are compensated by the benefit of tax shield obtained from debts. This theory was reviewed by Ai and Sanati, (2021). Trade off theory has been questioned by other scholars like Miller, (1977). Miller established that there could have been higher debt levels if trade-off theory was true. It enables managers to get information on the benefits of interest obtained from tax shield.

2.2.3 Pecking Order Theory

It was first suggested by Donaldson (1961), whereby he established that internal sources of funds are preferred compared to external sources, issuing of debt is preferred over equity. It was reviewed by Myers and Majluf (1984), whereby they assert that internal funds like retained earnings is preferred compared to external sources of funds because it will certainly make the firms to rely less on external parties, leakage of internal information reduced and financial freedom increased. When retained earnings has been fully exhausted, debt finance will be utilized which is expensive since it is required to be paid back to the lenders with an interest. Finally, equity which is shareholders' funds will be utilized as the last resort since it is very expensive.

Pecking order theory has not been concluded as crucial determinant of capital structure. Other scholars have established that sometimes it is a good determinant, Zeidan and Galil (2018) and Myres and Shyam (1999) supported the theory. Whereas, Frank and Goyal, (2018) assert that sometimes the theory fails. This theory informs firm managers in organizing their financing in the order of hierarchy so as to minimize cost and maximize shareholders wealth.

2.3 Determinants of financial performance

Factors determining firm financial performance includes; firm size, risk, growth, liquidity, cash flows and capital structure. Some have been discussed below.

2.3.1 Capital structure

Capital structure play crucial task in maximizing shareholders wealth and firm performance. Bad capital structure decision can lead to a higher opportunity cost, hence investment projects net present value will be low an indication of poor firm performance. Firm's performance is maximized and opportunity cost minimized by mixing equity and debt. According to prior studies, capital structure has an impact on opportunity cost, which influences financial performance of firms and share prices (Miller, 1977). Therefore, it is very key that every firm should plan for an ideal capital structure.

2.3.2 Liquidity

Bhunia (2010), liquidity refers to organization's capacity to settle its short-term responsibilities. Mahavidyalaya et al (2010), assert that liquidity is ability of firms to settle short-term obligations liabilities by changing short-term assets into cash incurring no loss. Zygmunt (2013), established that liquidity is important to firm's performance since it is a determinant of firm's profitability. Ability of firm to settle current responsibilities using short-term assets is measure by current ratio. Current ratios and Quick ratio are the typical measures of liquidity status of the firm. Convertible assets can be changed into cash quickly incurring no loss. Owolabi, obiakor & Okwu, (2011), established that low current ratio is an indication that a firm is unable to meet its liabilities on time to its suppliers of goods and services and also to the creditors. Wang (2002), established that operating performance of firms is boosted by hostile liquidity management, it normally results to higher firm values. When liquidity is managed efficiently, it eliminates the risk of firm's to settle current obligations when they fall due. Priya & Nimalathasan, (2013), proper liquidity management avoids unnecessary assets investment.

2.3.3 Firm size

Firm size also influences firm financial performance. Large companies is more likely to get attention of the public. Large firm have enough resources to undertake large investments which are profitable. Larger companies get advantage on economies of scale to earn greater profitability. Therefore, when the firm's sales and total assets is greater, the better the firm performance. Financial performance of firm evaluated by ROA is positively influenced by size of the firm.

2.4 Empirical studies

Other scholars established that positive relationship exists, others assert negative relationship where as other studies revealed both negative and positive relationship.

In Asia, La (2014) did a study to examine relationship between Vietnamese state-owned enterprises, the performance of the firm and capital structure decisions. The study considered a firm section of 1,580 observation of Vietnamese listed non-financial firms from 2007-2011, panel data regression was applied. The response showed that decisions of long-term capital structures and performance of firms market based have positive relationship, whereas decisions of short-term capital structures have association with accounting based performance of firm. In conclusion, association of firm's performance and capital structure of Vietnamese state-owned enterprises are changed by financial distress events.

Nguyen (2020) examined association between capital structure and profitability of listed non-financial firms of Vietnam's Stock Market. Data was obtained from 488 listed firm's financial statements from 2013 to 2018. Multicollinearity, autocorrelation, and heteroscedasticity was tested. Result showed negative impact between capital structures of non-financial Vietnamese listed firms. In conclusion, performance of listed non-financial firms is affected by capital structure of an enterprise.

In Ghana, Abor (2005) did a study to establish association between capital structure and Ghana's listed firm's profitability for five year period. Regression analysis was applied to assess capital structure and evaluating ROE. Result showed a crucially positive impact between short-term debt to total asset ratio and ROE. In conclusion, Ghana's profitable firms majorly rely on debt as their primary option of finances.

In Egypt, Ebaid (2009), did study on effect of choice of capital structure on firm performance. Multiple regression technique was applied using Gross Profit Margin, ROA and ROE in assessing association between firm performance and level of leverage. Capital structure decision has no affect firm performance as per sample collected during 1997 to 2005 period of Egyptians non-financial listed firms.

In Kenya, Ringui (2016) did study on impact of capital structure on performance of listed non-financial firms. Descriptive research design was applied, target population was 47 non-financial

firms listed at NSE. Collected data was analyzed and it was established that a change in capital structure by 17.5% among non-financial listed firms shows financial leverage of listed non-financial firms and financial performance have negative correlation. Finding revealed, between solvency and financial performance there exists strong positive relationship. It was concluded that listed non-financial firm's financial performance are influenced by capital structure.

Mwangi (2017), carried out a research to determine impact of financial Leverage on investing in non-financial firms listed at NSE. Study applied descriptive design, 46 listed non-financial firms was the target population. Descriptive statistical techniques, multiple linear regression and correlation analysis was employed to analyze secondary data. It was established that liquidity and investment relationship is negative and considerable. It was concluded that profitability, financial leverage and sales growth does not influence investments by listed non-financial firms but are significantly influenced by liquidity.

2.5 Conceptual Framework

Capital structure is independent variables and is comprised of equity and debt. Dependent variable is financial performance measured by ROA, liquidity and firm size being the control variables.

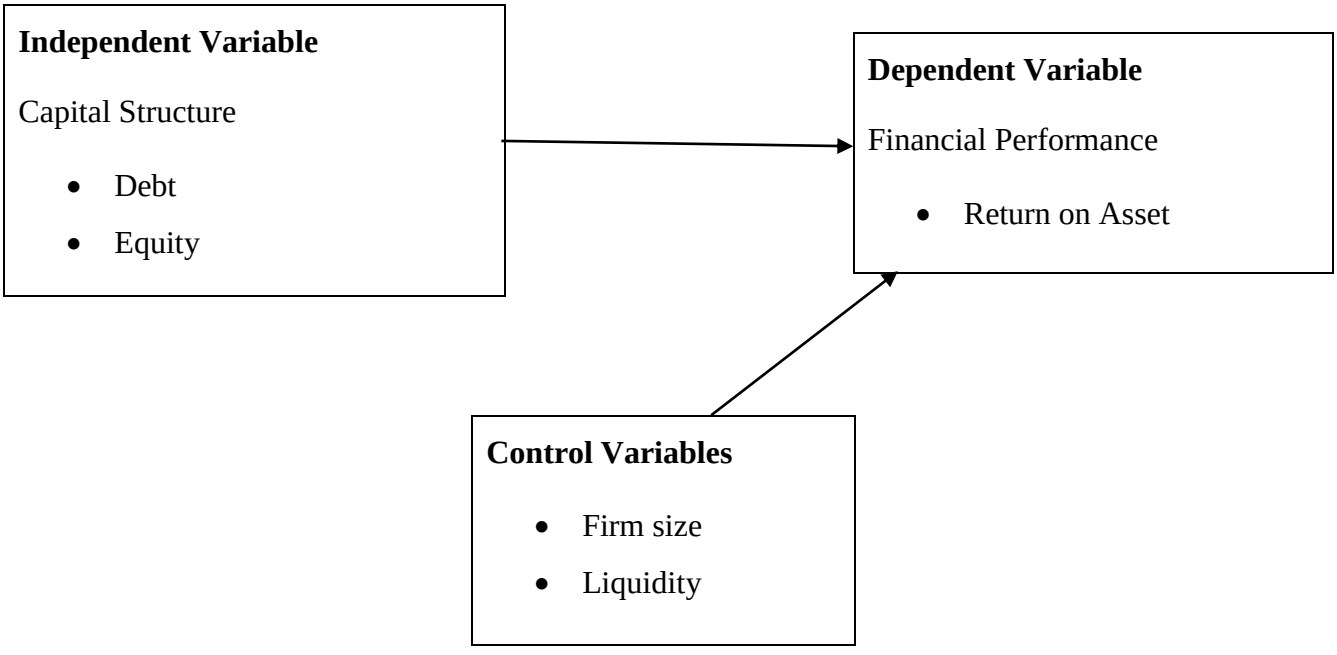

Figure 2.1 Conceptual Model

2.6 Summary of the Literature Review

There is a relationship between capital structure and performance of firms and therefore, capital structure choice has implication on performance of firms. Firm performance is determined by liquidity, size and capital structure. Capital structure theories and the conceptual framework were also discussed in this chapter. Other research stated negative while others showed positive relation between capital structure and performance of firms. It is because of this contradiction that this research is carried out to establish whether the current capital structure in Kenya has positive or negative relationship to performance of the firm.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Research design, sample, population, data collection and data analysis was discussed in this chapter.

3.2 Research Design

Descriptive research model employed to ensure objective of study is exhaustively met. Secondary quantitative data was employed and was obtained from NSE website from the year 2011 to 2020. A descriptive research design helped to clarify capital structure impact on listed non-financial firm's performance.

3.3 Population and Sample

Population was all the 52 non-financial listed firms and therefore there was no sampling. This study sampled data from 2011 to 2020 for listed non-financial firms were picked which comprised the 52 firms (Appendix 1)

3.4 Data Collection

Secondary data was used and it were extracted from the company's website for the year 2011 to 2020. Data on Earnings before Interest and Tax was obtained from income statement, ROA and debt to equity was obtained from the balance sheet to determine the firm performance.

3.5 Data Analysis

Data was analyzed using quantitative technique. Capital structure is independent variable, liquidity and firm size are controlling variables and dependent variable is financial performance which was evaluated by ROA.

Regression technique was employed to analyze quantitative data.

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + Ɛ$

Where;

Y = Financial performance which was measured by ROA

β_0 = Constant of the model

β_1, β_2, and β_3 represents the independent variables coefficients.

β_1 - β_1= Coefficient of the regression equation

X_1 = Capital Structure was measured by Debt/Equity ratio

X_2 = Firm size measured by total assets

X_3 = Liquidity measured by current ratio

ε = Tolerable error

Tests of Significance

Hypothesis testing was carried out to assess importance of variables.

The **H_0 =** Capital structure and financial performance of listed non-financial firms have no relationship

The **H_1 =** Capital structure have relationship with financial performance of non-financial listed firms.

CHAPTER FOUR

RESEARCH RESULTS AND DISCUSSION

4.1 Introduction

The chapter presents the results and discussion of study findings. The chapter presented the descriptive results, correlation results, diagnostic tests and model output. Study results were presented in form of tables.

4.2 Descriptive Statistics

The section provides the results of variables in form of descriptive statistics. The descriptive outputs are in form of means, minimums, maximums and standard deviations. Table 4.1 shows the descriptive results.

Table 4.1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Leverage	520	0.2897704	0.229099	0.0079009	2.535623
Firm size 'million KES	520	35,200	49,200	40,196	377,000
Liquidity	520	0.2717238	0.2255404	0.0001189	1.203871
ROA	520	0.2903557	0.3362298	-1.605753	2.535623

Financial performance of listed firms was measured using return on assets (ROA). The mean financial performance of non-financial firms listed at NSE was 0.2903557. The most performing non-financial listed firm had ROA of 2.535623 while the least performing non-financial listed firm had ROA of -1.605753. The standard deviation was 0.3362298 indicating that financial performance of the listed firms using ROA varied across the measured period. Return on assets describes the ability of a firm to efficiently use its resources to generate income for the company shareholders.

Average leverage measured using debt to equity ratio among the non-financial listed firms was 0.2897704. The firm with highest leverage was 2.535623 while firm with lowest leverage was 0.0079009. The variation of leverage during the study period was 0.229099. Leverage is important when a firm prefers to use debt to finance their operation as opposed to equity. However, the use of debt to finance operations is uncertain and a firm may still record loss while at the same time crumpling with borrowed money to finance its operations.

Firm size describes the total number of assets controlled by a firm. The average total assets held by the non-financial firms listed at NSE were KES 35,200 million. The non-financial firm with highest total assets was worth KES 377,000 million while the smallest had total asset estimated at KES 35, 200 million. The variation of total assets across the listed firms was KES 49,200 million an implication that total assets varied during the measurement period. Firm sizes of listed firms influence the economies of scale. As such, the total assets held by the firm impact their ability to stretch their ability in using its resources to generate income for the company.

The average liquidity of the non-financial listed firms was 0.2717238. The firm with highest liquidity ratio was 1.203871 while firm with lowest liquidity ratio is -1.605753. The variation in liquidity ratio across the non-financial firms was 0.3362298. Liquidity describes the nature of assets held by a firm and whether the assets are easily convertible to liquidity money in time of need. Optimal desired liquidity should lie between 1 and 0.5.

4.3 Correlation Analysis

Correlations test presents the association between two variables. Table 4.2 presents the correlation results of the study variables with ROA as the dependent variable, leverage as the independent variable and firm size and liquidity as the control variables.

Table 4.2: Pearson Correlation Results

variables		ROA	Leverage	Firm size	Liquidity
ROA		1.000			
Leverage		-0.1181	1.000		
	sig.	0.007			
Firm size		0.0665	0.0248	1.000	
	sig.	0.0301	0.5727		
Liquidity		0.1468	-0.0411	-0.2111	1.000
	sig.	0.0008	0.3493	0.000	

The correlation results in Table 4.2 indicate that leverage has a negative significant association with financial performance of non-financial listed firms at NSE (r=-0.1181, p=007<0.05). The results imply that leverage and ROA move in opposite direction, that is; as leverage rises, financial performance of the listed firms using ROA goes up whereas when leverage declines, financial performance of the listed firms using ROA rises. Further, it was found that firm size has a positive significant association with financial performance of non-financial listed firms using ROA (r=0.0665, p=0301<0.05). The results imply that firm size and ROA move in the same direction implying that when firm size increases in terms of assets, ROA tend to increase too and when firm size reduces, ROA declines too. Liquidity presented a positive and significant association with financial performance of non-financial listed firms using ROA (r=0.1468, p=0008<0.05). This is an indication that liquidity and ROA move in the same direction, that is when liquidity increases, ROA increases and vice versa.

4.4 Diagnostic Tests

Diagnostic test are conducted before estimating regression models. This is to ensure that incorrect parameter estimates are generated. The diagnostic test tested multicollinearity, autocorrelation, Heteroscedasticity, unit root and test for fixed or random effects.

4.4.1 Multicollinearity

Multicollinearity is a statistical phenomenon where two variables are correlated which is not desirable when estimating statistical models. Multicollinearity in this study was conducted using variance inflator factors. Table 4.3 presents the Multicollinearity results.

Table 4.3: Multicollinearity Test

Variable	VIF
Firm size	1.10
Liquidity	1.07
Leverage	2.43

VIF value was used where values less than 5 for VIF means that there is no multicollinearity. VIF greater than 5 implies existence of multicollinearity. The variables of the study, firm size, liquidity and leverage had VIF less than 5. Thus, the data did not suffer from multicollinearity.

4.4.2 Autocorrelation Test

Serial correlation test was undertaken to check for correlation of error terms across time periods. Wooldridge test for serial correlation was employed in this study. Table 4.4 presents the serial correlation results.

Table 4.4: Breusch-pagan Serial Correlation Test

Wooldridge test for autocorrelation in panel data
H0: no first-order autocorrelation
F(1, 51) = 1.774
Prob > F = 0.1888

The null hypothesis is that no first order serial correlation exists. The p value 0.1888>0.05 indicates that the study do not reject the null hypothesis of no serial correlation. The data therefore did not have serial correlation problem.

4.4.3 Heteroscedasticity Test

Cook-Weisberg test for heteroscedasticity was employed to check for Heteroscedasticity. Homoscedastic is desired for estimating statistical models whereas heteroskedastic is not good. Table 4.5 presents the Heteroscedasticity results.

Table 4.5: Heteroscedasticity Test

Breusch-Pagan / Cook-Weisberg test for heteroscedasticity
Ho: Constant variance
Variables: fitted values of ROA
chi2(1) = 5.99
Prob > chi2 = 0.0857

The chi-square was 5.99 while the probability value is 0.0857>0.05. The data was Homoscedastic since the p value>0.05. Presence of the Heteroscedasticity indicated that FGLS model is estimated.

4.4.4 Unit root test

Unit root test (stationarity of data) was conducted using Fishers Test. Stationary data are desirable when estimating panel models. Data that is not stationarity are difference to make them stationarity. Unit root test results are shown in Table 4.5.

The hypotheses to be tested were;

H_o: All panels contain unit roots

H_a: At least one panel is stationary

Table 4.5: Fisher-type Test of Unit Root

Variable		Inverse chi-squared (70) P	Inverse normal Z	Inverse logit t (179) L*	Modified inv. chi-squared Pm
ROA	test statistic	194.9621	-2.9423	-4.6202	6.3071
	p-value	0.0000	0.0016	0.0000	0.0000
Leverage	test statistic	148.0184	-1.9449	-2.2501	3.0521
	p-value	0.003	0.0259	0.0126	0.0011
Firm Size	test statistic	311.4332	-6.715	-9.2419	14.3829
	p-value	0.000	0.00	0.000	0.000
Liquidity	test statistic	209.2338	-1.4031	-3.5882	7.2967
	p-value	0.000	0.0803	0.0002	0.000

The stationarity test output indicated that all the variables were stationarity at level. This is because the p-value<0.05 at P, Z, L* and Pm. The data are not spurious and can be used to estimate panel model.

4.4.5: Hausman Random Test for random and fixed effects

To choose between fixed and random effects model for model, the Hausman test was employed. Table 4.6 shows the Hausmans test output.

Table 4.6: Hausman Random Test for random and fixed effects

	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	fe	re	Difference	S.E.
Leverage	0.1162566	0.0861663	0.0300903	0.028344
logfirmsize	-0.1727392	0.0151144	-0.1878537	0.060944
Liquidity	-0.0402697	-0.0312866	-0.0089831	0.031115

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(3) = (b-B)'[(V_b-V_B)^(-1)](b-B)

13.14

Prob>chi2 = 0.0043

The null hypothesis of the Hausman test was that the random effects model was preferred to the fixed effects model. For the model, Hausman test reported a chi-square of 13.14with a p-value of 0.0043 implying that at 5 percent level, the chi-square value obtained was statistically insignificant. The researcher therefore rejected the null hypothesis that random effects model was preferred to fixed effect. Fixed effect model was estimated.

4.5 Model Specification

Panel model was estimated to determine the effect of capital structure on the financial performance of non-financial firms listed at the NSE> the effect of leverage, firm size and liquidity on financial performance of non-financial firms listed at NSE using ROA was determined. Table 4.7 shows the panel results.

Table 4.7: Panel model

ROA	Coef.	Std. Err.	t	P>t
Leverage	-0.144467	0.0546017	-2.65	0.008
Firm size	0.0253177	0.0107275	2.36	0.019
Liquidity	0.2035358	0.0546692	3.72	0.000
_cons	0.0704379	0.104588	0.67	0.501

Number of obs	520
F(3, 516)	8.00
Prob > F	0.000
R-squared	0.5444
Adj R-squared	0.4389
Root MSE	0.29014

The R-square was 0.5444. This implies that leverage, firm size and liquidity explain 54.44% of financial performance of non-financial firms listed at NSE measured using return on assets. Company requires funds for financing its projects or investments in order to take care of its operations and also for its growth. Capital structure is very key in the shareholders wealth maximization and firm performance. A bad financial leverage decision will lead to high opportunity cost and as a result, this will lower the net present value of investment hence poor performance. Debt to equity mixture will minimize cost of capital of organization and performance will be maximized. As per the results above, the panel model estimate is

$Y = 0.0704379-0.144467X_1+ 0.0253177X_2 + 0.2035358X_3$

Where:

Y = Financial performance of non-financial listed firms at NSE

X_1 = Leverage

X_2 = Firm size

X_3 = Liquidity

The coefficient of leverage had a negative and statistically significant relationship with financial performance of non-financial listed firms using ROA (β =-0.144467, p=0.008<0.05). The results imply that a one unit change in leverage results to -0.144467 decline in return on assets of the non-financial listed firms at NSE. Firm size has a positive and significant relationship with financial performance of non-financial listed firms using ROA (β= 0.0253177, p=0.019<0.05). This means that a unit increase in firm assets by one unit lead to a subsequent increase in financial performance of financial performance of non-financial listed firms by 0.0253177units. Model results further indicated that the coefficient of liquidity had a positive and statistically significant relationship with financial performance of non-financial listed firms using ROA (β =0.2035358, p=0.000<0.05). The results imply that a one unit change in liquidity results to 0.2035358 increases in return on assets of the non-financial listed firms at NSE.

4.6 Discussion of Findings

The study found that leverage has a negative effect on financial performance of non-financial listed firms. The results imply that a one unit change in leverage results to -0.144467 decline in return on assets of the non-financial listed firms at NSE. The null hypothesis that leverage has no significant effect on financial a performance of non-financial listed firms at NSE was rejected and alternative hypothesis accepted that leverage impacts financial performance of non-financial listed firms at NSE. Listed firms that are highly leveraged may be at risk of bankruptcy if they are unable to make payments on their debt; they may also be unable to find new lenders in the future. Firm with higher debt level have a high risk to pay little or no dividends since these obligations must be met first as lenders have higher preference to shareholders. These firms must therefore sustain their internal cash inflows to honor such obligations. A bad financial leverage decision will lead to high opportunity cost and as a result, this will lower the net present value of investment hence

poor performance. The results concur with Ringui (2016) who did study on impact of capital structure on performance of listed non-financial firms and found that financial leverage of listed non-financial firms and financial performance have negative correlation. However, the results do not agree with Mwangi (2017) who carried out a research to determine impact of financial Leverage on investing in non-financial firms listed at NSE and found that financial leverage does not influence investments by listed non-financial firms.

Firm size has a positive and significant relationship with financial performance of non-financial listed firms. This means that a unit increase in firm assets by one unit lead to a subsequent increase in financial performance of financial performance of non-financial listed firms by 0.0253177units. The null hypothesis that firm size has no significant effect on financial a performance of non-financial listed firms at NSE was rejected and alternative hypothesis accepted that firm size impacts financial performance of non-financial listed firms at NSE. The size of the firm affects both the profitability and liquidity of the firm. Larger firms usually acquire a broader market share which makes them more profitable, hence possessing more competitive power in contrast to small firms. The results agree with Nguyen (2020) who examined association between capital structure and profitability of listed non-financial firms of Vietnam's Stock Market and found that firm size has positive impact on financial performance of firms. A study by Omenyo and Muturi (2019) on the effect of firm size on financial performance of manufacturing firms listed in Nairobi Stock Exchange found that firm size has positive influence on performance of manufactured listed firms.

Model results further indicated that the coefficient of liquidity has a positive and statistically significant relationship with financial performance of non-financial listed firms (β =0.2035358, $p=0.000<0.05$). The results imply that a one unit change in liquidity results to 0.2035358 increases in return on assets of the non-financial listed firms at NSE. The null hypothesis that liquidity has no significant effect on financial a performance of non-financial listed firms at NSE was rejected and alternative hypothesis accepted that liquidity impacts financial performance of non-financial listed firms at NSE. Liquidity refers to the capability of a firm to meet short term financial obligations by converting the short term assets into cash without suffering any loss. The importance of liquidity to firms predicts the profitability margin of a firm. Liquidity plays a crucial

role in the successful functioning of a business firm. A company should ensure that it does not suffer from lack-of or excess liquidity to meet its short-term compulsions. The results concur with Mwangi (2017), carried out a research to determine impact of financial Leverage on investing in non-financial firms listed at NSE that liquidity has positive effect on financial performance of non-financial of listed firms. The results also agree with Demirgüneş (2016) who studied the effect of liquidity on financial performance in Turkish retail industry and found that liquidity has positive relationship between financial performance.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter presents the summary of the study. It also presents a summary of the key findings of the previous chapter. It also presents the conclusions drawn. This chapter also highlights the policy recommendations emanating from the study. Lastly the chapter presents suggestions for further research which can be useful by future researchers.

5.2 Summary of the study

The study sought to determine impact of capital structure on listed non-financial firm's performance from 2011 to 2020. The study adopted descriptive research design. The study population was all the 52 non-financial listed firms from 2011 to 2020 at NSE. Secondary data were employed covering annual data from 2011 to 2020.

The study found that leverage, firm size and liquidity explain 54.44% of financial performance of non-financial firms listed at NSE measured using return on assets. Company requires funds for financing its projects or investments in order to take care of its operations and also for its growth. Capital structure is very key in the shareholders wealth maximization and firm performance.

The coefficient of leverage had a negative and statistically significant relationship with financial performance of non-financial listed firms. In addition, firm size has a positive and significant relationship with financial performance of non-financial listed firms. Model results further indicated that the coefficient of liquidity had a positive and statistically significant relationship with financial performance of non-financial listed firms.

5.3 Conclusions of the Study

The study found that leverage negatively and impacts the financial performance of non-financial listed firms. The study concludes that use of debt to finance firms operations should be used with caution. Company requires funds for financing its projects or investments in order to take care of its operations and also for its growth. A bad financial leverage decision will lead to high opportunity cost and as a result, this will lower the net present value of investment hence poor performance. Firms which utilize more debt than equity to fund business activities have a hostile capital structure and have high leverage ratio. Firms which use more equity than debt to fund projects have stable capital structure and low leverage ratio.

The study also found that firm size positively impacts financial performance of non-financial listed firms. The study concludes that firm size impacts financial performance of non-financial listed firms. Firm's effectiveness and efficiency represented by profitability is strongly related to total assets. Larger firms have better opportunities to work in the fields that seek high capital requirements as they have huge resources. This scenario provides the chance for them to work in higher profit environments with less competition. Large firms have more resources and capacity to undertake more product lines and higher production capacity together with organizational resources. This enables the large firms to improve their financial performance since they can easily mitigate risks as compared to small firms.

Liquidity positively impacts the financial performance of non-financial listed firms. The importance of liquidity to firms' performance results to the conclusion that it predicts the profitability margin of a firm. Liquidity is important for firms' sustainability of its operations. It essentially has an impact on financial costs reduction or growth, variation in the sales output, as well as it affects firm risk level. The decisive significance of liquidity implies that it is vital for firms' growth and at the same time it is one of the critical endogenous elements that are responsible for operations sustenance of the non-financial listed firms. Liquidity problems impact adversely on the earnings, capital and in extreme circumstances, may even lead to the collapse of the firm.

5.4 Recommendations

The study found that leverage negatively impacts the financial performance of non-financial listed firms. The study recommends for a balance in financing firms operations using equity or debt. Leverage increases the variability of the contractual cash flows.

The study found that firm size positively impacts financial performance of non-financial listed firms. The study recommends that non-financial firms may need to diversify their products and services with aim of enhancing value aggregate assets. It further recommends that firms should make maximum use of their available resources for example assets to boost their profitability and effectively execute their core functions.

Liquidity positively impacts the financial performance of non-financial listed firms. Liquidity is important for firms' sustainability of its operations. The study recommends that firms should consider balancing between financing a firm using short term liabilities and long-term liabilities. For firms looking for long-term financing can go for equity or preference shares and debentures. The choice often depends upon which source of funding is most easily accessible for the firm. A well-made financing policy is important for the growth of the firm in the long run. There should be sound and prudent policies that guide firms on when and why a firm should finance its operations using short term liabilities or long-term liabilities.

This study also recommends that financial institutions should improve their liquidity ratio by ensuring that a maximum non interest yielding assets/cash have been retained. There is need a good balance of liquidity; not holding too much liquidity assets or too little. Illiquid commercial banks may be incapable of meeting the short term demands of their customers in timely manner. Commercial banks may create liabilities through savings from depositors and assets through giving loans to investors.

5.5 Limitation of the Study

The limitation that the researcher anticipates to encounter in this study included inconsistency in retrieval of secondary data. Some of non-financial listed firms at NSE did not post their financial information for certain years. However, this was mitigated by adopting unbalanced panel regression model.

5.6 Area for Further Research

The study also relied on ROA as a measure of profitability. Future research should involve measuring profitability using both Return on Assets and Return on Equity. Though, ROE does not consider the risk of a company, and the shareholders are interested in the risk associated with

investment, more than in its potential benefits. ROE reflects how effectively a firm management is using shareholders' funds.

REFERENCES

Abor, J. (2005). The effect of capital structure on profitability: an empirical analysis of listed firms in Ghana. Journal of Risk Finance, 6(5), 438-445. https://doi.org/10.1108/15265940510633505

Ahmed Sheikh, N. and Wang, Z. (2011), "Determinants of capital structure: An empirical study of firms in manufacturing industry of Pakistan", Managerial Finance, Vol. 37 No. 2, pp. 117-133. https://doi.org/10.1108/03074351111103668

Ai, Hengjie & Frank, Murray & Sanati, Ali. (2020).The Trade-off Theory of Corporate Capital Structure. SSRN Electronic Journal. 10.2139/ssrn.3595492.

Al-Najjar, Basil & Taylor, P, (2008). The relationship between capital structure and ownership structure. Managerial Finance. 34. 919-933.

Article in International Journal of Academic Research in Economics and Management Sciences · September 2014

Basil Al-Najjar & Peter Taylor, 2008. "The relationship between capital structure and ownership structure: New evidence from Jordanian panel data," Managerial Finance, Emerald Group Publishing, vol. 34(12), pages 919-933, October.

Berger, Allen N. & Bonaccorsi di Patti, Emilia, 2006. "Capital structure and firm performance: A new approach to testing agency theory and an application to the banking industry," Journal of Banking & Finance, Elsevier, vol. 30(4), pages 1065-1102, April.

Chang, F.M., Wang, Y., Lee, N.R., & La, D.T. (2014). Capital structure decisions and firm performance of Vietnamese Soes. Asian Economic and Financial Review, Asian Economic and Social Society, 4(11), 1545-1563.

Cheng, Y.-S., Liu, Y.-P. and Chien, C.-Y. (2010) Capital Structure and Firm Value in China: A Panel Threshold Regression Analysis. African Journal of Business Management, 4, 2500-2507.

Creswell, J. W. (2014). Research design: qualitative, quantitative, and mixed methods approaches. 4th ed. Thousand Oaks, California: SAGE Publications.

Demirgüneş, K. (2016). The effect of liquidity on financial performance: Evidence from Turkish retail industry. *International journal of economics and finance*, *8*(4), 63-79.

Donaldson, G. (1961). Corporate Debt Capacity: A Study of Corporate Debt Policy and the Determination of Corporate Debt Capacity. Division of Research, Graduate School of Business Administration, Harvard University, Boston.

El-Sayed Ebaid, I. (2009), "The impact of capital-structure choice on firm performance: empirical evidence from Egypt", Journal of Risk Finance, Vol. 10 No. 5, pp. 477-487. https://doi.org/10.1108/15265940911001385

Frank, Murray Z.; Goyal, Vidhan K. (1 November 2018). "Testing the Pecking Order Theory of Capital Structure". doi:10.2139/ssrn.243138. SSRN 243138.

https Gordon%2C&qt=hot author

https://thebusinessprofessor.com/en_US/business-personal-finance-valuation/irrelevance-proposition-theorem-definition

https://www.worldcat.org/search?q=au%3ADonaldson%2C+

International Journal of Academic Research in Economics and Management Sciences Sep 2014, Vol. 3, No. 5 ISSN: 2226-3624

International Journal of Economics and Financial Research ISSN (e): 2411-9407, ISSN (p): 2413-8533 Vol. 4, Issue. 9, pp: 297-302, 2018 URL: http://arpgweb.com/?ic=journal&journal=5&info=aims

Javed, Tariq & Younas, Waqar & Imran, Muhammad. (2014). Impact of Capital Structure on Firm Performance: Evidence from Pakistani Firms. International Journal of Academic Research in Economics and Management Sciences. 3. 10.6007/IJAREMS/v3-i5/1141.

Jensen, M.C., & Meckling, W.H. (1976). Theory of the firm: managerial behavior, agency costs and ownership structure. Journal of Financial Economics, 3(4), 305-360. https://doi.org/10.1016/0304-405X(76)90026-X

Kraus, A., & Litzenberger, R.H. (1973). A state-preference model of optimal financial leverage. The Journal of Finance, 28(4), 911-922. https://doi.org/10.1111/j.1540-6261.1973.tb01415.x

Lawal Babatunde Akeem & Edwin Terer K. & Monica Wanjiru Kiyanjui & Adisa Matthew Kayode, 2014. "Effects of Capital Structure on Firm€™s Performance: Empirical Study of Manufacturing Companies in Nigeria," Journal of Finance and Investment Analysis, SCIENPRESS Ltd, vol. 3(4), pages 1-4.

Modigliani, F., & Miller, M.H. (1958). The cost of capital, corporation finance and the theory of investment. The American Economic Review, 48(3), 261-297.

Modigliani, F., & Miller, M.H. (1963). Corporate income taxes and the cost of capital: a correction. The American Economic Review, 53(3), 433-443.

Mokhova, Natalia & Zinecker, Mareck (2013). The determinants of capital structure: The evidence from the European Union. Acta Universitatis Agriculturae et Silviculturae Mendeliance Brunensis. 61.25332546.10.11118/actaun201361072533.

Mwangi (2017). Effect of Financial Leverage on Investment of Non- Financial Firms Listed at the Nairobi Securities Exchange.

Myers, Stewart C.; Majluf, Nicholas S. (1984). "Corporate financing and investment decisions when firms have information that investors do not have". Journal of Financial Economics. 13 (2): 187–221. doi:10.1016/0304-405X(84)90023-0. hdl:1721.1/2068.

Nairobi Security Exchange Website; https://afx.kwayisi.org/nse/

Nairobi Security Exchange Website; https://www.nse.co.ke/listed-companies/list.html?start=50

Nguyen, H. T., & Nguyen, A. H. (2020). The Impact of Capital Structure on Firm Performance: Evidence from Vietnam. The Journal of Asian Finance, Economics and Business, 7(4), 97–105. https://doi.org/10.13106/JAFEB.2020.VOL7.NO4.97

Nguyen, T.H., & Nguyen, H.A. (2020). Capital structure and firm performance of non-financial listed companies: cross-sector empirical evidences from Vietnam. Accounting, 6(2), 137-150. https://doi.org/10.5267/j.ac.2019.11.002

Omenyo, D. M., & Muturi, W. (2019). Effect of firm size on financial performance of manufacturing firms listed in Nairobi Stock Exchange. *The Strategic Journal of Business & Change Management,* 6 (4), 1112 – 1119.

Park, Kwangmin. (2013). Capital structure, free cash flow, diversification and firm performance: A holistic analysis. International Journal of Hospitality Management. 33. 51–63. 10.1016/j.ijhm.2013.01.007.

Polit, D. and Hungler, B. (1999). Nursing Research: Principle and Method, 6th ed.; Philadelphia: Lippincott Company, P.P. 416-417.

Ringui (2016). Effect Of Capital Structure On Financial Performance Of Non-Financial Firms Listed at the Nairobi Securities Exchange.

Shyam-Sunder, Lakshmi; Myers, Steward C. (1999). "Testing static trade-off against pecking order models of capital structure". Journal of Financial Economics. 51 (2): 219–244. doi:10.1016/S0304-405X(98)00051-8.

Soumadi, M. M., & Hayajneh, O. S. (2012). Capital structure and corporate performance empirical study on the public Jordanian shareholdings firms listed in the amman stock market. European Scientific Journal, ESJ, 8(22). https://doi.org/10.19044/esj.2012.v8n22p%p

World Journal of Finance and Investment Research E-ISSN 2550-7125 P-ISSN 2682-5902,

Zeidan, Rodrigo M.; Galil, Koresh; Shapir, Offer Moshe (1 November 2018). "Do Ultimate Owners Follow the Pecking Order Theory?". doi:10.2139/ssrn.2747749. S2CID 197773240. SSRN 2747749.

Appendix 1: Non-Financial Firms Listed at the Nairobi Securities Exchange

	Firm	Sector
1	Eaagads Limited	Agricultural
2	Kapchorua Tea Company Limited	Agricultural
3	Kakuzi Limited	Agricultural
4	Limuru Tea Company Limited	Agricultural
5	Sasini Tea and Coffee Limited	Agricultural
6	Williamson Tea Kenya Limited	Agricultural
7	Car and General Kenya Limited	Automobiles and Accessories
8	Deacons East Africa Plc	Commercial and services
9	Kenya Airways Limited	Commercial and services
10	Longhorn Publishers Limited	Commercial and services
11	Nairobi Business Ventures Ltd	Commercial and services
12	Nation Media Group	Commercial and services
13	ScanGroup Limited	Commercial and services
14	Standard Group Limited	Commercial and services
15	Sameer Africa Plc	Commercial and services
16	TPS Eastern Africa Serena Limited	Commercial and services
17	Uchumi Supermarket Limited	Commercial and services
18	Express Kenya Limited	Commercial and services
19	ARM Cement Limited	Construction and allied
20	Bamburi Cement Limited	Construction and allied
21	East African Cables Limited	Construction and allied
22	Crown Paints Kenya Limited	Construction and allied
23	East African Portland Cement Co. Ltd	Construction and allied
24	Homeboyz Entertainment	Consumer services
25	KenGen Plc	Energy & Petroleum
26	Kenya Power & Lighting Company	Energy & Petroleum
27	Total Kenya Limited	Energy & Petroleum
28	Umeme Limited	Energy & Petroleum
29	NewGold Exchange Traded Fund	Exchange traded fund

30	Britam Holdings Limited	Insurance
31	CIC Insurance Group Limited	Insurance
32	Jubilee Holdings Limited	Insurance
33	Kenya Re-Insurance Corporation Ltd	Insurance
34	Liberty Kenya Holdings Limited	Insurance
35	Sanlam Kenya Plc	Insurance
36	Centum Investment Company	Investment
37	Home Afrika Limited	Investment
38	Kurwitu Ventures Limited	Investment
39	Olympia Capital Holdings Limited	Investment
40	Trans Century Limited	Investment
41	Nairobi Securities Exchange Limited	Investment Services
42	British American Tobacco Kenya	Manufacturing and allied
43	BOC Kenya Limited	Manufacturing and allied
44	Carbacid Investments Limited	Manufacturing and allied
45	East African Breweries Limited	Manufacturing and allied
46	Eveready East Africa Limited	Manufacturing and allied
47	Flame Tree Group Holdings Limited	Manufacturing and allied
48	Mumias Sugar Company Limited	Manufacturing and allied
49	Kenya Orchards Limited	Manufacturing and allied
50	Unga Group Limited	Manufacturing and allied
51	STANLIB Fahari Income REIT	Real estate investment trust
52	Safaricom Plc	Telecommunication and Technology

Appendix II: Secondary data

Year	Firm	Leverage	Firm size "000	Liquidity	ROA
2011	Eaagads Ltd	0.0925	276,789	0.2114	0.244947017
2012	Eaagads Ltd	0.0240	260,061	0.2282	0.221003
2013	Eaagads Ltd	0.0304	271,865	0.2421	0.122959739
2014	Eaagads Ltd	0.0411	354,922	0.2086	0.264629
2015	Eaagads Ltd	0.0079	573,356	0.1524	0.143646409
2016	Eaagads Ltd	0.0726	40,196	0.1224	0.307692
2017	Eaagads Ltd	0.0851	40,196	0.1063	0.108587716
2018	Eaagads Ltd	0.1133	429,934	0.0345	0.467508445
2019	Eaagads Ltd	0.0267	761,165	0.0643	0.012503398
2020	Eaagads Ltd	0.0125	922,802	0.0658	0.002409639
2011	Kakuzi Ltd	0.1536	2,662,519	0.2576	0.260586319
2012	Kakuzi Ltd	0.1058	2,873,255	0.2104	0.053412
2013	Kakuzi Ltd	0.1192	3,218,590	0.1940	0.29494702
2014	Kakuzi Ltd	0.0920	3,817,320	0.1858	0.046729
2015	Kakuzi Ltd	0.0409	3,571,700	0.1748	0.085366
2016	Kakuzi Ltd	0.0396	3,717,543	0.1792	0.305185255
2017	Kakuzi Ltd	0.0460	3,857,454	0.1802	0.250016101
2018	Kakuzi Ltd	0.0811	4,555,179	0.1629	0.211282945
2019	Kakuzi Ltd	0.0823	5,064,414	0.1582	0.454166667
2020	Kakuzi Ltd	0.1074	5,746,126	0.1405	0.295890411
2011	Kapchorua Tea Co. Ltd	0.1197	982,058	0.2476	0.266409266
2012	Kapchorua Tea Co. Ltd	0.1769	1,167,797	0.2329	0.473684211
2013	Kapchorua Tea Co. Ltd	0.2759	1,498,931	0.1778	0.2595849
2014	Kapchorua Tea Co. Ltd	0.1746	1,570,203	0.2036	0.158415842
2015	Kapchorua Tea Co. Ltd	0.2328	1,962,897	0.1897	0.004541
2016	Kapchorua Tea Co. Ltd	0.1871	2,078,475	0.1951	0.012398
2017	Kapchorua Tea Co. Ltd	0.0632	1,929,161	0.2212	0.179842153
2018	Kapchorua Tea Co. Ltd	0.0577	1,983,239	0.2224	0.238425926
2019	Kapchorua Tea Co. Ltd	0.0981	2,144,587	0.1959	0.043010753
2020	Kapchorua Tea Co. Ltd	0.1122	2,030,309	0.1906	0.222039474
2011	The Limuru Tea Co. Ltd	0.1776	57,775	0.1973	0.191435768
2012	The Limuru Tea Co. Ltd	0.2021	84,794	0.1379	0.22826087
2013	The Limuru Tea Co. Ltd	0.0707	158,305	0.0905	0.221238938
2014	The Limuru Tea Co. Ltd	0.0287	191,242	0.0829	0.12987013
2015	The Limuru Tea Co. Ltd	0.0329	320,023	0.2102	0.172642655
2016	The Limuru Tea Co. Ltd	0.0178	339,715	0.2163	0.218274112

2017	The Limuru Tea Co. Ltd	0.0482	338,600	0.2084	0.036144578
2018	The Limuru Tea Co. Ltd	0.0898	313,768	0.1776	0.329970613
2019	The Limuru Tea Co. Ltd	0.0989	282,193	0.1721	0.244048222
2020	The Limuru Tea Co. Ltd	0.1505	262,009	0.1328	0.250154036
2011	Sasini Ltd	0.0531	6,796,306	0.2528	0.320924986
2012	Sasini Ltd	0.0508	8,000,268	0.2411	0.131487889
2013	Sasini Ltd	0.0573	9,060,061	0.2264	0.270524899
2014	Sasini Ltd	0.0617	9,462,027	0.2237	0.258064516
2015	Sasini Ltd	0.0656	8,922,980	0.2141	0.325123153
2016	Sasini Ltd	0.0808	9,054,366	0.2143	0.264150943
2017	Sasini Ltd	0.0358	14,929,577	0.1523	0.173469388
2018	Sasini Ltd	0.0292	16,044,527	0.1258	0.093457944
2019	Sasini Ltd	0.0004	13,106,139	0.0896	2.090909091
2020	Sasini Ltd	0.0533	13,196,025	0.0891	0.112244898
2011	Williamson Tea Kenya Ltd	0.0771	3,580,325	1.2179	1.425453291
2012	Williamson Tea Kenya Ltd	0.1250	3,921,165	1.2044	1.260891212
2013	Williamson Tea Kenya Ltd	0.0261	5,328,706	0.1707	0.475219298
2014	Williamson Tea Kenya Ltd	0.1139	6,032,743	1.1780	1.444268357
2015	Williamson Tea Kenya Ltd	0.1404	7,243,227	1.4769	1.658490566
2016	Williamson Tea Kenya Ltd	0.0921	8,023,834	1.1778	1.245345016
2017	Williamson Tea Kenya Ltd	0.0377	8,539,200	0.1916	1.191919192
2018	Williamson Tea Kenya Ltd	0.0374	8,558,558	0.1934	1.27672956
2019	Williamson Tea Kenya Ltd	0.0764	8,931,395	0.1719	1.184357542
2020	Williamson Tea Kenya Ltd	0.1038	8,364,127	0.1676	1.615384615
2011	Rea Vipingo Plantations Ltd	0.3397	1,631,964	0.1240	1.188976378
2012	Rea Vipingo Plantations Ltd	0.1587	1,414,084	0.1515	1.297297297
2013	Rea Vipingo Plantations Ltd	0.2559	1,707,016	0.1647	1.142857143
2014	Rea Vipingo Plantations Ltd	0.1858	2,288,740	0.1287	0.09251
2015	Rea Vipingo Plantations Ltd	0.1086	2,376,618	0.1668	0.02403
2016	Rea Vipingo Plantations Ltd	0.0789	2,797,430	0.1719	0.03036
2017	Rea Vipingo Plantations Ltd	0.0618	3,203,131	0.1627	0.04115
2018	Rea Vipingo Plantations Ltd	0.0706	4,881,218	0.1499	0.00790
2019	Rea Vipingo Plantations Ltd	0.0426	4,782,097	0.1449	0.07260
2020	Rea Vipingo Plantations Ltd	0.0393	4,609,500	0.1747	0.08510
2011	Car & General (K) Ltd	0.5139	2,750,520	0.0756	0.11332
2012	Car & General (K) Ltd	0.5236	3,210,498	0.0690	0.02669
2013	Car & General (K) Ltd	0.5279	3,880,055	0.0711	0.01246
2014	Car & General (K) Ltd	0.5583	5,562,239	0.0965	0.15357
2015	Car & General (K) Ltd	0.5133	5,705,400	0.1111	0.10585

2016	Car & General (K) Ltd	0.5458	6,901,430	0.0914	0.11921
2017	Car & General (K) Ltd	0.5140	8,152,812	0.1386	0.09199
2018	Car & General (K) Ltd	0.5558	8,988,047	0.1080	0.04088
2019	Car & General (K) Ltd	0.5807	9,705,198	0.0856	0.03959
2020	Car & General (K) Ltd	0.5144	9,400,007	0.1283	0.04599
2011	Sameer Africa Ltd	0.2640	3,076,148	0.0418	0.08105
2012	Sameer Africa Ltd	0.2016	3,005,374	0.0389	0.08229
2013	Sameer Africa Ltd	0.1949	2,845,307	0.0431	0.10736
2014	Sameer Africa Ltd	0.2413	3,125,040	0.0388	0.11973
2015	Sameer Africa Ltd	0.2767	3,399,651	0.0389	0.17689
2016	Sameer Africa Ltd	0.2280	3,668,487	0.0415	0.27594
2017	Sameer Africa Ltd	0.2950	3,857,392	0.0474	0.17456
2018	Sameer Africa Ltd	0.3343	3,751,225	0.0012	0.23277
2019	Sameer Africa Ltd	0.4403	3,290,867	0.0020	0.18715
2020	Sameer Africa Ltd	0.3693	2,969,868	0.0118	0.06316
2011	Express Kenya Ltd	0.3858	1,320,624	0.2870	0.05771
2012	Express Kenya Ltd	0.3847	1,304,116	0.2990	0.09806
2013	Express Kenya Ltd	0.4173	1,341,699	0.2962	0.11218
2014	Express Kenya Ltd	0.5340	766,798	0.2635	0.17757
2015	Express Kenya Ltd	0.3258	495,609	0.2741	0.20211
2016	Express Kenya Ltd	0.3354	480,525	0.2514	0.07072
2017	Express Kenya Ltd	0.2649	477,922	0.3581	0.02869
2018	Express Kenya Ltd	0.2185	441,898	0.5096	0.03293
2019	Express Kenya Ltd	0.3023	379,576	0.6367	0.01775
2020	Express Kenya Ltd	0.4516	358,932	0.7384	0.04823
2011	Kenya Airways Ltd	0.1813	77,838,000	0.4772	0.08983
2012	Kenya Airways Ltd	0.2759	74,931,000	0.4949	0.09894
2013	Kenya Airways Ltd	0.2809	73,263,000	0.4465	0.15053
2014	Kenya Airways Ltd	0.2821	78,743,000	0.4240	0.05315
2015	Kenya Airways Ltd	0.3068	77,432,000	0.3959	0.05077
2016	Kenya Airways Ltd	0.4145	122,670,000	0.3311	0.05729
2017	Kenya Airways Ltd	0.4289	148,657,000	0.3812	0.06166
2018	Kenya Airways Ltd	0.4490	182,063,000	0.5837	0.06563
2019	Kenya Airways Ltd	0.4685	155,685,000	0.7606	0.08076
2020	Kenya Airways Ltd	0.4879	146,144,000	0.8195	0.03582
2011	Nation Media Group Ltd	0.3232	6,722,600	0.0350	0.02915
2012	Nation Media Group Ltd	0.2692	6,572,400	0.0136	0.04352
2013	Nation Media Group Ltd	0.3201	7,975,200	0.4529	0.05334
2014	Nation Media Group Ltd	0.2871	8,816,300	0.0185	0.07710

2015	Nation Media Group Ltd	0.3013	10,677,400	0.0128	0.12499
2016	Nation Media Group Ltd	0.2723	11,444,200	0.0074	0.02613
2017	Nation Media Group Ltd	0.2611	11,944,300	0.0048	0.11394
2018	Nation Media Group Ltd	0.2828	12,696,700	0.0120	0.14044
2019	Nation Media Group Ltd	0.2839	12,174,100	0.0012	0.09205
2020	Nation Media Group Ltd	0.2763	11,320,300	0.0023	0.03775
2011	Standard Group Ltd	0.3165	2,686,213	0.3120	0.03742
2012	Standard Group Ltd	0.2833	3,003,966	0.2968	0.07637
2013	Standard Group Ltd	0.3133	3,306,000	0.2222	0.10375
2014	Standard Group Ltd	0.3401	3,512,257	0.1890	0.33974
2015	Standard Group Ltd	0.3195	3,501,548	0.1553	0.15870
2016	Standard Group Ltd	0.3437	4,136,762	0.1660	0.25591
2017	Standard Group Ltd	0.3225	3,575,410	0.1906	0.18579
2018	Standard Group Ltd	0.4317	3,872,492	0.1784	0.10855
2019	Standard Group Ltd	0.3886	4,404,931	0.1401	0.07888
2020	Standard Group Ltd	0.4963	4,459,637	0.0857	0.06183
2011	TPS Eastern Africa Plc	0.1563	6,506,996	0.2672	0.07061
2012	TPS Eastern Africa Plc	0.1412	6,996,196	0.2778	0.04261
2013	TPS Eastern Africa Plc	0.1391	11,923,137	0.2322	0.03933
2014	TPS Eastern Africa Plc	0.1230	13,131,840	0.2642	0.51393
2015	TPS Eastern Africa Plc	0.1517	13,484,076	0.2415	0.52364
2016	TPS Eastern Africa Plc	0.1623	16,136,097	0.1836	0.52786
2017	TPS Eastern Africa Plc	0.1738	15,939,177	0.1729	0.55827
2018	TPS Eastern Africa Plc	0.1413	15,815,800	0.2463	0.51328
2019	TPS Eastern Africa Plc	0.1207	16,983,115	0.3160	0.54577
2020	TPS Eastern Africa Plc	0.1403	17,486,823	0.3356	0.51399
2011	Uchumi Supermarket Ltd	0.9036	1,608,031	0.7339	0.55583
2012	Uchumi Supermarket Ltd	0.7379	2,440,418	0.3360	0.58074
2013	Uchumi Supermarket Ltd	0.4105	3,153,511	0.1015	0.51444
2014	Uchumi Supermarket Ltd	0.3851	4,004,720	0.0458	0.26398
2015	Uchumi Supermarket Ltd	0.4459	4,941,888	0.0163	0.20156
2016	Uchumi Supermarket Ltd	0.4392	5,573,533	0.0359	0.19490
2017	Uchumi Supermarket Ltd	0.4866	6,884,853	0.0258	0.24131
2018	Uchumi Supermarket Ltd	0.8077	6,412,996	0.0770	0.27672
2019	Uchumi Supermarket Ltd	1.2859	5,002,216	0.1334	0.22804
2020	Uchumi Supermarket Ltd	1.5531	4,327,281	0.2290	0.29502
2011	WPP Scangroup Ltd	0.4479	3,773,957	0.0011	0.33435
2012	WPP Scangroup Ltd	0.3954	3,933,148	0.0030	0.44034
2013	WPP Scangroup Ltd	0.5294	8,009,431	0.0239	0.36933

2014	WPP Scangroup Ltd	0.4473	8,489,938	0.0397	0.38583
2015	WPP Scangroup Ltd	0.3774	8,361,646	0.0367	0.38474
2016	WPP Scangroup Ltd	0.3360	12,949,665	0.0267	0.41734
2017	WPP Scangroup Ltd	0.3342	13,284,104	0.0227	0.53401
2018	WPP Scangroup Ltd	0.2950	12,468,479	0.0149	0.32584
2019	WPP Scangroup Ltd	0.3465	13,486,398	0.0003	0.33544
2020	WPP Scangroup Ltd	0.3480	13,758,912	0.0004	0.26488
2011	ARM Cement Ltd	0.2901	6,352,478	0.3750	0.21855
2012	ARM Cement Ltd	0.2762	12,141,091	0.3837	0.30228
2013	ARM Cement Ltd	0.1936	16,564,894	0.5090	0.45155
2014	ARM Cement Ltd	0.2154	20,515,940	0.4871	0.18131
2015	ARM Cement Ltd	0.2413	26,953,100	0.4946	0.27591
2016	ARM Cement Ltd	0.2439	29,705,254	0.4792	0.28091
2017	ARM Cement Ltd	0.2029	36,912,580	0.2709	0.28211
2018	ARM Cement Ltd	0.3901	51,936,664	0.2856	0.30680
2019	ARM Cement Ltd	0.2773	51,058,802	0.1783	0.41445
2020	ARM Cement Ltd	0.4027	42,699,067	0.1098	0.42888
2011	Bamburi Cement Ltd	0.2039	26,396,000	0.2337	0.44904
2012	Bamburi Cement Ltd	0.1926	25,686,000	0.2424	0.46852
2013	Bamburi Cement Ltd	0.2241	33,306,000	0.1266	0.48788
2014	Bamburi Cement Ltd	0.1521	33,502,000	0.1263	0.32322
2015	Bamburi Cement Ltd	0.1629	43,038,000	0.1200	0.26922
2016	Bamburi Cement Ltd	0.1390	43,016,000	0.1284	0.32013
2017	Bamburi Cement Ltd	0.1651	40,991,000	0.1245	0.28707
2018	Bamburi Cement Ltd	0.1830	42,030,000	0.1102	0.30126
2019	Bamburi Cement Ltd	0.2080	33,839,000	0.1166	0.27231
2020	Bamburi Cement Ltd	0.1527	43,713,000	0.1343	0.26107
2011	Crown Paints Kenya Ltd	0.5418	2,100,571	0.0457	0.28284
2012	Crown Paints Kenya Ltd	0.4476	1,985,184	0.0493	0.28388
2013	Crown Paints Kenya Ltd	0.5028	1,972,337	0.0397	0.27633
2014	Crown Paints Kenya Ltd	0.4839	2,215,352	0.0410	0.31647
2015	Crown Paints Kenya Ltd	0.4582	2,258,263	0.0210	0.28328
2016	Crown Paints Kenya Ltd	0.5326	2,945,434	0.0051	0.31327
2017	Crown Paints Kenya Ltd	2.5356	986,171	0.0050	0.34010
2018	Crown Paints Kenya Ltd	2.3895	1,245,641	0.1685	0.31949
2019	Crown Paints Kenya Ltd	0.6425	5,059,029	0.0488	0.34366
2020	Crown Paints Kenya Ltd	0.6502	5,871,607	0.0504	0.32252
2011	E.A.Cables Ltd	0.3906	3,043,593	0.1604	0.43173
2012	E.A.Cables Ltd	0.3519	3,543,383	0.1794	0.38863

2013	E.A.Cables Ltd	0.3097	4,518,445	0.1932	0.49630
2014	E.A.Cables Ltd	0.4154	4,993,032	0.1292	0.15635
2015	E.A.Cables Ltd	0.4052	6,248,642	0.1266	0.14122
2016	E.A.Cables Ltd	0.4033	6,809,265	0.1464	0.13905
2017	E.A.Cables Ltd	0.4175	7,889,496	0.1906	0.12301
2018	E.A.Cables Ltd	0.3763	8,384,143	0.2480	0.15173
2019	E.A.Cables Ltd	0.4397	7,548,406	0.2216	0.16225
2020	E.A.Cables Ltd	0.5636	7,038,421	0.1695	0.17383
2011	E.A.Portland Cement Co. Ltd	0.1297	9,073,345	0.4265	0.14127
2012	E.A.Portland Cement Co. Ltd	0.1255	12,053,977	0.3672	0.12073
2013	E.A.Portland Cement Co. Ltd	0.1526	12,037,565	0.3738	0.14030
2014	E.A.Portland Cement Co. Ltd	0.1552	13,530,871	0.4233	0.90363
2015	E.A.Portland Cement Co. Ltd	0.1615	14,091,006	0.4951	0.73792
2016	E.A.Portland Cement Co. Ltd	0.2057	16,133,703	0.7943	0.41048
2017	E.A.Portland Cement Co. Ltd	0.2235	15,717,257	0.7765	0.38509
2018	E.A.Portland Cement Co. Ltd	0.1629	23,112,582	0.2396	0.44594
2019	E.A.Portland Cement Co. Ltd	0.1782	27,842,120	0.1772	0.43924
2020	E.A.Portland Cement Co. Ltd	0.0704	27,357,388	0.1561	0.48660
2011	KenGen Co. Ltd	0.0741	106,993,551	0.2892	0.80773
2012	KenGen Co. Ltd	0.0003	108,603,879	0.3630	1.28586
2013	KenGen Co. Ltd	0.0005	143,611,431	0.5106	1.55314
2014	KenGen Co. Ltd	0.0699	160,993,290	0.4989	0.44792
2015	KenGen Co. Ltd	0.0919	163,144,873	0.4779	0.39544
2016	KenGen Co. Ltd	0.0937	188,673,282	0.5143	0.52944
2017	KenGen Co. Ltd	0.1007	250,205,524	0.5927	0.44731
2018	KenGen Co. Ltd	0.0656	342,519,995	0.5210	0.37738
2019	KenGen Co. Ltd	0.0495	367,248,796	0.4801	0.33605
2020	KenGen Co. Ltd	0.0533	377,196,543	0.4611	0.33423
2011	KenolKobil Ltd	0.7722	21,111,000	0.0233	0.29502
2012	KenolKobil Ltd	0.7665	25,171,000	0.0215	0.34650
2013	KenolKobil Ltd	0.6216	30,372,909	0.0094	0.34798
2014	KenolKobil Ltd	0.7133	45,974,304	0.0333	0.29011
2015	KenolKobil Ltd	0.7753	32,684,166	0.0275	0.27623
2016	KenolKobil Ltd	0.7375	28,121,673	0.0255	0.19357
2017	KenolKobil Ltd	0.6815	23,915,166	0.0119	0.21544
2018	KenolKobil Ltd	0.4955	17,377,103	0.0121	0.24127
2019	KenolKobil Ltd	0.5795	24,201,705	0.0129	0.24395
2020	KenolKobil Ltd	0.5234	24,099,030	0.0112	0.20293
2011	Kenya Power & Lighting Ltd	0.3096	59,812,122	0.2911	0.39007

2012	Kenya Power & Lighting Ltd	0.3304	70,648,425	0.2896	0.27732
2013	Kenya Power & Lighting Ltd	0.2217	85,025,890	0.4403	0.40269
2014	Kenya Power & Lighting Ltd	0.2533	119,878,993	0.4151	0.20393
2015	Kenya Power & Lighting Ltd	0.2340	134,131,983	0.3495	0.19256
2016	Kenya Power & Lighting Ltd	0.2238	177,157,755	0.4178	0.22410
2017	Kenya Power & Lighting Ltd	0.2211	220,926,514	0.4465	0.15214
2018	Kenya Power & Lighting Ltd	0.1459	275,493,150	0.5511	0.16290
2019	Kenya Power & Lighting Ltd	0.1711	297,542,180	0.6137	0.13904
2020	Kenya Power & Lighting Ltd	0.2203	341,653,227	0.5750	0.16511
2011	Total Kenya	0.6546	14,526,784	0.7583	0.18304
2012	Total Kenya	0.5673	31,528,196	0.1484	0.20804
2013	Total Kenya	0.5627	30,375,677	0.1220	0.15275
2014	Total Kenya	0.6530	35,198,166	0.0858	0.54178
2015	Total Kenya	0.5437	32,980,604	0.0259	0.44764
2016	Total Kenya	0.5874	39,984,165	0.0279	0.50285
2017	Total Kenya	0.0246	32,541,800	0.0366	0.48390
2018	Total Kenya	0.0224	34,225,035	0.0364	0.45819
2019	Total Kenya	0.4259	36,185,372	0.0394	0.53262
2020	Total Kenya	0.4013	38,012,115	0.0352	2.53562
2011	Centum Investment Co. Ltd	0.0083	8,145,850	0.14439	2.38950
2012	Centum Investment Co. Ltd	0.0386	6,569,939	0.13716	0.64246
2013	Centum Investment Co. Ltd	0.0828	8,255,971	0.09749	0.65023
2014	Centum Investment Co. Ltd	0.1180	12,301,576	0.0813	0.39055
2015	Centum Investment Co. Ltd	0.0455	11,567,701	0.0864	0.35195
2016	Centum Investment Co. Ltd	0.0617	18,961,552	0.2188	0.30970
2017	Centum Investment Co. Ltd	0.1731	29,597,220	0.4419	0.41544
2018	Centum Investment Co. Ltd	0.1564	72,231,387	0.3099	0.40524
2019	Centum Investment Co. Ltd	0.0820	78,053,536	0.3638	0.40329
2020	Centum Investment Co. Ltd	0.0919	88,385,608	0.3483	0.41748

2011	Olympia Capital Holdings Ltd	0.3098	1,089,380	0.0705	0.37632
2012	Olympia Capital Holdings Ltd	0.2463	787,577	0.0459	0.43971
2013	Olympia Capital Holdings Ltd	0.2625	1,107,853	0.0902	0.56356
2014	Olympia Capital Holdings Ltd	0.3154	1,200,876	0.1748	0.12965
2015	Olympia Capital Holdings Ltd	0.1636	1,866,902	0.2652	0.12547
2016	Olympia Capital Holdings Ltd	0.1375	1,897,407	0.2963	0.15258
2017	Olympia Capital Holdings Ltd	0.1926	1,576,337	0.0653	0.15521
2018	Olympia Capital Holdings Ltd	0.1789	1,531,409	0.0580	0.16148
2019	Olympia Capital Holdings Ltd	0.1094	1,606,659	0.1272	0.20575
2020	Olympia Capital Holdings Ltd	0.1257	1,613,368	0.0898	0.22347
2011	Trans-Century Ltd	0.2705	8,089,074	0.3475	0.16291
2012	Trans-Century Ltd	0.2344	8,733,331	0.3628	0.17822
2013	Trans-Century Ltd	0.2289	11,236,478	0.3001	0.07040
2014	Trans-Century Ltd	0.3062	21,742,258	0.1662	0.07407
2015	Trans-Century Ltd	0.2676	21,845,754	0.1799	0.05403
2016	Trans-Century Ltd	0.2478	23,840,273	0.1978	0.04853
2017	Trans-Century Ltd	0.2653	19,463,658	0.1448	0.06992
2018	Trans-Century Ltd	0.6341	21,817,981	0.2034	0.09195
2019	Trans-Century Ltd	0.6008	18,911,552	0.1967	0.09367
2020	Trans-Century Ltd	0.7650	18,740,964	0.2410	0.10070
2011	B.O.C Kenya Ltd	0.2659	2,057,227	0.0272	0.06563
2012	B.O.C Kenya Ltd	0.1848	1,988,401	0.0438	0.04953
2013	B.O.C Kenya Ltd	0.1990	2,019,810	0.0477	0.05327
2014	B.O.C Kenya Ltd	0.2477	1,816,803	0.0162	0.77220
2015	B.O.C Kenya Ltd	0.2623	1,994,865	0.0084	0.76648
2016	B.O.C Kenya Ltd	0.2066	2,633,093	0.0049	0.62159
2017	B.O.C Kenya Ltd	0.2405	2,300,320	0.5483	0.71332
2018	B.O.C Kenya Ltd	0.2615	2,320,956	0.8532	0.77532
2019	B.O.C Kenya Ltd	0.2403	2,223,838	0.1930	0.73747
2020	B.O.C Kenya Ltd	0.2770	2,228,669	0.0001	0.68153
2011	British American Tobacco Kenya Ltd	0.4269	10,307,602	0.0983	0.49552
2012	British American Tobacco Kenya Ltd	0.4394	10,543,998	0.1175	0.57948
2013	British American Tobacco Kenya Ltd	0.3693	11,121,561	0.1709	0.52339
2014	British American Tobacco Kenya Ltd	0.3884	13,750,545	0.1453	0.30960
2015	British American Tobacco Kenya Ltd	0.3988	15,176,495	0.1335	0.33036

2016	British American Tobacco Kenya Ltd	0.3992	16,985,923	0.1550	0.22166
2017	British American Tobacco Kenya Ltd	0.3935	18,253,510	0.1613	0.25334
2018	British American Tobacco Kenya Ltd	0.3533	18,681,184	0.1728	0.23397
2019	British American Tobacco Kenya Ltd	0.3430	18,499,800	0.1815	0.22379
2020	British American Tobacco Kenya Ltd	0.3692	17,805,588	0.1904	0.22110
2011	Carbacid Investments Ltd	0.0317	1,209,543	0.1213	0.14591
2012	Carbacid Investments Ltd	0.0484	1,376,380	0.1033	0.17112
2013	Carbacid Investments Ltd	0.0440	1,512,166	0.1004	0.22028
2014	Carbacid Investments Ltd	0.0263	1,739,985	0.1304	0.65458
2015	Carbacid Investments Ltd	0.0746	2,012,816	0.1043	0.56730
2016	Carbacid Investments Ltd	0.0401	2,204,399	0.0869	0.56265
2017	Carbacid Investments Ltd	0.0615	2,533,163	0.0871	0.65295
2018	Carbacid Investments Ltd	0.0832	2,968,727	0.0824	0.54375
2019	Carbacid Investments Ltd	0.0544	3,081,768	0.0779	0.58743
2020	Carbacid Investments Ltd	0.0448	3,306,974	0.0710	0.45862
2011	East African Breweries Ltd	0.2667	33,254,248	0.0682	0.44940
2012	East African Breweries Ltd	0.2632	35,832,389	0.0846	0.42585
2013	East African Breweries Ltd	0.0004	38,420,691	0.0725	0.40134
2014	East African Breweries Ltd	0.3120	49,712,130	0.1471	0.00831
2015	East African Breweries Ltd	0.4119	54,584,316	0.4284	0.03865
2016	East African Breweries Ltd	0.4544	58,556,053	0.4016	0.08276
2017	East African Breweries Ltd	0.4368	62,865,943	0.4184	0.11797
2018	East African Breweries Ltd	0.3724	66,939,778	0.4281	0.04551
2019	East African Breweries Ltd	0.4258	65,683,608	0.4087	0.06167
2020	East African Breweries Ltd	0.3298	66,666,312	0.4904	0.17310
2011	Kenya Orchards Ltd	0.2979	74,020	0.7602	0.15635
2012	Kenya Orchards Ltd	0.3007	78,704	0.7150	0.08198
2013	Kenya Orchards Ltd	0.2543	74,491	0.7554	0.09194
2014	Kenya Orchards Ltd	0.2013	70,372	0.7996	0.30981
2015	Kenya Orchards Ltd	0.1820	68,936	0.8163	0.24632
2016	Kenya Orchards Ltd	0.1678	70,597	0.7971	0.26255
2017	Kenya Orchards Ltd	0.3279	50,202	1.1270	0.31540
2018	Kenya Orchards Ltd	0.2087	78,731	0.7147	0.16356
2019	Kenya Orchards Ltd	0.2604	89,242	0.6306	0.13752
2020	Kenya Orchards Ltd	0.3380	108,278	0.5197	0.19255
2011	Mumias Sugar Co. Ltd	0.2401	14,152,576	0.1210	0.17893

2012	Mumias Sugar Co. Ltd	0.2152	17,475,715	0.2103	0.10945
2013	Mumias Sugar Co. Ltd	0.1773	18,334,110	0.2228	0.12571
2014	Mumias Sugar Co. Ltd	0.1278	23,177,000	0.2476	0.27047
2015	Mumias Sugar Co. Ltd	0.2088	27,400,000	0.2174	0.23438
2016	Mumias Sugar Co. Ltd	0.3082	27,281,993	0.2013	0.22885
2017	Mumias Sugar Co. Ltd	0.4513	23,563,086	0.0970	0.30617
2018	Mumias Sugar Co. Ltd	0.6690	20,432,980	0.0407	0.26761
2019	Mumias Sugar Co. Ltd	0.4039	26,801,136	0.3140	0.24778
2020	Mumias Sugar Co. Ltd	0.7065	24,091,095	0.2621	0.26526
2011	Unga Group Ltd	0.3230	4,761,528	0.0545	0.63411
2012	Unga Group Ltd	0.3746	5,565,541	0.0600	0.60080
2013	Unga Group Ltd	(0.2655)	5,064,420	0.0702	0.76501
2014	Unga Group Ltd	0.2836	5,708,897	0.0605	0.26594
2015	Unga Group Ltd	0.3070	6,410,259	0.0707	0.18483
2016	Unga Group Ltd	0.3906	8,108,379	0.0802	0.19904
2017	Unga Group Ltd	0.2706	8,026,578	0.1230	0.24770
2018	Unga Group Ltd	0.2666	8,635,129	0.1175	0.26229
2019	Unga Group Ltd	0.2752	9,199,783	0.1056	0.20661
2020	Unga Group Ltd	0.3921	10,267,471	0.0743	0.24046
2011	Safaricom Ltd	0.4105	61,491,762	0.1054	0.26147
2012	Safaricom Ltd	0.3900	91,682,324	0.0521	0.24030
2013	Safaricom Ltd	0.3248	104,120,850	0.0769	0.27699
2014	Safaricom Ltd	0.2997	113,854,762	0.1079	0.42691
2015	Safaricom Ltd	0.3086	121,899,677	0.1001	0.43940
2016	Safaricom Ltd	0.2840	128,856,157	0.0931	0.36925
2017	Safaricom Ltd	0.2843	134,600,946	0.0379	0.38839
2018	Safaricom Ltd	0.3325	156,957,626	0.0031	0.39882
2019	Safaricom Ltd	0.2666	159,182,579	0.65979	0.39922
2020	Safaricom Ltd	0.3352	161,686,996	0.67047	0.39351
2011	Britam Holdings Limited	0.44536	59,768,756	0.64869	0.35333
2012	Britam Holdings Limited	0.38583	69,721,954	0.50160	0.34303
2013	Britam Holdings Limited	0.38474	90,603,808	0.31510	0.36925
2014	Britam Holdings Limited	0.41734	30,896,641	0.16524	0.03167
2015	Britam Holdings Limited	0.53401	79,160,510	0.09389	0.04835
2016	Britam Holdings Limited	0.32584	78,180,698	0.11343	0.04402
2017	Britam Holdings Limited	0.33544	96,901,863	0.22825	0.02626
2018	Britam Holdings Limited	0.26488	47,627,675	0.21861	0.07460
2019	Britam Holdings Limited	0.21855	98,069,882	0.51443	0.04011
2020	Britam Holdings Limited	0.25818	37,108,517	0.05779	0.06149

2011	CIC Insurance Group Limited	0.18381	52,130,226	0.05744	0.08324
2012	CIC Insurance Group Limited	0.28589	64,609,962	0.60911	0.05439
2013	CIC Insurance Group Limited	0.28091	37,398,379	0.03663	0.04481
2014	CIC Insurance Group Limited	0.28211	70,779,464	0.73235	0.26667
2015	CIC Insurance Group Limited	0.3068	62,726,730	0.72826	0.26323
2016	CIC Insurance Group Limited	0.41437	90,244,309	0.71104	0.30412
2017	CIC Insurance Group Limited	0.42888	93,762,832	0.71396	0.31198
2018	CIC Insurance Group Limited	0.44292	48,682,381	0.70834	0.41191
2019	CIC Insurance Group Limited	0.35888	83,319,497	0.50361	0.45438
2020	CIC Insurance Group Limited	0.29049	48,325,696	0.48904	0.43681
2011	Jubilee Holdings Limited	0.34166	75,632,884	0.47250	0.37244
2012	Jubilee Holdings Limited	0.3831	29,152,148	0.55463	0.42582
2013	Jubilee Holdings Limited	0.42027	70,088,508	0.47161	0.32976
2014	Jubilee Holdings Limited	0.60013	84,109,608	0.52731	0.29795
2015	Jubilee Holdings Limited	0.43671	87,895,360	0.62732	0.30068
2016	Jubilee Holdings Limited	0.41899	49,123,650	0.59659	0.25433
2017	Jubilee Holdings Limited	0.44818	85,196,784	0.59727	0.20134
2018	Jubilee Holdings Limited	0.30118	84,894,144	0.58936	0.18195
2019	Jubilee Holdings Limited	0.3283	30,161,382	0.31358	0.16777
2020	Jubilee Holdings Limited	0.26922	41,310,813	0.27081	0.32790
2011	Kenya Re-Insurance Corporation Ltd	0.32013	67,097,613	0.54532	0.20874
2012	Kenya Re-Insurance Corporation Ltd	0.28707	48,083,542	0.61027	0.26037
2013	Kenya Re-Insurance Corporation Ltd	0.30126	54,918,052	0.65381	0.33795
2014	Kenya Re-Insurance Corporation Ltd	0.27231	63,064,601	0.66883	0.24010
2015	Kenya Re-Insurance Corporation Ltd	0.26107	95,903,612	0.66898	0.21518
2016	Kenya Re-Insurance Corporation Ltd	0.28284	97,445,205	0.64847	0.17727
2017	Kenya Re-Insurance Corporation Ltd	0.47958	76,183,848	0.64393	0.12780
2018	Kenya Re-Insurance Corporation Ltd	0.449	92,109,116	0.62509	0.20876
2019	Kenya Re-Insurance Corporation Ltd	0.39839	25,666,364	0.57203	0.30822
2020	Kenya Re-Insurance Corporation Ltd	0.5533	95,982,843	0.58435	0.45135
2011	Liberty Kenya Holdings Limited	0.48705	36,474,840	0.56751	0.66902
2012	Liberty Kenya Holdings Limited	0.43337	89,258,559	0.54081	0.40394

2013	Liberty Kenya Holdings Limited	0.33424	87,039,488	0.54083	0.70654
2014	Liberty Kenya Holdings Limited	0.33423	61,755,380	0.52415	0.32301
2015	Liberty Kenya Holdings Limited	0.29502	55,214,692	0.68478	0.37463
2016	Liberty Kenya Holdings Limited	0.30373	78,581,092	0.66933	0.26545
2017	Liberty Kenya Holdings Limited	0.31465	84,680,335	0.60134	0.28356
2018	Liberty Kenya Holdings Limited	0.28328	36,770,097	0.59957	0.30700
2019	Liberty Kenya Holdings Limited	0.31327	27,122,230	0.57933	0.39057
2020	Liberty Kenya Holdings Limited	0.3401	38,850,604	0.56379	0.27065
2011	Sanlam Kenya Plc	0.31949	50,824,779	0.57336	0.26660
2012	Sanlam Kenya Plc	0.34366	26,772,373	0.63874	0.27521
2013	Sanlam Kenya Plc	0.29815	98,508,801	0.57280	0.39211
2014	Sanlam Kenya Plc	0.41033	44,551,865	0.62146	0.41052
2015	Sanlam Kenya Plc	0.13875	46,134,523	0.66538	0.39005
2016	Sanlam Kenya Plc	0.15635	64,937,289	0.64480	0.32481
2017	Sanlam Kenya Plc	0.14122	44,844,851	0.62955	0.29966
2018	Sanlam Kenya Plc	0.13905	64,806,173	0.61095	0.30858
2019	Sanlam Kenya Plc	0.12301	31,405,487	0.33384	0.28397
2020	Sanlam Kenya Plc	0.15173	96,378,265	0.48213	0.28427
2011	Centum Investment Company	0.16225	72,131,095	0.42127	0.33251
2012	Centum Investment Company	0.17383	47,645,706	0.49736	0.26663
2013	Centum Investment Company	0.14127	85,248,571	0.61127	0.33520
2014	Centum Investment Company	0.27837	25,167,651	0.65389	0.4313
2015	Centum Investment Company	0.41551	88,553,436	0.69459	0.5448
2016	Centum Investment Company	0.14122	60,584,123	0.74426	0.2840
2017	Centum Investment Company	0.41048	91,389,150	0.78573	0.2889
2018	Centum Investment Company	0.38509	98,663,901	0.76085	0.6382
2019	Centum Investment Company	0.44594	66,487,628	0.30181	0.5217
2020	Centum Investment Company	0.43924	33,294,314	0.31604	0.4363
2011	Home Afrika Limited	0.4866	52,048,001	0.31971	0.2569
2012	Home Afrika Limited	0.82192	51,015,852	0.25720	0.3619
2013	Home Afrika Limited	0.2504	24,085,374	0.29208	0.3708
2014	Home Afrika Limited	0.2535	45,109,247	0.28236	0.0870
2015	Home Afrika Limited	0.2306	39,101,661	0.26484	0.0182
2016	Home Afrika Limited	0.2466	24,708,972	0.24188	0.0262
2017	Home Afrika Limited	0.2336	30,014,054	0.23402	0.0283
2018	Home Afrika Limited	0.3099	35,515,594	0.24991	0.0192
2019	Home Afrika Limited	0.2513	28,360,963	0.25287	0.0237
2020	Home Afrika Limited	0.1416	33,541,455	0.26468	0.0383
2011	Kurwitu Ventures Limited	0.3552	52,218,369	0.30001	0.1299

2012	Kurwitu Ventures Limited	0.5713	31,542,975	0.28636	0.1303
2013	Kurwitu Ventures Limited	0.4783	36,746,759	0.29858	0.1460
2014	Kurwitu Ventures Limited	0.5368	24,939,431	0.36115	0.2498
2015	Kurwitu Ventures Limited	0.4386	33,977,743	0.32475	0.2427
2016	Kurwitu Ventures Limited	0.4388	28,566,467	0.33281	0.2143
2017	Kurwitu Ventures Limited	0.4201	36,843,775	0.18172	0.1268
2018	Kurwitu Ventures Limited	0.4365	53,056,885	0.20575	0.1420
2019	Kurwitu Ventures Limited	0.5659	37,288,904	0.07656	0.1378
2020	Kurwitu Ventures Limited	0.4109	47,926,633	0.08323	0.0657
2011	Trans Century Limited	0.2385	28,995,795	0.06991	(0.0465)
2012	Trans Century Limited	0.2594	37,431,719	0.02212	(0.0793)
2013	Trans Century Limited	0.2611	52,585,955	0.02172	(0.2739)
2014	Trans Century Limited	0.2351	25,776,045	0.02288	0.5555
2015	Trans Century Limited	0.3718	26,515,033	0.01530	0.5531
2016	Trans Century Limited	0.3520	42,088,203	0.45242	0.4818
2017	Trans Century Limited	1.0515	36,784,355	0.75609	0.5444
2018	Trans Century Limited	0.6547	52,238,442	1.02381	0.5752
2019	Trans Century Limited	0.1793	37,967,770	0.26928	0.4708
2020	Trans Century Limited	0.1915	42,369,808	0.21445	0.5980
2011	Nairobi Securities Exchange Limited	0.3149	51,239,533	0.23413	0.6130
2012	Nairobi Securities Exchange Limited	0.2717	35,784,728	0.25512	0.6509
2013	Nairobi Securities Exchange Limited	0.2131	53,311,054	0.26191	0.6216
2014	Nairobi Securities Exchange Limited	0.3548	23,149,070	0.23516	0.1412
2015	Nairobi Securities Exchange Limited	0.2062	46,128,914	0.06774	0.2389
2016	Nairobi Securities Exchange Limited	0.2029	43,508,203	0.08610	0.1399
2017	Nairobi Securities Exchange Limited	0.1772	32,824,241	0.27301	0.1199
2018	Nairobi Securities Exchange Limited	0.0849	38,100,932	0.35493	0.1100
2019	Nairobi Securities Exchange Limited	0.0340	45,737,523	0.49326	0.1020
2020	Nairobi Securities Exchange Limited	0.0440	54,651,360	0.55342	0.0975
2011	STANLIB Fahari Income REIT	0.2023	52,423,679	0.49107	0.0983
2012	STANLIB Fahari Income REIT	0.2992	43,440,210	0.52519	0.1051
2013	STANLIB Fahari Income REIT	0.2776	55,026,173	0.52102	0.1528

2014	STANLIB Fahari Income REIT	0.2485	37,156,470	0.53859	0.5772
2015	STANLIB Fahari Income REIT	0.1794	55,911,825	0.56641	0.6207
2016	STANLIB Fahari Income REIT	0.2536	32,216,435	0.55733	0.5924
2017	STANLIB Fahari Income REIT	0.2368	31,722,934	0.56537	0.5987
2018	STANLIB Fahari Income REIT	0.4770	29,293,003	0.55673	0.6188
2019	STANLIB Fahari Income REIT	0.0552	42,162,374	0.13541	0.7009
2020	STANLIB Fahari Income REIT	0.0216	49,902,670	0.20029	0.7044
2011	Flame Tree Group Holdings Limited	0.2142	33,184,311	0.24630	0.7136
2012	Flame Tree Group Holdings Limited	0.2268	34,599,504	0.28368	0.7550
2013	Flame Tree Group Holdings Limited	0.1885	26,768,131	0.33359	0.7587
2014	Flame Tree Group Holdings Limited	0.1895	31,666,481	0.33009	0.3251
2015	Flame Tree Group Holdings Limited	0.2042	24,955,876	0.36157	0.3163
2016	Flame Tree Group Holdings Limited	0.2000	23,504,945	0.27416	0.2803
2017	Flame Tree Group Holdings Limited	0.1642	37,899,020	0.32419	0.2253
2018	Flame Tree Group Holdings Limited	0.1493	52,306,318	0.25942	0.3651
2019	Flame Tree Group Holdings Limited	0.1594	27,391,241	0.16892	0.3549
2020	Flame Tree Group Holdings Limited	0.1848	38,936,587	0.19622	0.3579
2011	Nairobi Business Ventures Ltd	0.2169	43,984,923	0.14407	0.4049
2012	Nairobi Business Ventures Ltd	0.2153	52,864,797	0.17231	0.0851
2013	Nairobi Business Ventures Ltd	0.1759	36,974,109	0.19565	0.1100
2014	Nairobi Business Ventures Ltd	0.1554	43,609,298	0.15958	(0.8048)
2015	Nairobi Business Ventures Ltd	0.0263	38,266,156	0.16337	(0.7569)
2016	Nairobi Business Ventures Ltd	0.0452	39,800,394	0.14602	(0.7911)
2017	Nairobi Business Ventures Ltd	0.7865	38,366,881	0.13932	(0.8264)
2018	Nairobi Business Ventures Ltd	0.2053	39,801,977	0.13240	(0.8392)
2019	Nairobi Business Ventures Ltd	0.2198	38,953,766	0.00002	(0.7842)
2020	Nairobi Business Ventures Ltd	0.2863	43,778,803	0.00443	(1.6058)
2011	Deacons East Africa Plc	1.0630	50,370,315	0.20261	(0.6563)
2012	Deacons East Africa Plc	0.0788	36,700,967	0.23773	(0.5369)
2013	Deacons East Africa Plc	0.0924	52,444,857	0.26926	(0.3896)
2014	Deacons East Africa Plc	0.0980	31,966,128	0.28676	0.2935
2015	Deacons East Africa Plc	0.1248	51,401,291	0.29488	0.3028

2016	Deacons East Africa Plc	0.1157	31,608,525	0.16926	0.3493
2017	Deacons East Africa Plc	0.1260	28,553,671	0.78409	0.3393
2018	Deacons East Africa Plc	0.1254	53,835,511	0.20387	0.3399
2019	Deacons East Africa Plc	0.1248	55,076,786	0.13720	0.2620
2020	Deacons East Africa Plc	0.1260	35,767,007	0.19845	0.1914
2011	Longhorn Publishers Limited	0.1497	34,091,256	0.15591	0.0449
2012	Longhorn Publishers Limited	0.0704	44,199,082	0.00213	(0.0875)
2013	Longhorn Publishers Limited	0.0003	53,776,993	0.00267	(0.3640)
2014	Longhorn Publishers Limited	0.0697	55,829,616	0.03706	0.1875
2015	Longhorn Publishers Limited	0.0682	55,194,679	0.01111	0.1734
2016	Longhorn Publishers Limited	0.0860	31,751,996	0.00695	0.2223
2017	Longhorn Publishers Limited	0.1378	33,258,339	0.02374	0.2425
2018	Longhorn Publishers Limited	0.1653	42,279,954	0.03693	0.2431
2019	Longhorn Publishers Limited	0.2047	40,117,152	0.21456	0.3900
2020	Longhorn Publishers Limited	0.2493	33,267,541	0.28156	0.4421