



Cost of Capital and Investment Decision of Non-Financial Firms Listed at Nairobi Securities Exchange, Kenya

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

The main purpose of the study was to assess the influence of cost of capital on investment decision of non-financial firms listed at the Nairobi Securities Exchange, Kenya. The study employed the theory of Modern Portfolio and The trade-off theory. The study employed descriptive research design. The study was carried out at firms listed at the NSE, Kenya with a population of 46 non-financial firms listed at the Nairobi Securities Exchange (NSE) as at December 2019. A census of 46 non-financial firms was considered. Secondary data was collected from annual reports of the non-financial companies listed at NSE and the NSE handbooks. Expert opinion was used to ensure data validity and reliability. The data was analyzed descriptively by means and the standard deviation, while multiple regression analysis was used to establish the influence between the variables. Regression results showed that cost of equity has a positive effect on financial performance as measured by Return on Assets ($\beta = 0.2737$, $p = 0.0000$); cost of preference shares affects investment decision negatively and significantly ($\beta = -0.2430$, $p = 0.0015$), and that the effect of cost of debt on investment decision is significantly positive ($\beta = 0.2934$, $p = 0.0000$). Given from the findings of the study that less than 34% of variations can be attributed to the cost of capital on investment decisions for the listed non-financial firms, this study has proved that effective working

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capital management practices will play a crucial role in improving the overall profit margins for the listed non-financial firms at NSE. In conclusion, cost of debt is a significant positive contributor to the investment decision of the non-financial listed firms at the NSE. The debts are essential when the firm is lacking finance in running its daily expenditure smoothly. The NSE and other regulating authorities such as the Capital Markets Authority (CMA) should therefore ensure that policies are put in place to help the firms manage their cost of capital efficiently. These policies must be in line with the Sustainable Development Goals (SDGs). These policies may include availing access to credit facilities and promoting trading in shares of the listed firms and these policies should be integrated with SDGs, which recognizes that action in one area will affect outcomes in others, and that development must balance social, economic and environmental sustainability.

Keywords: Cost of equity; cost of preference share capital; debt capital.

1. INTRODUCTION

Investment decisions are decisions that are made by top and middle level management with respect to the amount of funds to be deployed in the investment opportunities, [1]. Several scholars note that these decisions are important because apart from influencing the company's size (fixed assets, sales, and retained earnings), they also increase the value of the company's shares and thus its credibility. Moreover, since they are irreversible, it means that they have to be made carefully to avoid any mistake that can lead to the failure of such investment and due to heavy capital outlay; more attention is required to avoid loss of huge sums of money, which in the extreme may lead to the closure of such a company.

According to Morris [1], investment decisions are among the most important decisions that financial managers are faced with because firms must determine the source of funds to finance their assets, operations and growth. These decisions form the firm's capital structure. The overall objective of the firm is wealth maximization; therefore, the firm must determine the optimal capital structure that will maximize its value. The firm however creates value when its investments provide a return greater than its cost of capital. In the developing countries, investment decisions have also been observed to be on the increase. Geetha and Ramesh (2020) in their study on investment decisions in India concluded that there was medium awareness on varied investment choices available but there was little awareness about the stock market, equity, bond and debentures. Viswanadham et al. (2021) identified the factors influencing the buying behavior of investors in Tanzania Equity market.

The average cost which is used as an acceptable criterion to be applied to investment projects. For

an investment project to be accepted it must earn a minimum rate of return equal to the cost of capital. Therefore, the cost of capital represents a standard for allocating the firms funds in the most optimum manner. Capital structure of a firm determines the weighted average cost of capital (WACC). WACC is the minimum rate of return required on a firm's investments and used as the discount rate in determining the value of a firm. A firm can create value for its shareholders as long as earnings exceed the costs of investments, (Damodaran, 2020).

Every organization aims to adopt a capital cost not only fitting the shareholder expectations but also that which keeps the cost of funding low with optimized firm value. Cost of capital has been directly linked to the performance of many firms including the nonfinancial firms listed in the NSE. In this scenario, the investment stakeholders such as investors carry out a cost of capital analysis of firms for investment based on how well the organization manages its capital to achieve sound financial results. According to Modigliani and Miller [2] quoted by Brigham and Gapenski [3] cost of capital is the amount given to providers of a firm's capital. Since there are basically two classes of providers of capital, cost of capital can be seen to be either cost of equity, the capital provided by the owners of the firm, and cost of debt, the capital provided by outsiders.

Cost of equity can also be divided to two classes; cost of ordinary shares and cost of preference shares. While a number of studies have attempted to establish the cause of poor investment decisions among non-financial firms listed at the Nairobi Securities Exchange, the link between the firms' cost of capital and investment decisions is missing. Therefore, the present study sought to establish the effect of cost of capital on

investment decision of non-financial firms listed at the Nairobi Securities Exchange, Kenya.

1.1 Statement of the Problem

The listed firms are important drivers of the economy with non-financial listed firms averagely contributing 18% of revenue to Gross Domestic Product (GDP) annually. However, statistics indicate that up to 16% of the listed non-financial firms were delisted between 2010 and 2019. Firms in the security exchange are delisted when their share prices have fallen below investors' expectations indicating poor investment decisions. The nonfinancial firms listed in the Nairobi Security Exchange (NSE) are among the organizations whose performance through investment decisions may depend on their capital cost. However, the influence of this cost of capital on investment decision by non-financial listed firms is still unclear since a review of previous empirical studies indicates that the studies have focused mainly on cost of capital determinants of all listed firms and the determinants of capital structure of specific sectors of the economy.

According to Abey Francis (2019) the cost of capital is a very important concept in the financial decision making. Cost of capital is the measurement of the sacrifice made by investors in order to invest with a view to get a fair return in future on his investments as a reward for the postponement of his present needs. On the other hand from the point of view of the firm using the capital, cost of capital is the price paid to the investor for the use of capital provided by him. Thus, cost of capital is reward for the use of capital.

The importance of continued understanding of what drives investment decisions among existing and prospective investor has been emphasized by scholars and practitioners. Despite the need to grow investments by listed non-financial firms in order to give a return to stakeholders, only a few studies are available have explored the effect of cost of capital on investment decision among the firms, with the majority of available studies having been conducted in foreign context such as United States, India and China. The investment environment in these contexts is different from the Kenyan one which possesses unique and even peculiar characteristics.

Existing studies in Kenya (for example Jagongo & Mutswenje, 2021; Waweru, 2020; Muthama,

Mbaluka & Kalunda, 2022) have all paid attention to the broad categories of economic and behavioural factors influencing investor decisions. None of these available studies have focused on cost of capital as a possible determinant of these investment decisions. Sagala George (2021) who did a research on the relationship between cost of capital and leverage concluded that the relationship between them varies from company to company. Elsewhere, Chepkemboi (2018) studied the determinants of pecking order behaviour for listed companies in Kenya and found that the cost of capital declined with leverage. A pooled regression model was used to carry out an empirical analysis of the variables. In the model, financing decisions was represented by incremental debt and equity with debt taking. The studies have not focused on cost of capital and investment decision particularly for the non-financial firms in the NSE. Motivated by this, this study therefore sought to fill this gap by seeking to investigate the influence of cost of capital on investment decision among listed non-financial firms in Kenya.

1.2 Objectives of the Study

- i. To examine the influence of the cost of equity on investment decision of non-financial firms listed at the NSE, Kenya,
- ii. To determine the influence of cost of preference share capital on investment decision of non-financial firms listed at the NSE, Kenya,
- iii. To establish the influence of debt capital on investment decision of non-financial firms listed at the NSE, Kenya.

1.3 Significance of the Study

Over the years, the non-financial firms have been rated depending on how they perform in terms of returns on investment also known as financial performance. Each of the firms listed under the NSE attempts to not find itself being listed as non-performing firm. Poor performance as a result of bad investment decisions means that the firm is running at a loss thus threatening its survival because investors, shareholders and other stakeholders may start losing interest and hope and soon may quit. Therefore, this may benefit investors, shareholders and other parties of interest of the non-financial firms listed in Nairobi securities exchange to understand the effects of cost of capital on their financial performance.

Through this study, the current and future investors in respective firms will have a better understanding of effect of the cost of capital and how it impacts the financial performance of their investment. Some researchers have tried carried out studies on cost of capital on non-financial firms but have no managed to address the issue of cost of capital and its effects on the performance of these firms. This study aims to shed light in this area and add more information to the existing literature. In addition, there are high chances that upcoming researchers may also want to address a problem that has been left out under this field. For reference purposes, this study will provide information which will be utilized as a source of reference in future.

2. LITERATURE REVIEW

2.1 Theoretical Literature

2.1.1 Portfolio theory

The theory of Modern Portfolio was proposed by Markowitz [4]. Proponents of this theory argue that there must be compensation in terms of returns for assuming some risks. Investors would consider taking investments in projects that have return and risks in line with their risk profiles. As a principle, firms will make investment decisions that have high returns and therefore improving financial performance. According to Elton et al. [5] an investor has to consider the correlation of the returns of an asset with the returns of all other assets. Taking into account these co-movements allows the construction of a portfolio that has the same return with lower risk than a portfolio that ignores the interactions. The implication is that management will invest in a portfolio that has high return and therefore improve financial performance.

Accordingly, it is observed that an investor will select one portfolio rather than another based on the criterion that the probability of the portfolio's return falling below a minimum desired threshold is minimized. According to Penrose and Penrose [6], this theory assumes that the investors are rational and the market is efficient and perfect. This means that the investors are capable of making economic decisions out of reason as opposed to intuition. Thus, they know when to invest or not to invest and that they can predict the changes in the market. This theory helps firms identify portfolios that bring high returns and therefore helps in examining the effect of investment decisions.

2.1.2 Trade-off Theory

The trade-off theory of capital structure refers to the idea that a company chooses how much debt finance and how much equity finance to use by balancing the costs and benefits. The classical version of the hypothesis goes back to Kraus and Litzenberger who considered a balance between the dead-weight costs of bankruptcy and the tax saving benefits of debt. Often agency costs are also included in the balance. The static trade-off theory explains that a firm's decision for getting to their optimal capital structure is related to the trade-off between the tax advantage of debt and several leverage-related costs, [7].

The static trade-off choice encompasses several aspects, including the exposure of the firm to bankruptcy and agency cost against tax benefits associated with debt use. Bankruptcy cost is a cost directly incurred when the perceived probability that the firm will default on financing is greater than zero. One of the bankruptcy costs is liquidation costs, which represents the loss of value as a result of liquidating the net assets of the firm. This liquidation cost reduces the proceeds to the lender, should the firm default on finance payments and become insolvent. Given the reduced proceeds, financiers will adjust their cost of finance to firms in order to incorporate this potential loss of value. Firms will, therefore, incur higher finance costs due to the potential liquidation costs, (Cassar and Holmes, 2019).

Another cost that is associated with the bankruptcy cost is distress cost. This is the cost a firm incurs if non-lending stakeholders believe that the firm will discontinue. If a business is perceived to be close to bankruptcy, customers may be less willing to buy goods and services due to the risk of a firm not being able to meet its warranty obligations. In addition, employees might be less inclined to work for the business and suppliers less likely to extend trade credit. These stakeholders' behavior effectively reduces the value of the firm. Therefore, firms which have high distress cost would have incentives to decrease debt financing so as to lower these costs. Given these bankruptcy costs, the operating risk of the firm would also influence the capital structure choice of the firm because firms which have higher operating risk would be exposed to higher bankruptcy costs, making cost of debt financing greater for higher risk firms.

The trade-off theory has contributed a lot in finance. It yields an intuitively pleasing interior

optimum for firms and gives a rationale for cross-sectional variation in corporate debt ratios i.e. firms with different types of assets will have different bankruptcy and agency costs and different optimal debt ratios. However, the theory has limitations i.e. debt ratios as produced by this theory are significantly higher than observed. Secondly, in many industries, the most profitable firms often have the lowest debt ratios, which are the opposite of what the trade-off theory predicts (Sunder & Myers, 1999). According to Myers [8] the trade-off theory also fails to predict the wide degree of cross-sectional and time variation of observed debt ratios.

2.2 Empirical Literature Review

2.2.1 Effect of the cost of equity on investment decision

Sagala (2021) did a research on the relationship between cost of capital and leverage. In his research, he analyzed companies quoted in the Nairobi Securities exchange to establish whether there was a relationship between the two. He concluded that, the relationship between them varies from company to company. For some, the cost of capital declined with leverage for others there was a positive relationship hence use of debt led to increase in the cost of capital. The reason being that the cost of debt is higher than cost of equity for those companies. Some companies are able to procure debt at a lower cost hence reducing their overall cost of capital others are not. Ojah (2019) using a panel of listed firms in Ghana, Kenya, Nigeria, South Africa and Zimbabwe investigated corporate capital structure in Africa, with emphasis on the extent to which firm characteristics and cross-country institutional differences determine the way firms raise capital. Results supported the pecking-order postulate. Firms' profitability, size, asset tangibility and age, related significantly to leverage; thus suggesting that remedies for inadequate institutional infrastructures were important determinants of corporate capital structure in Africa.

As observed by Rehman [9], the working of the firm entails its performance that provides the approximate the general working of the firm. Returns being given priorities there are a method used in determining the equity of the holder. Since the equity holders are mostly interested on the financial position as it eventually leads to their increase in their wealth. In the financial statement financial situation is measured using

the returns on equity and returns on asset. Where the return on equity (ROE) is given by the ratio Earnings before Interest and Tax (EBIT) to the gross equity that in turns give the percentage return. Whereas the return on asset is given by the ratio of interest and tax before any income. Therefore, equity earned and equity on its own are two distinguishable things. The retained profit can be used in addition of other assets nor rather payment of debts in the firm. In most cases it is widely recognized that the majority of the enterprises are made up of shareholders who contribute to the firm playing both roles in the financial attachment and advisory to the firm.

2.2.2 Effect of preference share capital on investment decision

Merikas et al. (2021) conducted an empirical survey of economic factors and individual investor behavior in a stock exchange based on Greek's Athens Stock Exchange (ASE) context. The findings were based on the views of 150 respondents who revealed a certain degree of correlation between the factors identified in behavioural finance theory literature as well other previous empirical influenced by the overall trends prevailing at the time of the survey in the ASE. The study held the position that that expected corporate earnings from shares such as preference stocks, condition of financial statements, or firm status in the industry which falls under classic wealth maximization criteria were rated as having significantly high influence on individual investors' decisions. The study found that cost of preference shares has an influence on investment decisions

Farooq & Masood [10] examine the impact of cost of equity on the value of 19 cement firms listed on the Karachi Stock Exchange, Pakistan between 2008 and 2012. The study reports that the average ratio of debt to equity among the surveyed listed cement firms is 1.7%. Further, the study establishes that cost of equity has positive and statistically significant association with value of firm which is represented by Tobin's Q. The study specifically reported that preference share capital has no effect of firm value. On the local scene, a number of studies on capital structure-firm performance relationship have been conducted. For instance, Kuria & Omboi (2022) analyzed the relationship between capital structure and financial performance of investment and banking firms listed at the Nairobi

Securities Exchange in Kenya. Using financial data for a five-year period between 2014 and 2019 and through OLS regression analysis, the study results show that debt to equity ratio has a significantly negative effect on ROA but significantly and positively affects ROE with the sample of investment and baking firms listed at the NSE.

2.2.3 Effect of Debt Financing on Investment Decision

Debt financing of the business has an impact on the balance sheet as it increases the firm liabilities value. The debt is paid either with or without interest. For they do not dissolve the ownership, interest and firm's cash flow. Hence reduction in the net income takes the place of the tax benefit by the lower taxable income. When the ratio of debt to equity and debt to total capital increases to achieve a given interest margin that is reached at the end of the day. In the case of dissolution of the firm the debts holders become the most considerate first.

External debt improves the productivity of the firm and give chances to the growth of the business. The debts are essential when the firm is lacking finance in running its daily expenditure smoothly. In giving the cheapest source of finance the shares may be offered from various shareholders who plays the role in the source of financing. Ghafoor [11] analyzed the decision structure of capital and performance of the company in terms of engineering, where he discussed on the firm performance of the company and in the data collection among the firms. The results indicated that increase in debt causes a decrease in performance. There is a huge relationship on debts and performance of the firm.

Sagala (2020) did a research on the relationship between cost of capital and leverage. In his research, he analysed companies quoted in the Nairobi Securities exchange to establish whether there was a relationship between the two. He concluded that, the relationship between them varies from company to company. For some, the cost of capital declined with leverage for others there was a positive relationship hence use of debt led to increase in the cost of capital. The reason being that the cost of debt is higher than cost of equity for those companies. Some companies are able to procure debt at a lower cost hence reducing their overall cost of capital others are not.

2.2.4 Firm size and investment decision

Firm size was used as control variable in this study since is a relevant variable that could confound the relationship between cost of capital and investment decision, (Ho and Wong, 2020). Moreover, Wahba and Elsayed (2018) indicate that large firms are likely to have more resources that could enhance a firm's ability to finance its investments. Moreover, firm size has been related to existence of economies of scale inherent in investments and therefore could influence firm investment decision. Additionally, the size of a firm is related to the risks and costs of bankruptcy. According to Ayot (2018), larger firms are more diversified and are therefore prone to lesser risk of bankruptcy leading to better financial performance.

3. METHODOLOGY

3.1 Research Design

Creswell [12] defines a research design as a master plan developed by a researcher to guide their data collection and analysis process with the aim of achieving study objectives. Correlational research design was adopted to ensure the objective of the study is exhaustively met. This will enable the researcher to employ secondary quantitative data which was obtained from NSE handbooks and from published books of accounts of the non-financial listed firms at the NSE for a period of 4 years (2016-2019).

3.2 Study Location

The study was carried out in the Nairobi Securities Exchange (NSE) located in Nairobi City. With a population of approximately 3.06 million in 2009 (Kenya National Bureau of Statistics, 2020), and covering an area of 684 square kilometers, [13], Nairobi is the second-largest city by population in the African Great Lakes region after Dar-es-Salam, Tanzania.

3.3 Target Population

The population consisted of the 46 non-financial firms listed at the Nairobi Securities Exchange (NSE) as at December 2019 (Appendix I). These firms are classified into nine sectors, namely; agricultural, automobiles and accessories, commercial and services, construction and allied, energy and petroleum, investment, manufacturing and allied, telecommunication and technology and growth and enterprise market

segment, [14]. Public listed non-financial companies were selected due to the central role they play in the economy of Kenya and are therefore a representative sample of firms in Kenya.

3.4 Sampling Procedures and Techniques

A census of the 46 non-financial firms was conducted. This is because the number of firms is small. The non-financial firms were selected because their performance has been lower compared to that of the financial firms. The analysis was done for companies listed in The Nairobi Securities Exchange because the NSE gives investors the opportunity to access current information and provides a reliable indication of the Kenyan equity market's performance. It has encouraged higher standards of accounting, resource management and public disclosure which in turn afford greater efficiency in the process of capital growth. All the information required for this research (audited financial statements) was therefore available at the NSE which has availed it for public use for all the listed companies. This was the sampling frame for the study.

3.5 Data Collection

The process of collecting responses from the respondents is called data collection, [15]. Different methods have been applied by researchers to collect data including: observations, experiments, questionnaires, interview guides among others. Two types of data exist: secondary and primary. Secondary data was collected from annual reports of the non-financial companies listed at NSE, NSE handbooks and published books of accounts for the years 2016 to 2019. The data that was collected was on the four variables of cost of equity, cost of debt financing, and cost of preference share capital and investment decision.

3.6 Validity and Reliability

Validity decides if the examination really measures what it is expected to gauge and how honest the examination result is (Mugenda and Mugenda, 2016). The construct is the underlying idea, thought, question or speculation that figures out which information is to be assembled and how it is to be accumulated. A pilot study was not done for this study since the data was secondary in nature. However, the data collected was

subjected to specification tests before analysis to ensure that it was suitable for analysis.

3.7 Data Analysis Technique and Procedure

Data analysis is a process synthesizing the responses collected from the field so as to make meaning from the collected data, [16]. In this research, data was analyzed using quantitative methods. The data was analysed quantitatively using both descriptive and inferential statistics. Descriptively, the research was analysed using the mean and the standard deviation, while inferentially, correlation and regression analyses was used. The quantitative data was analyzed with the help of the SPSS version 21.

The influence of the cost of capital on investment decision was analysed based on the following model:

$$Y = \beta_{01} + \beta_1 COE_{it} + \beta_2 COP_{it} + \beta_3 COD_{it} + \epsilon_{it}$$

Where;

- ID_{it} : Investment Decision for firm i during time t ;
- COE_{it} : Cost of Equity of firm i during time t ;
- COP_{it} : Cost of Preference share capital for firm i during time t ;
- COD_{it} : Cost of Debt share capital for firm i during time t ;
- β_0 : The intercept,
- β_j : The regression coefficients with k representing the model and;
- ϵ_{it} : The idiosyncratic disturbance term for firm i during time t assumed to have a mean of zero and constant variance.

4. RESULTS

4.1 Response Rate

The research targeted 46 non-financial firms listed at the Nairobi Securities Exchange (NSE) [14]. Out of the 46 firms, complete data was collected from 38 firms with accurate level of 83%. Mugenda and Mugenda (2008) indicated that a response rate of 50% is adequate, 60% is good and above 70% is excellent. Therefore, the response rate of 83% was considered excellent to analyse the influence of cost of capital on investment decision of non-financial firms listed at the Nairobi Securities Exchange, Kenya. The remaining 17% represented firms whose data

was either completely missing or partially missing, and were therefore dropped from the sample. Rogelberg and Stanton (2017) assert that for studies carried out at the organizational level, the acceptable data collection rate should be over 35%. Therefore, the data collection in the present study met this criterion and hence was suitable in ensuring accuracy and minimization of bias.

4.2 Influence of the Cost of Equity on Investment Decision

The study ought to find out the level to which respondents agree or disagree with the statement relating to the influence of the cost of equity on investment decision. From the table below, the researcher found out that cost of equity influences the financial distress with a mean of 3.52 and a Standard Deviation of 1.712. The respondents indicated that cost of equity increases the firm value with a mean of 3.81 and a Standard Deviation of 1.363. Other respondents indicated that cost of equity can be used by shareholders to measure manager's performance in maximizing their profit with a mean of 3.17 and a Standard Deviation of 1.202 while other respondents indicated that cost of equity can impact revenue and profitability of company with a mean of 3.66 and a Standard Deviation of 1.175. Therefore, the overall results indicate that the respondents were in agreement regarding the influence of the cost of equity on investment decision of non-financial firms listed at the NSE. The findings concur with the findings of Rehman [9] who indicated that the working of

the firm entails its performance that provides the approximate the general working of the firm. He indicated that returns being given priorities, there are a method used in determining the equity of the holder. Equity holders are mostly interested on the financial position as it eventually leads to their increase in their wealth.

4.3 Effect of Cost of Preference Shares on Investment Decision

The study sought to determine whether the respondents agree or disagree with the above statement relating to effect of Cost of Preference Shares on Investment Decision. Based on the mean and SD, the researcher found out that the cost of preference enhances flexibility in capital structure with a mean of 2.89 and a Standard Deviation of 0.345, he also found out that cost of preference widens the scope of the capital market with a mean of 3.81 and a Standard Deviation of 782. The researcher also agreed with the statements that, cost of preference help the company in maximizing the profits available for the dividend with a mean of 3.52 and a Standard Deviation of 1.072 while others were of the opinion that cost of preference saves shareholders from capital losses with a mean of (mean=3.73, SD=1.184).

The result suggests that preference shares are fair securities for the shareholders during cyclic market corrections and depression periods when the profits of the company are down. Preference shares often pay a higher rate of dividend

Table 1. Influence of the cost of equity

Variables	N	Mean	Std. Dev
It influences the financial distress.	38	3.52	1.712
It increases the firm value	38	3.81	1.363
It can be used by shareholders to measure manager's performance in maximizing their profit.	38	3.17	1.202
It impact revenue and profitability of company	38	3.66	1.175

Research Data (2023)

Table 2. Effect of cost of preference shares on investment decision

Variable	N	Mean	Std. Deviation
Enhances flexibility in capital structure	38	2.89	0.345
They widens the scope of the capital market	38	3.81	0.782
They help the company in maximizing the profits available for the dividend	38	3.52	1.072
It saves shareholders from capital losses	38	3.73	1.184

Source: Research Data (2023)

Table 3. Effect of cost of debt on investment decision

Cost of Debt	N	Mean	Std.Deviation
It allows a business to leverage a small amount of capital to create growth	38	2.77	1.245
Debt payments are generally tax-deductible	38	2.81	1.182
A company retains all ownership control	38	2.52	1.272
It facilitate growth	38	2.29	1.078

Research Data (2023)

as against other categories of shares. The findings concur with the findings of Antwi, Emire AttaMills & Zhao [17] who indicated that the preference shareholders are also entitled and empowered to receive their accrued as well as accumulated dividends. Preference shareholders also have the privilege to enjoy the surplus profits of the company, which are left over after payment of dividend to the equity shareholders.

4.4 Effect of Cost of Debt on Investment Decision

The study sought to determine whether the respondents agree or disagree with the statements on the effect of Cost of Debt on Investment Decision. Based on the results, debt allows a business to leverage a small amount of capital to create growth with a mean of 2.77 and a Standard Deviation of 1.245, the researcher also found out that debt payments are generally tax-deductible with a mean of 2.81 and a Standard Deviation of 1.182. The researcher also found out that a company retains all ownership control with a mean of 2.52 and a Standard Deviation of 1.272. The researcher also found out that debt facilitate growth with a mean of 2.29 and a Standard Deviation of 1.078. The results suggest that the capital structure is vital in the company. The findings of this study concur with that of Ghafoor (2016) who indicated that external debt improves the productivity of the firm and give chances to the growth of the business. The debts are essential when the firm is lacking finance in running its daily expenditure smoothly. In giving the cheapest source of finance, the shares may be offered from various shareholders who plays the role in the source of financing

4.5 Diagnostic Test

4.5.1 Testing for normality

The assumption of normality of residuals signifies the generalizability of findings, (Gujarati, 2017). In this study, normality was diagnosed using a histogram of regression standardised residuals

along with their summary statistics for value-added financial performance of the listed firms. The histogram of residuals is a simple graphical device that is used to learn something about the shape of the probability density function (PDF) of a random variable.

According to Tabachnick and Fidell (2017), data is considered normal if the skewness value for its residuals is zero or close to zero, and kurtosis value for the residuals is 3.0 or close to 3.0. The rule of the thumb is that in a normally distributed sample, the JB statistic is zero, and if the residuals are not normally distributed, the statistic will assume increasingly larger values. The null hypothesis for the JB is that the residuals are normally distributed, (Gujarati, 2007). Results for the normality test are shown in Fig. 1.

Overall, the histogram of regression standardised coefficients for financial performance and the JB statistic in Fig. 1 indicate that there is no reason to reject the null hypothesis that the error terms are not normally distributed. Additionally, the values for skewness and kurtosis lie within the limits suggested by Tabachnick and Fidell (2017) of close to 1.0 and 3.0 respectively. The assumption for normality of data was therefore met.

4.5.2 Testing for multicollinearity

Multicollinearity refers to a situation where two or more explanatory variables are highly linearly related. Testing for multicollinearity is necessary before data analysis because highly collinear explanatory variables result to estimators that are not best linear unbiased estimators (BLUE). This is because as multicollinearity increases, the standard error of coefficients increases making them less reliable. Multicollinearity was tested in the present study by means of tolerance and variance inflation factor (VIF). Pallant (2007) observes multicollinearity among explanatory variables is present if VIF and tolerance values of above 10 and below 0.1 respectively are observed.

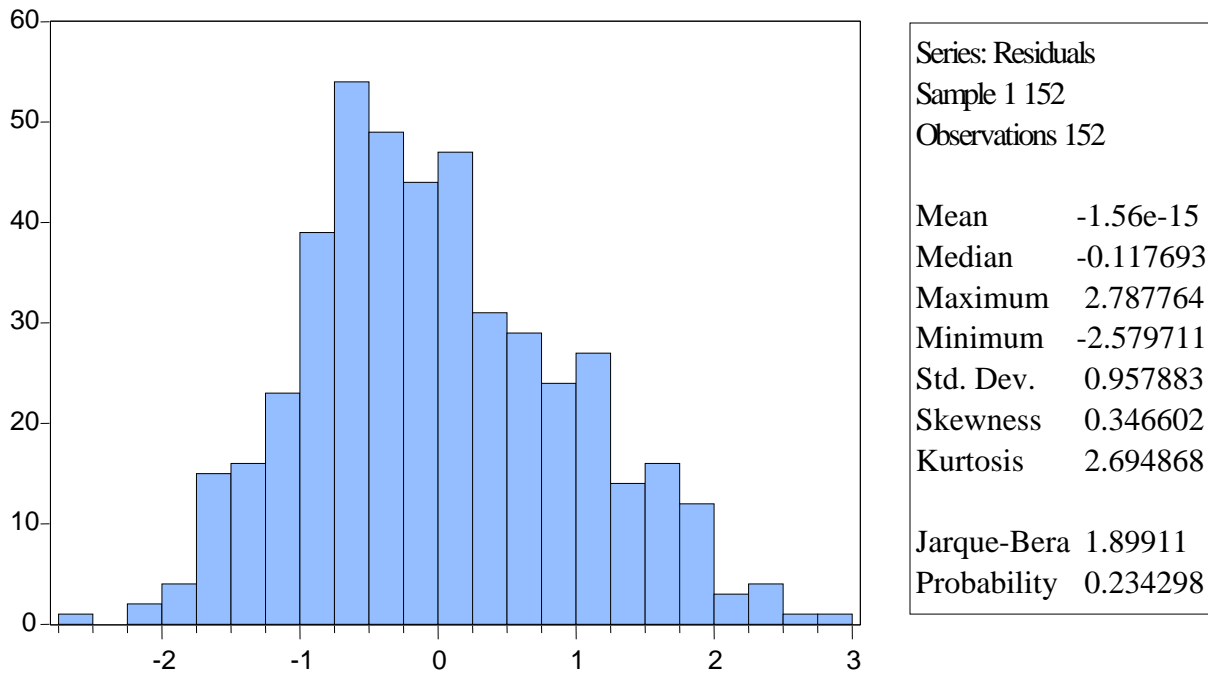


Fig. 1. Histogram of residuals
 Source: (Researcher, 2023)

As observed in Table 4, all the VIF values lie below 10 whereas the tolerance values are all more than 0.1, indicating that there are no issues of multicollinearity among the variables.

Table 4. VIF for study variables

Variable	Tolerance	VIF
COE	0.437	2.288
COP	0.624	1.602
COD	0.609	1.641

4.5.3 Testing for homoscedasticity

The homoscedasticity condition is fulfilled when at each level of the predictor variables, the variance of the residuals terms are constant. Whenever the assumption does not hold, and the data is heteroscedastic, the regression analysis will yield biased standard errors, spurious results and incorrect conclusions about significance of the regression coefficients, (Field, 2010). This condition was not tested in the present study since it is not considered a serious problem for panel data (Gujarati, 2007).

4.5.4 Heteroscedasticity test

Breusch-Pagan test was applied in order to test for homoscedasticity. This test is conducted on the basis that there is a normal distribution in the

error terms. The null hypothesis of the test is a constant variance. Consequently if the p-value is very significant, the null hypothesis is rejected in support of alternative hypothesis that is variance is not constant. Results below show that the p value is greater than .05 thus the error term is constant.

Basing on the level of output, the values obtained were greater than 0.05, hence there is no big difference existing in the variation of dependent to independent variables that were tested.

4.5.5 Testing for autocorrelation

The study conducted an autocorrelation test using the Durbin-Watson method. The findings indicated that the Durbin-Watson value is at 2.374 which shows that Durbin-Watson statistics is between 1.5 and 2.5, given in Table 5 hence there is no autocorrelation, (Hair et al., 2010). According to Gujarat (2009), the Dublin-Watson values of less than 1.0 or greater than 3.0 may be a cause of concern. A Dublin-Watson value closer to 2.0 is regarded as satisfactory. Thus, the value 2.374 lies within the satisfactory levels and thus regarded as acceptable.

4.6 Regression Analysis

Adjusted R squared is coefficient of determination, which tells us the variation in the

dependent variable due to changes in the independent variable, from the findings, the coefficient of determination (R squared) was 0.646 which implies that 64.6% of the changes in investment decision of non-financial firms listed at the Nairobi Securities Exchange is explained by cost of equity, cost of preference share capital and debt capital. The adjusted R square value of 0.616 revealed that, 61.6% of the changes in investment decision of non-financial firms listed at the Nairobi Securities Exchange.

From the ANOVA statistics in the table below, the processed data, which is the population parameters, had a significance level of 0.00% which shows that the data is ideal for making a conclusion on the population's parameter as the value is less than 5%. There was an indication that there was significant difference between employee performance and salary, bonus and fringe benefits. The significance value was less than 0.05. An indication that the model was significant.

4.7 Multiple Regressions

Regression analysis was used to define relationships among the variables, the overall model fit and how well the dependent variables predict the independent variable, (Makau, 2017). In order to undertake the above, test for the

appropriateness of the regression model was done by undertaking the tests as elaborated below. Multiple Regressions was used to determine how independent variables predicted the dependent variable. The table presents the regression coefficients and the significance of the regressions (p-value). From the regression result, the coefficient of cost of equity is .756. This implies that one unit change in cost of equity, led to a change in investment decision by .756. Therefore, cost of equity was found to have statistically significant effect on investment decision ($\beta = 0.655$; $t = 12.972$; $p < 0.05$). From the regression result, the coefficient of cost of preference is -0.243. This implies that one unit change in cost of preference, led to a change in investment decision by -0.243. Therefore, cost of preference was found to have statistically significant effect on investment decision ($\beta = 0.241$; $t = -3.347$; $p < 0.05$).

A significant level of fringe benefits as an incentive in relation to employee performance at 0.812 denotes that a unit increase in fringe benefits as an incentive would lead to an increase in employee performance by 0.050. This confirms Charith (2018) who stated in his study that all employees were satisfied with the fringe benefits and the way that they were structured and how different demographical areas received total cost-to-company packages.

Table 5. Test for heteroscedasticity

Breusch-Pagan / Cook-Weisberg test for heteroscedasticity			
Ho: Constant variance			
Variables: fitted values of net profit			
	chi2 (1)	=	1.34
	Prob> chi2	=	0.2476

Table 6. Test for autocorrelation

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.297 ^a	.088	-.244	.54911	2.374

Table 7. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.804053	0.646501	0.616543	1.035581

Dependent Variable: investment decision
Predictors: (Constant), cost of equity, cost of preference share capital and debt capital

Table 8. ANOVA of the regression

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	123.56	5	24.712	21.580	0.00003
Residual	199.25	32	1.1451		
Total	322.81	37			

Dependent Variable: investment decision

Predictors: (Constant), cost of equity, cost of preference share capital and debt capital

Regression analysis was used to define relationships among the variables, the overall model fit and how well the dependent variables predict the independent variable, (Makau, 2017). In order to undertake the above, test for the appropriateness of the regression model was done by undertaking the tests as elaborated below. Multiple Regressions was used to determine how independent variables predicted the dependent variable.

From the regression result, the coefficient of cost of equity is .756. This implies that one unit change in cost of equity, led to a change in investment decision by .756. Therefore, cost of equity was found to have statistically significant effect on investment decision ($\beta = 0.655$; $t = 12.972$; $p < 0.05$). From the regression result, the coefficient of cost of preference is -0.243. This implies that one unit change in cost of preference, led to a change in investment decision by -0.243. Therefore, cost of preference was found to have statistically significant effect on investment decision ($\beta = 0.241$; $t = -3.347$; $p < 0.05$).

From the regression result, the coefficient of cost of debt is 0.293. This implies that one unit change in cost of debt, led to a change in investment decision by .162. Therefore, cost of debt was found to have statistically significant effect on investment decision ($\beta = 0.162$; $t = 4.252$; $p < 0.05$).

5. DISCUSSION

The general objective of the study was to establish the influence of cost of capital on investment decision of non-financial firms listed at the Nairobi Securities Exchange, Kenya. The study was guided by the following specific objectives; to find out the influence of the cost of equity on investment decision of non-financial firms listed at the NSE, Kenya, to determine the influence of cost of preference share capital on investment decision of non-financial firms listed at the NSE, Kenya and to establish the influence of debt capital on investment decision of non-

financial firms listed at the NSE, Kenya. From the regression result, the coefficient of cost of equity is .756. This implies that one unit change in cost of equity, led to a change in investment decision by .756. Therefore, cost of equity was found to have statistically significant effect on investment decision ($\beta = 0.655$; $t = 12.972$; $p < 0.05$). There was a strong positive and highly significant correlation between the cost of equity and investment decision ($r = 0.904$, $P < 0.05$).

There was a strong positive and highly significant correlation between cost of preference and investment decision ($r = 0.781$, $P < 0.05$). There was a strong positive and highly significant correlation between debt capital and investment decision ($r = 0.674$, $P < 0.05$). Panel data estimation methods were employed in this study because the observations have two dimensions; cross-section and time-series. As asserted by Hsiao (2005), panel data estimation methodology contains more degrees of freedom and less multicollinearity leading to estimates that are more efficient. The panel data analysis method has three approaches; pooled model, the fixed effects model and the random effects model. There was a strong positive and highly significant correlation between debt capital and investment decision ($r = 376^{**}$, $P < 0.05$). The results imply that independent variables; cost of equity, cost of preference share capital and debt capital significantly affect investment decision of non-financial firms listed at the Nairobi Securities Exchange, Kenya. As observed by Hilmer and Hilmer (2014), in the pooled model, the data from the different time periods is lumped into one large cross-section and estimations made using the Ordinary Least Squares (OLS) methodology.

Chepkemboi (2017) studied about the determinants of pecking order behaviour for listed companies in Kenya. She used a pooled regression model to carry out an empirical analysis of the variables. In the model, financing decisions was represented by incremental debt and equity with debt taking precedence over equity. Further, financing deficit was represented by the sum of incremental capital expenditures;

cash dividends paid; working capital less internally generated funds (Retained Earnings). The findings indicated a constant of (-4.83) and a deficit coefficient (1.1415) was statistically significant and pulls apart from one. Further, the variable for the cumulative deficit had a negative sign which suggested that the greater the deficit the less leverage a firm uses. This result was inconsistent with the pecking order hypothesis.

Empirically, results of the study showed that cost of preference capital is relevant to the value of a firm. Similarly, an empirical study conducted by Tailab [18] analyzing the effect of cost of capital on profitability on a sample of thirty American firms in the energy sector for a period of nine years from 2004 to 2013. While the study employed Smart PLS (Partial Least Square), it established that debt to equity ratio has insignificant but positive relationships with both ROA and ROE. However, the study reported neither the magnitude of the debt-equity ratio nor the components of equity included in the composite value of equity. The study also failed to indicate the level of equity employed by the firms studied, thus failing to report the specific effects of common stock and retained earnings on ROA and ROE.

6. CONCLUSION

Based on the findings presented, the following conclusions can be drawn. The first conclusion based on the first objective which showed that cost of equity has a positive effect on investment decision is that cost of equity is an important positive contributor to investment decision of the firms listed at the NSE. The results of this study indicate that the Cost of Equity significantly influences the investment decisions. This shows that if the cost of equity can be controlled properly, it will increase the firm value because it illustrates the greater the fulfilment of the rate of return on investors. This shows that the utilization of cost of equity can be used for shareholders to measure firms' performance in maximizing shareholder's profit. The implication of this research is to give conceptual new science about cost of equity strategy that can increase firm value.

Results based on objective two showed that cost of preference shares affects investment decision measured negatively and significantly. It is concluded that cost of preference shares is a significant negative determinant of investment decision of the firms listed at the NSE.

Preference shares often pay a higher rate of dividend as against other categories of shares. According to the findings, the preference shareholders are entitled and empowered to receive their accrued as well as accumulated dividends. Preference shareholders also have the privilege to enjoy the surplus profits of the company which are left over after payment of dividend to the equity shareholders.

Results based on objective three showed that the effect of cost of debt on financial performance is significantly positive. It is concluded that cost of debt is a significant positive contributor to the investment decision of the non-financial listed firms at the NSE. The debts are essential when the firm is lacking finance in running its daily expenditure smoothly. In giving the cheapest source of finance the shares may be offered from various shareholders who plays the role in the source of financing. The results indicated that increase in debt causes a decrease in performance. There is a huge relationship on debts and performance of the firm.

7. RECOMMENDATIONS

The following recommendations can be made based on the conclusions resulting from the findings of the study. Findings in the present study show that cost of capital has a significant role to play in the investment decision of the listed non-financial firms. The NSE and other regulating authorities such as the Capital Markets Authority (CMA) should therefore ensure that policies are put in place to help the firms manage their cost of capital efficiently. These policies must be in line with the Sustainable Development Goals (SDGs). These policies may include availing access to credit facilities and promoting trading in shares of the listed firms and the policies should be intergrated with SDGs, which recognizes that action in one area will affect outcomes in others, and that development must balance social, economic and environmental sustainability. These policies and strategies should be designed to end poverty, hunger, and discrimination against women in investing at NSE.

The findings in the study may also help the capital providers in the non-financial listed firms to make decisions that will help them enhance value for their investments. It is therefore recommended that they should focus their investment in equity and debt since this will help the firms to invest their funds which may in the

end increase the value of their returns. It is recommended that other stakeholders in the listed firms such as banks offer an enabling environment to help the non-financial listed firms to improve their cost of equity and cost of debt since this will assist in informing their investment decisions. They should also invest in creativity, knowhow, technology and financial resources from all of society which is necessary to achieve the SDGs in every context.

8. LIMITATIONS OF THE STUDY

The study was specifically centered on the influence of the cost of capital on investment decision of non-financial firms listed in Nairobi securities exchange. Therefore, the findings, conclusions and recommendations from thus this study will not be used to reflect on other organizations which are not in the group of non-financial firms. The study did not take into consideration all other aspects such as management, organizational culture and staffing which might also affect the financial performance of these firms. Also, such issues like governing policies, politics, and the country's economic standards were not reflected in this study because they are beyond the firms' control and have no relationship with the topic of study.

9. SUGGESTIONS FOR FURTHER RESEARCH

The present study only focused on three selected costs of capital. While the selected characteristics were chosen after preliminary extensive literature review, future researchers should research more on investment decisions of the non-financial listed firms. Secondly, the future studies should be designed to include non-listed firms and especially the small and medium scale companies that are not listed at the Nairobi Securities Exchange since they play a major role in the economic growth of Kenya. Moreover, comparative studies targeting firms listed at other developing counties should be conducted in order to come up with best practices for benchmarking. Sector-specific studies should also be conducted.

The future researchers should include all firms listed at the NSE using a longer longitudinal study in order to assess the long-run effect of selected firm characteristics on financial performance. The studies should consider using designs that are different from panel such as pure time series or pure cross-sectional surveys.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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APPENDIX- I

NON-FINANCIAL FIRMS LISTED AT THE NSE DECEMBER 2019

1	Eaagads Ltd.
2	Kakuzi Ltd
3	Kapchorua Tea Co. Ltd.
4	The Limuru Tea Co. Ltd
5	Rea Vipingo Plantations
6	Sasini Ltd.
7	Williamson Tea Kenya Ltd.
8	Car and General (K) Ltd
9	Marshalls (E.A) Ltd
10	Sameer Africa Ltd
11	CMC Holdings
12	Express Kenya Ltd. Ord
13	Hutchings Biemer Ltd
14	Nation Media Group Ltd
15	Standard Group Ltd
16	TPS Eastern Africa Ltd
17	Kenya Airways Ltd
18	Longhorn Kenya Ltd
19	Scangroup Ltd
20	ARM Cement Ltd.
21	Bamburi Cement Ltd.
22	Crown Paints
23	E.A. Cables Ltd
24	E.A. Portland Cement Co. Ltd
25	KenGen Co. Ltd
26	KenolKobil Ltd.
27	Kenya Power & Lighting Co. Ltd
28	Umeme Ltd
29	Total Kenya
30	British-American Investments Co
31	Centum Investment Co. Ltd.
32	Olympia Capital Holdings Ltd
33	Trans-Century Ltd
34	A. Baumann & Co. Ltd
35	B.O.C Kenya Ltd.
36	British American Tobacco Ltd
37	Carbacid Investments Ltd
38	East African Breweries Ltd
39	Kenya Orchards Ltd
40	Mumias Sugar Co. Ltd
41	Unga Group Ltd.
42	Eveready E.A. Ltd
43	Safaricom
44	Home Africa
45	Flame Tree Group Holding Ltd.
46	Atlas Development and Support Ltd.

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