EFFECTS OF CORPORATE TAXATION ON THE CAPITAL STRUCTURE OF FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE

BY

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OCTOBER, 2015
DECLARATION

This management research report is my original work and has not been presented for award of a degree in any other university.

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DEDICATION

I dedicate this project to Collins Kagoma Macharia, my son for understanding and always giving me room to do my research. To all my family members, close friends, your prayers and support have brought me to this moment.
ABSTRACT

The strength of securities markets that make them focal points of modern finance is their ability to mobilize long term savings for financing long term ventures, to improve efficiency of resource allocation through competitive pricing mechanisms, to provide risk capital (equity to entrepreneurs), and to encourage broader ownership of firms. The Kenyan tax system, just like that of many other countries, is largely based on formal labels, and only indirectly on underlying asset characteristics. In turn, equity faces one set of tax rules while debt faces another often more favourable. The disparity in tax treatment raises the need for analysis for the relationship between the tax rate and the level of leverage. Especially, in the presence of different tax treatments for the various sources of finance and in view of the fact that financial policies affect the user cost of capital and investment. With regard to the source of finance, the Kenyan tax strongly favors debt rather than equity capital mainly because it provides complete deductibility of interest expenses and no relief for the opportunity cost of equity capital. This study seeks to examine the effects of corporate taxation on the capital structure of firms listed in Nairobi Stock Exchange (NSE). This study adopted an explanatory research design. The population of the study consisted of all the 62 companies listed in the Nairobi Stock Exchange (NSE). The target population was composed of 19 non-financial firms listed in the NSE as at 31st December 2014. Data was analysed using descriptive statistics, correlation analysis and regression analysis. The study revealed that there was positive significant relationship between effective tax rate and capital structure of firms listed in the Nairobi Securities Exchange. The study also found that a unit increase in effective tax rate lead to increase in capital structure of firms listed in the NSE. The study also found that a unit increase in size of the firm lead to increase capital structure of firms listed in the Nairobi Securities Exchange. The study further established that there was strong positive relationship between size of the firm and capital structure of firms listed in the Nairobi Securities Exchange. The study further established that there was strong positive relationship between risk and capital structure of firms listed in the Nairobi Securities Exchange, from the findings on the regression analysis the study found that a unit increase in risk lead to increase in capital structure of firms listed in the Nairobi Securities Exchange. There is need for the management of firms listed in the NSE to use more of debt when financing their projects. Thus the study recommends that there is need for the management of firms listed in the NSE to enhance their size as it affects the capital structure positively.
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CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

Over the past decades, capital markets across the world have been experiencing rapid changes. In the current financial markets, deregulation, reduction in capital controls emergence of new financial instruments has become the order of the day. Coupled with new technology, the financial market continues to experience lower transactions costs making it easier to access international markets. As a result, many investors have seen the benefit of reduced risk in holding a diversified portfolio (Errunza and Miller, 2000).

Regardless of country specific factors, taxation models of capital structure are portable across different countries with tax reforms being set up so as to enhance fiscal conditions for internationally mobile capital and profits (Overesch and Voeller, 2008). Hence, taxation, and in particular corporate taxation constitute an important consideration when making capital structure financing decisions which may affect firm’s value and share prices.

In today’s financial markets, organizations spend tremendous resources and devote a lot of time to analyse and make decisions on dividends and capital structure. According to Overesch and Voeller (2008), the fact that interest payments and dividends are taxed differently at the company level, this could lead to effective unequal treatment of debt and equity. Nevertheless, the presence of market imperfections such as taxation, transaction costs, asymmetric information and agency conflicts, makes it worthwhile for organisation’s to invest resources and devote time to financing decisions. More so, on differential tax treatment of debt and equity as it makes the capital structure changes adopted by a firm relevant to stakeholders (Sivarama and Moyer, 1996).
According to Overesch and Voeller (2008), the subject of taxation and its effects on financing and investment decisions and the value relevance of capital structure choice is one that continues to elicit extensive discussions in the arena of finance. As noted by Booth, Demirguc-Kunt, Varouj and Maksimovi (2001), the test of capital structure portability becomes when the financial markets being considered characterized by institutional, cultural, and economic factors which vary significantly from those of the developed countries, especially the West. Given the very unique nature of the Kenyan economy in regards to these dimensions, assessing the effects of corporate taxation should be valuable in yielding insights into the portability of capital structure theories developed in the developed countries.

1.1.1 Corporate Taxation

Lederman (2002) defines a ‘corporation’ as a legal entity created under a state or other statute that allows “incorporation” by persons who become the “shareholders” of the corporation. Thus, a corporation organizes complete appropriate forms and books and files them with the state (or other jurisdiction) in which the corporation has been incorporate in. For tax purposes, a corporation is a separate “taxpayer” from its shareholders, meaning that the corporate entity is subject to taxation on corporate-level events. The main reasons why many businesses operate as corporations are due to the ease of raising capital through the sale of stocks. Corporate tax obligations consist chiefly of fractions of corporate income. Hines (2001) posits that taxation of corporate income encourages entrepreneurs and managers to structure and conduct their business operations in ways designed to avoid taxes. Corporations generally reduce their tax obligations, and those of their shareholders, by using debt rather than equity finance, investing in assets that can be rapidly depreciated for tax purposes and
those for which generous tax credits are available, and avoiding dividend payments or other tax-disadvantaged distributions to investors.

In Kenya, the tax system comprises of the direct and indirect taxes. The direct tax system is covered under the Income Tax Act Cap. 470 of the laws of Kenya and include corporation tax, individual tax, Pay As You Earn (PAYE), withholding tax and advance tax. Income tax is charged on gains or profits from a business, employment or services rendered, dividends or interest, pension, charge or annuity and on withdrawals from registered home ownership savings plan. The Income Tax Act 2012 reviews the parent Act by introducing a number of amendments. The Act takes into consideration foreign exchange gains or losses in computing the amount of revenue reserves (Nyang’oro, 2013).

1.1.2. Capital Structure
Modern theory of capital structure began with Miller and Modigliani (1958) and their famous proposition that described how and why capital structure is irrelevant. Capital structure is an essential aspect of corporate finance that examines on the approaches a firm chooses its financing decisions to determine proportion of equity and debt. In making these decisions the firm should always gauge its operating environment, both external and internal (Van Horne and Wachowicz, 2005). The capital structure decision is a significant managerial decision. It influences shareholders’ wealth. As a result, the market value of the share may be affected by the capital structure decision. The capital structure decision is a continuous process. The shape of the same changes from what it was at the inception to what it is at the time of expanding the business. Any change in the capital structure pattern affects the debt-equity mix, which in turn influences the cost of capital, which consequently affects the value of the firm (Faulkender and Petersen, 2006).
The theorems that specify the financial decisions by firms that are irrelevant to the firm’s value in relation to capital structure are presented by Modigliani and Miller (1958) and Miller (1977), where they explain the irrelevance of capital structure through the use of four prepositions that comprises four distinct results. It is important to remark that capital structure has a direct bearing on the corporate finance decisions, which affect the various aspects of the corporate management and broadly includes three kinds of policies namely capital structure policy, dividend policy and capital budgeting policy. All the three policies are important in their own way and are interlinked. Ignoring any of them in corporate financing decision-making is very difficult. Capital structure policy is normally concerned about the proportion of debt and equity to finance the company’s operations (Kent and Gary, 2005).

1.1.3 Corporate Taxation and Capital Structure

Capital structure decisions are likely to affect companies’ tax payments, since corporate taxation typically distinguishes between different sources of finance. Interest payments can generally be deducted from taxable profits while such a deduction is not available in the case of equity financing. Taxation of capital income at the shareholder level often differentiates between the types of capital as well. Therefore, it can be expected that the relative tax benefits of different sources of finance have an impact on financing decisions. Theory suggests that both corporate profit tax and personal capital income taxes should be considered in order to reflect the tax consequences of capital structure choices more accurately (Peles and Sarnat, 1979).

Modigliani and Miller (1958) and Miller (1977) state that within their framework of perfect capital markets, such as the security exchange market, the value of a permanently leveraged
firm arises from adding the corporate tax shield of debt to the value of an identical but unleveraged company. Empirically, this proposition would imply a corner solution due to the tax shield which adds up to the corporate tax rate times the market value of debt. Nonetheless, Modigliani and Miller disregard the tax advantage as a reason for exhaustive debt financing because of different aspects which cannot be considered within the framework of static equilibrium models such as agency conflicts between owners, creditors, and managers.

Corporate taxation and capital structure are inseparable concepts in the sense that taxation of company profits apparently depends on the type of capital. This is to state that the differences in the taxation of equity financing relative to debt financing are expected to have an impact on capital structure choices. With regard to equity capital, the corporate profit tax and dividend taxation at the shareholder level must be considered. It is important to note that while there is corporate tax resulting from the deductibility of interest payment on debt; investors receive these interest payments as income. The interest received by the investors is also taxable on their personal account, and the personal income tax is negative. Tax, therefore, constitutes an important consideration when making capital structure financing decisions which may affect firm’s value and share prices (Shay, Fleming and Peroni, 2002).

1.1.4 Firms Listed at the Nairobi Securities Exchange

The Nairobi Securities Exchange was established in the 1920’s by the British as an informal market for Europeans only. It is not until 1954 that the market became formalized through incorporation into a company. The doors for Africans to join and trade in the market were opened in 1963. For many years thereafter, the NSE operated through the telephone with weekly meetings being held at the Stanley Hotel. Uncertainty stemming from the future of
independent Kenya led to a slump in the stock market after independence but confidence was rekindled later as the nation continued to experience years of calm and increased economic growth (Bitok, Bitok, Chenuos and Tenai, 2013).

The growth of the NSE was later to be affected when the oil crisis of 1972 introduced inflationary pressures on the economy which depressed share prices. A 35% capital gains tax introduced in 1975 (and which had been suspended since 1985) inflicted further losses to the exchange. In the 1980s the Kenyan Government realized the need to design and implement policy reforms to foster sustainable economic development with an efficient and stable financial system. In particular, it set out to enhance the role of the private sector in the economy, reduce the demands of public enterprises on the exchequer, rationalize the operations of the public enterprise sector to broaden the base of ownership and enhance capital market development (Bitok, et al, 2014).

Over the years the NSE has played an increasingly important role in the Kenyan economy, especially in the privatization of state-owned enterprises. Since 1988, at least nine public enterprises have been successfully privatized through the NSE, raising millions of shillings for the government. The first privatization was that of Kenya Commercial Bank (KCB) in 1988 when the government floated 7.5 million (20% equity) (NSE, 1996). The issue was over-subscribed to almost 2.3 times. Subsequent issues have also proved highly popular, with subscription rates as high as 400%. In the privatization of Kenya Airways, for example, the stock exchange enabled more than 110,000 shareholders to acquire a stake in the airline, while the KenGen IPO saw over 250,000 new shareholders join the company register in 2006 (Bitok, et al, 2014). Kibuthu (2005) in a research on the capital market in emerging economies found other factors that have contributed to the capital markets growth in Kenya
include; reorganization of the securities market at the NSE in 2001 from two (bond and equity) to three independent market segments; the Main Investment Market Segment (MIMS), the Alternative Investment Market Segment (AIMS), and the Fixed Income Securities Market Segment (FISMS). This was meant to provide more companies with access to the capital market and a suitable trading segment to the diversity of companies and entities desiring to trade at the NSE.

Currently, the NSE is one of the top performing African markets on the global MSCI Index, and puts Kenya on the radar of international investors who have appetite for risk exposure in frontier markets (Gachiri, 2014). Appendix I give a list of listed firms with their capital structure and corporate taxation. The NSE has over 60 listed companies (See Appendix III). These firms are the largest in Kenya both in terms of their turnover and human resources (Mutwiri and Okello, 2015).

1.2 Research Problem

According to Bitok et al (2014), the strength of securities markets that make them focal points of modern finance is their ability to mobilize long term savings for financing long term ventures, to improve efficiency of resource allocation through competitive pricing mechanisms, to provide risk capital (equity to entrepreneurs), and to encourage broader ownership of firms. Nevertheless, the latter function is jeopardized if there are few listings by eligible firms as well as financial products. It should be noted that the need for the development of an effective and efficient stock market is a prerequisite in addressing the problem of access to capital for firms. Therefore, to promote the development of capital market, it is necessary that the factors that impinge on its development and generate policy options available to remedy the situation so that access to capital by businesses may not be a
mirage are well understood. One such factor is corporate taxation. Peles and Sarnat (1979) posit that the consequence of corporate taxation of capital structure is a critical area for consideration as far as the development of firms and a robust stock market is concerned.

Klapper and Tzioumis(2008) argues that although economic models predict a variety of effects from corporate taxation in terms of factor allocation, financing choices and investment patterns, there is little empirical evidence from the developing economies. This is reinforced by Panier, Pérez-González and Villanueva (2013) who clearly state that although there is near-universal agreement that taxation is relevant for corporate financing decisions, the empirical evidence linking corporate taxation and capital structure has been weak. Bhaduri (2002) posit that for a long time, developing economies placed little focus on the role of firms in economic development. Mainly because the corporate sector faced several constraints relating to fund sourcing, with access to equity markets being regulated or limited as a result of underdeveloped stock markets.

Noteworthy, the Kenyan tax system, just like that of many other countries, is largely based on formal labels, and only indirectly on underlying asset characteristics. In turn, equity faces one set of tax rules while debt faces another often more favourable. The disparity in tax treatment raises the need for analysis for the relationship between the tax rate and the level of leverage. Especially, in the presence of different tax treatments for the various sources of finance and in view of the fact that financial policies affect the user cost of capital and investment. With regard to the source of finance, the Kenyan tax strongly favors debt rather than equity capital mainly because it provides complete deductibility of interest expenses and no relief for the opportunity cost of equity capital (Mutsotso, 2007).
Further to this, is the premise that firms investing in Kenya consider the corporate tax regime to be very high (Nyang’oro, 2013). The study has only been able to come across two studies that address the influence of corporate tax on capital structure for firms listed in NSE in Kenya; Nyang’oro (2013) who uses a panel set of data for the periods 2003 to 2012 and Mutsotso (2007) who uses data for the periods 1990 – 2003. Most of the other studies on capital structure focus on the relationship between capital structure and profitability (Cheruiyot, Cheruiyot and Yegon, 2014; Gichangi, 2014; Kodongo, Mokoaleli-Mokoteli and Maina, 2014) and on the determinants of capital structure (Ayieye, 2004; Kosimbei, Muathe and Wamugo, 2014). Although all this studies provide useful insights on firms’ capital structure, they reaffirm a dearth of studies on the effects of corporate taxation on capital structure.

Although taxation is the most debated determinants of corporate structure in the developing countries, this study realizes that this might not hold true for Kenya (Aduda, et all, 2012). In Kenya, the effect of corporate taxation on capital structure has not been given much consideration and the empirical evidence is scanty. This is despite an increasing pace of Kenya’s financial development in the last few decades and the underdevelopment of the country’s bond market (Ngugi, 2003). Having this in mind, this study sought to examine whether corporate taxation has any effect on the capital structure of firms listed at the Nairobi Securities Exchange.
1.3 Research Objective

The objective of this study was to examine the effects of corporate taxation on the capital structure of firms listed in Nairobi Stock Exchange (NSE).

1.4 Value of the Study

Decisions about optimizing the capital structure of the firm remains an important issue not only for the management, but also to other stakeholders. The finding of this study provides valuable insights that could be relied on by investors and managers in making more informed decisions in regard to capital structure. Noteworthy, the study contributes to the corporate finance literature, by looking at the effects of corporate taxation on the capital structure of firms. Therefore, the finding of this study provides information that can be relied on by policy makers to improve on the taxation regime. At the same time, the study educates its readers on the effect of capital taxation on capital structure of firms listed in the Nairobi Stock Exchange and through it managers can be able to understand how to improve financing options. Finally, the study provides a base for development, and it will is useful to academicians as a source of knowledge for further research.
CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

The literature on capital structure is rather voluminous and extensive. Since the focus of this study is the effect of corporate taxation on capital structure, this chapter will provide a review of related theoretical and empirical evidence. This was confined to selected scholarly works that the researcher considers to be relevant in meeting the research objective.

2.2 Theoretical Framework

The theoretical underpinnings of this study were founded on three theories: The Modigliani-Miller Theory, The Trade-off Theory and The Pecking Order Theory.

2.2.1 The Modigliani-Miller Theory

The theory of business finance in a modern sense starts with the Modigliani and Miller (1958) capital structure irrelevance proposition. Before them, there was no generally accepted theory of capital structure. Modigliani and Miller start by assuming that the firm has a particular set of expected cash flows. When the firm chooses a certain proportion of debt and equity to finance its assets, all that it does is to divide up the cash flows among investors. Investors and firms are assumed to have equal access to financial markets, which allows for homemade leverage. Luigi and Sorin (2009) mention that the investor can create any leverage that was wanted but not offered, or the investor can get rid of any leverage that the firm took on but was not wanted. As a result, the leverage of the firm has no effect on the market value of the firm. Their paper led subsequently to both clarity and controversy. As a matter of theory, capital structure irrelevance can be proved under a range of circumstances.
There are two fundamentally different types of capital structure irrelevance propositions. The classic arbitrage-based irrelevance propositions provide settings in which arbitrage by investors keeps the value of the firm independent of its leverage. In addition to the original Modigliani and Miller paper, important contributions include papers by Hirshleifer (1966) and Stiglitz (1969) as noted in Luigi and Sorin (2009). The second irrelevance proposition concludes that “given a firm’s investment policy, the dividend payout it chooses to follow will affect neither the current price of its shares nor the total return to its shareholders” (Miller and Modigliani, 1985). In other words, in perfect markets, neither capital structure choices nor dividend policy decisions matter. The duals’ 1958 paper stimulated serious research devoted to disproving irrelevance as a matter of theory or as an empirical matter. This research has shown that the Modigliani-Miller theorem fails under a variety of circumstances. The most commonly used elements include consideration of corporate taxes, transaction costs, bankruptcy costs, agency conflicts, adverse selection, lack of separability between financing and operations, time-varying financial market opportunities, and investor clientele effects. Alternative models use differing elements from this list.

### 2.2.2 The Trade-Off Theory

This theory argues that choice of capital structure is a result of a trade-off between the benefits of debt, such as the debt tax shield, and the costs of debt, including bankruptcy costs and costs of financial distress (Myers, 1984). The term trade-off theory is used by different authors to describe a family of related theories. In all of these theories, a decision maker running a firm evaluates the various costs and benefits of alternative leverage plans. Often, it is assumed that an interior solution is obtained so that marginal costs and marginal benefits are balanced. The original version of the trade-off theory grew out of the debate over the
Modigliani-Miller theorem. When corporate income tax was added to the original irrelevance, this created a benefit for debt in that it served to shield earnings from taxes. Since the firm's objective function is linear, and there is no offsetting cost of debt, this implied 100% debt financing. Luigi and Sorin (2009) maintain that several aspects of Myers' definition of the trade-off merit discussion.

First, the target is not directly observable. It may be imputed from evidence, but that depends on adding a structure. Different papers add that structure in different ways. Second, the tax code is much more complex than that assumed by the theory. Depending on which features of the tax code are included, different conclusions regarding the target can be reached. Graham (2003) quoted in Luigi and Sorin (2009) provides a useful review of the literature on the tax effects. Third, bankruptcy costs must be deadweight costs rather than transfers from one claimant to another, but the nature of these costs is important too. Fourth, transaction costs must take a specific form for the analysis to work. For the adjustment to be gradual rather than abrupt, the marginal cost of adjusting must increase when the adjustment is larger. Leary and Roberts (2005) describe the implications of alternative adjustment cost assumptions in two theories according to Luigi and Sorin (2009).

The static trade-off theory affirms that firms have optimal capital structures, which they determine by trading off the costs against the benefits of the use of debt and equity. One of the benefits of the use of debt is the advantage of a debt tax shield. One of the disadvantages of debt is the cost of potential financial distress, especially when the firm relies on too much debt. Already, this leads to a trade-off between the tax benefit and the disadvantage of higher risk of financial distress. But there are more cost and benefits involved with the use of debt and equity. One other major cost factor consists of agency costs. Agency costs stem from
conflicts of interest between the different stakeholders of the firm and because of ex post asymmetric information. Hence, incorporating agency costs into the static trade-off theory means that a firm determines its capital structure by trading off the tax advantage of debt against the costs of financial distress of too much debt and the agency costs of debt against the agency cost of equity. Many other cost factors have been suggested under the trade-off theory, and it would lead to far to discuss them all (Luigi and Sorin, 2009).

The dynamic trade-off theory constructs models that recognize the role of time requires specifying a number of aspects that are typically ignored in a single-period model. Of particular importance are the roles of expectations and adjustment costs. In a dynamic model, the correct financing decision typically depends on the financing margin that the firm anticipates in the next period. Some firms expect to pay out funds in the next period, while others expect to raise funds. If funds are to be raised, they may take the form of debt or equity. More generally, a firm undertakes a combination of these actions. As Luigi and Sorin (2009) note, an important precursor to modern dynamic trade-off theories was Stiglitz (1973), who examined the effects of taxation from a public finance perspective. Stiglitz's model is not a trade-off theory since he took the drastic step of assuming away uncertainty. Since firms react to adverse shocks immediately by rebalancing costlessly, firms maintain high levels of debt to take advantage of the tax savings.

**2.2.3 The Pecking Order Theory**

This theory advances the notion of companies preferring the cheapest source of funding. Because of information asymmetry, companies will prefer internal to external funding and debt over equity (Myers, 1984). If internal funds are not enough to finance investment opportunities, firms may or may not acquire external financing, and if they do, they will
choose among the different external finance sources in such a way as to minimize additional costs of asymmetric information. Luigi and Sorin (2009) highlight that the latter costs basically reflect the “lemon premium” that outside investors ask for the risk of failure for the average firm in the market. The resulting pecking order of financing is as follows: internally generated funds first, followed by respectively low-risk debt financing and share financing. In Myers and Majluf model (1984) that is examined in Luigi and Sorin (2009), outside investors rationally discount the firm's stock price when managers issue equity instead of riskless debt. To avoid this discount, managers avoid equity whenever possible. The Myers and Majluf model predicts that managers will follow a pecking order, using up internal funds first, then using up less risky debt, and finally resorting to equity.

Apparently, in the absence of investment opportunities, firms retain profits and build up financial slack to avoid having to raise external finance in the future. The pecking order theory regards the market-to-book ratio as a measure of investment opportunities. With this interpretation in mind, Luigi and Sorin (2009) note that a contemporaneous relationship between the market-to-book ratio and capital structure is difficult to reconcile with the static pecking order model. Iteration of the static version also suggests that periods of high investment opportunities will tend to push leverage higher toward a debt capacity. To the extent that high past market-to-book actually coincides with high past investment, however, results suggest that such periods tend to push leverage lower. Empirical evidence supports both the pecking order and the trade-off theory. Empirical tests to see whether the pecking order or the trade-off theory is a better predictor of observed capital structures find support for both theories of capital structure (Luigi and Sorin, 2009).
2.3 Determinants of Firms Capital Structure

Effective financial management and elaborate understanding of what determines capital composition are important in the enhancement of operational performance of firms. This sections looks at the various determinants of a firm’s capital structure.

2.3.1 Effective Tax Rate

According to Oino and Ukaegbu (2013), firms pay tax on profit once the interest on debt has been subtracted. This effectively reduces the tax bill compared with another firm of the same size in terms of operating profit in the same industry and legislation which is unleveraged. This is the hallmark of the static trade-off theory model that looks at the benefits and cost of debt. The main benefit of debt is a tax shield while the cost side of bankruptcy may act as a significant countervailing force. This means that, given perfect market assumptions and presence of corporate taxes, the value of the firm increases equivalent to the debt tax shield. According to Singh and Hamid (1992), differences in the coefficients and signs are due to differences in the tax system, legal and other institutional factors such as accounting practices and the degree of development of the capital market. Across countries, debt rates are negatively related to tax rule. Implication of tax depends on the tax policy objectives. A tax system could be designed to favor retention of earnings against dividend payout and vice versa. In addition, variation in the findings on the effects of taxations from developed countries and developing economies could indicate that asymmetric information is more pervasive in developing countries because there is likely to be lax in accounting and auditing in comparison with developed countries (Oino and Ukaegbu, 2013).
2.3.2 Size

Shumway (2001) posits that large firms are more likely than small firms to diversify their financing sources. Therefore, size is the proxy for the probability of default in that large firms are less likely to fail and go into liquidation. The firm size, past market return and standard deviation of the return all forecast failures of a company. Ogbulu and Emeni (2012), found that there is a positive association between size and leverage. A positive relationship supports the trade-off theory which assumes that large firms are stronger to face bankruptcy and financial distress as they have more stable or less volatile cash flows. Ferri and Jones (1979) found that industry class was linked to a firm’s leverage and banks are more leveraged than nonfinancial firms. Debt is related to size due to the fact that large firms have the advantage of accessing credit markets and can borrow under better terms.

2.3.3 Profitability

The relationship between capital structure and profitability can be described by the pecking-order theory which has the premise that firms prefer using retained earnings to external finance. However, DeAngelo and Masulis (1980) noted that those firms which are less profitable have less debt because they believe that debt is more expensive than retained earnings. On the other hand, profitable firms tend to protect profit from taxes and hence use more debt. This is because the profit that will be available for taxation would be less compared to when the company has zero debt. A negative relationship between profitability and leverage has been observed in the majority of empirical studies undertaken in developed countries (Titman and Wessel, 1988). Rajan and Zingales (1995) and Antoniou, Guney and Pandyal (2008) clearly support the pecking-order theory in that, all things being equal, firms
which are more profitable would maintain lower leverage because they are able to generate funds from internal sources.

2.3.4 Asset Structure

A number of empirical evidence suggests that the type of the assets that a firm has determines the leverage level (Rajan and Zingales, 1995). These assets are classified as current and non-current assets. The measure between tangible assets and total assets is called tangibility (Booth et al., 2001). Despite a number of theories predicting that there is a positive correlation between tangibility and leverage, there are others which find a negative relationship. Those that find a positive correlation support the trade-off theory and the agency theory from a shareholder’s point of view (Faulkender and Petersen, 2006).

2.3.5 Risk

In a study, Cassar and Holmes (2003) found that contradiction between a firm’s risk and debt level can be attributed to risk proxies. In another study, Graf (2010) investigated the relationship between leverage, profitability and risk for 175 US and 205 European banks by examining commercial banks from 1994 to 2008. He noted that the total risk weighted capital ratio on US banks was not binding in that only five bank year observations undershoot the 10% risk weighted capital. On the other hand, that of European banks is 10% for about 50 bank year observations. Although he excluded small banks, he concluded that bankruptcy costs increase significantly with leverage ratio for European banks; hence there is a decline in profitability.
2.3.6 Growth Opportunities

Growth is likely to place a greater demand on internally generated funds and push the bank into borrowing as it puts pressure on financing the investment or growth and hence the demand for both short- and long-term debt (Hall et al., 2004). There is an inverse relationship between growth opportunities and leverage. That is, firms that are anticipating high growth potential tend to use more equity than debt. Also, this could be attributed to conflicts of interest from different stakeholders and creditors regarding wealth effects because a company with growth opportunities tends to have an array of investment options (Heshmati, 2001).

2.3.7 Economic Growth

Bikker and Metzemaker (2007) observed a range of OECD countries and noted that a firm’s capital varies as economic cycle varies. That is, firm capital structure is negatively associated with the growth of the economy. However, when Jokipii and Milne (2008) examined the reaction of banks according to size, they concluded that small banks tend to have capital that moves with economic cycles, while large banks move negatively with the cycle.

2.4 Empirical Review

A review of various studies shows that most of the early studies on capital structure have mainly focused on its determinants. In a study in the US, Longstaff and Strebulaev (2014) focus on the relation between leverage and corporate tax rates using an extensive data. Further the study evaluates the effects of a much broader set of policy change on the capital structure. Specifically, the data set was constructed from an Internal Revenue Service (IRS) database of all corporate income tax returns filed in the United States from 1926 to 2009. By using nearly a century of capital structure data, the study provides answers about the time series effects of tax rate changes on corporate leverage for firms of all sizes. The study
findings indicate that there exist a strong relationship between taxes and capital structure. The relationship is such that changes in tax rates are related in increase in corporate leverage. The study also finds that only large firms are responsive to changes in tax rates over a short period of time while medium-sized firms exhibit higher leverage with a lag, and leverage ratios of small firms are not related to the time series variation in tax rates.

Mackie-Mason (1990) in a study that explores whether taxes affect corporate financing decision finds that there could be significant tax effects in incremental financing decisions uses a large dataset with detail on incremental decision to study the effect of tax loss carry forwards (TLCF) and investment tax credits (ITC) on capital structure. In the study, the author analyses well-defined incremental choices made by firm manager. The study clearly notes that when already exhausted with high tax shields are less likely to finance with debt. In sum, changes in marginal rate for any firm affects the financing choices for the firm regardless of tax exhaustion.

In a different study, Rajan and Zingales (1995) makes comparison of corporate financial policies for a number of developed countries. The study investigates the determinants of capital structure choice by analyzing the financing decisions of public firms in the major industrialized countries. The factor looks at whether capital structure in other countries is based on factors similar to those influencing capital structures of U.S. firms. The study presents the typical balance sheet in each of the G-7 countries and analyses the major institutional differences across countries and their likely impact on financing decision. The study is limited to the largest economies where there are sufficient firms represented to make comparisons meaningful. The study reveals that on aggregate, firm leverage was fairly similar across the G-7 countries and that factors such as firm size were important in
determining the cross-section of capital structure in the U.S. The study found the need for sharper tests able to identify the effect of other factors on capital structure.

Using Classical Linear Regression Model, Fama and French (2002) were able to show that leverage is an increasing function of the size of public companies. The study employed cross-section regressions testing the predictions of the tradeoff model, the pecking order model, and models that center on market conditions. Specifically, the study examines the split of new outside financing between share issues and debt, the split of new debt financing between short-term and long-term, and the split of new equity financing between share issues and retained earnings. The study findings reveal that targets for short term debt seem to influence the mix of short-term versus long-term debt choices of smaller firms, but this targeting effect is weak to non-existent for large firms. Further, that sticky dividends plague the predictions of the pecking order and market conditions models about the split of equity financing between share issues and retained earnings.

Omet and Mashharawe (2002) examined the nature and determinants of capital structure choice of quoted non-financial firms in Jordan, Kuwait, Omani and Saudi from the period 1996 to 2001. To test the study’s panel regression model, pooled ordinary least squares, the fixed effects model, and the random effects model were used. The results indicate that Jordanian, Kuwaiti, Omani and Saudi Arabian companies have low leverage ratios. In addition, the results show that Jordanian companies hold the lowest mean value of long-term debt. This is surprising given the fact that they are subjected to the highest tax rate.

Booth et al. (2001) examined data from 10 developing countries to assess whether capital structure theories are portable across countries with different institutional structures. The
study investigates whether the stylized facts, which were observed from the studies of developed countries, could apply only to these markets or whether they have more general applicability. The results are somewhat skeptical of this premise. They provide evidence that firms' capital structure choices in developing countries are affected by the same variables as they are in developed countries. Nevertheless, there are persistence differences of institutional structure across countries indicating that specific country factors are at work. Their findings suggest that although some of the insights from modern finance theory are portable across countries, much remains to be done to understand the impact of different institutional choices.

In an interview of 392 US corporate finance officers (CFOs), Graham and Harvey (2001) find that the tax advantage of interest deductibility is of significant concern by CFOs in large, regulated, and dividend-paying firms. Using a sample of small US firms (those with less than 500 employees), Ayers, Cloyd and Robinson (2001), find a negative relationship between effective tax rate and debt. In particular, they find a negative effect of marginal tax rates on the use of outside debt (loans from non-owners), and no effect of marginal tax rates on the use of inside debt (loans from owners).

Within the African setting, Gwatidzo and Ojah (2009) use a panel of listed firms in Ghana, Kenya, Nigeria, South Africa and Zimbabwe, to investigate 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. The results show that there exist cross-country variations in both basic capital structures as well as debt (source) choice.
In an effort to further extend the debate on capital structure in the African setting, Tesfaye (2012) developed a dynamic partial adjustment model (DPAM) which made the joint estimation of adjustment speed of basic capital structure and its determinants possible. The results from system-GMM dynamic panel data estimation procedure showed that firms in Africa not only adjust their basic capital structure to a target but also face varying degrees of adjustment costs and/or benefits in doing so. The study further reveals that the extent of costs and/or benefits that firms in Africa face in adjusting their basic capital structure is determined, inter alia, by firm-specific factors such as firm profitability, size, growth opportunities, and the gap between observed and target capital structure.

In Kenya a number of studies relating to capital structure have also been carried. In a survey study targeting auditors and financial managers, Kamere (1987) find that stability of cash flows, the levels of interest, the firms asset structure, tax shield and the maturity of debt were some of the most common factors influencing capital structure decisions. In an extension of Kamere’s work, Omondi (1996) uses correlation coefficient of data of companies listed at the NSE for the period 1987 – 1994. The study finds a significant positive relationship between leverage and profitability while interest charges also had a positive relationship albeit very low. Abai (2003) investigates the determinants of corporate debt maturity structure for companies quoted at the NSE, and identifies effective income tax rate as one of the determinants.

Kamau and Kariuki (2013) investigated the determinants of corporate capital Structure among private manufacturing firms in Kenya using a survey of food and beverage manufacturing firms. The study reveals that growth opportunities positively influence capital structure; firm size negatively influences the capital structure and that there exist
insignificant negative relationship between firm profitability and the capital structure, and an insignificant positive interaction between asset tangibility and the capital structure of private firms in Kenya. In a study similar as this one, Mutsotso (2007) used data for the periods 1990 – 2003. The study reveals there was a positive relationship between the corporate tax rate and the capital structure of companies listed at the NSE. According to the study, reductions in the tax rate led to the reduction in the use of debt. Hence, concluding that the Kenyan financial decision makers were sensitive to the changes in the tax rate.

2.5 Chapter Summary

This chapter has provided a review of the relevant theories on which the study will be guided. Further it has given hindsight of the various determinants of capital structure. The study realizes that theoretically there is much evidence pointing towards taxation as having a bearing on the capital structure; most of which has been carried out in the developing countries, with a dearth of studies for the developing nations. However, the empirical evidence gives mixed reaction. Of importance to this study is that there is an extensive empirical literature on the determinants of corporate capital structure but not on the effects of these determinants on the capital structure. Although many of the studies are in agreement that taxation plays a central role in the capital structure of corporate, there are very few studies that examine explicitly the effects of corporate tax on the capital structure choice (a point noted by Stewart Myers in his presidential address to the American Finance Association (AMA) (Myers, 1984). At the same time, most of the studies that model the cross-sectional behavior of debt structure do not even include an explicit measure of the tax effect. It also emerges that even in the few studies that attempt to calculate the marginal tax rate, trying to back out the marginal tax rate from accounting data can be a daunting exercise.
Finally, some studies examine changes in debt structure following tax law changes, but these are beset with problems associated with adequately controlling for other macro-economic effects that may have a bearing on the debt structure choice decision and problems with the stickiness of leverage over time. Therefore, this study is presented with a unique opportunity of testing corporate tax models of capital structure theories using data from a developing country, Kenya.
CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction
This chapter highlights the research methodology that was used in this study. It gives insights into the research design, the sampling procedures, and method of data collection and tools of analysis. The chapter also highlights the measure of variables and the models that were adopted to test and meet the research hypotheses.

3.2 Research Design
This study adopted an explanatory research design. According to Saunders and Thornhill (2003), explanatory studies are used when trying to explain the relationship between a number of variables. Since this study intends to establish the existence of causal relationship between corporate taxation and corporate structure of firms, there are several variables under test making an explanatory study the most ideal.

3.3 Target Population
The population of the study consisted of all the 62 companies listed in the Nairobi Stock Exchange (NSE). The target population composed of 19 non-financial firms listed in the NSE as at 31st December 2014. Financial, investment and insurance companies are excluded because some of their capital structures are regulated. Appendix II gives a list of the firms listed at the NSE.

3.4 Data Collection
The study relied on panel data which consisted of time series and cross-sections. The data for all the variables in the study were extracted from published annual reports and financial
statements of the listed companies in the NSE covering the years 2005 to 2014. The data were obtained from the NSE hand books for the period of reference. Data extracted included the corporate tax paid, share capital, assets in the balance sheet and reported profits of the company. A document analysis guide was used (see Appendix I).

3.5 Data Analysis

The gathered data was analyzed through coding in a spreadsheet and the researcher adopted descriptive statistics to present the performance of independent variables in tables and charts based on their percentages. A regression analysis was run to determine the coefficients of the independent variables in relation to the dependent variable. In order to estimate the effect of regressors on the regress and, the study used pooled ordinary least square (OLS), the random effect model and fixed effect model. This helped to determine the effects of the independent variable on the dependent variable. The results of the findings were presented in the form of tables and charts for easy interpretation and understanding.

3.5.1 Model Specification

The main objective of the study was to examine the effects of corporate taxation on capital structure. As such, the selected determinants of capital structure formed the dependant variables of the study; firm value, size of the firm, asset tangibility, growth rate and firm profitability. Firm value (V) is the economic measure reflecting the market value of a whole business and is modeled as the change in both equity (E) and debt (D). With respect to the empirical methodology, the following panel-data

\[ C = a + U \beta_1 + S \beta_2 + R \beta_3 + \varepsilon \]

Where:
C is Capital structure measured as Total Debts / Total Equity.

U is firm’s effective tax rate computed as the ratio of actual tax paid as reported in the cash flow statement and earnings of the company listed in NSE.

S is Size, defined as the log of Total assets that includes both current and non-current assets derived from firm’s balance sheet.

R is Risk, which is the squared difference between the firm’s profitability and the mean profitability. This gives a measure in which firm profitability may vary from its average profit of the listed firms.

α denotes firm constant variable

β represents the parameters for each variable.

ε is Standard Error term.

3.5.2 Test of Significance

While the t-test is limited to comparing means of two groups, one-way ANOVA can compare more than two groups. Therefore, the t-test is considered a special case of one-way ANOVA. These analyses do not, however, necessarily imply any causality (i.e. underlying relationship between the left-hand and right-hand side variables). The t-test assumes that samples are randomly drawn from normally distributed populations with unknown population means. Otherwise, their means are no longer the best measures of central tendency and the t-test was not being valid.
CHAPTER FOUR
DATA ANALYSIS, RESULTS AND FINDINGS

4.1 Introduction

This chapter presents the research findings to examine the effects of corporate taxation on the capital structure of firms listed in Nairobi Stock Exchange (NSE). The study was conducted on a 10-year period where secondary data from the period of 2005 to 2014 was used in the analysis. Descriptive statistics, correlation analysis, and regression analysis were used in the analysis of the data. The relationship between the variables was ascertained by correlation and multiple regression analysis. The findings were interpreted in relation to the research objectives.

4.2 Descriptive Statistics

In section 4.2, the study presents the research findings on the descriptive statistics in the data collected.

Table 4.1: Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Structure</td>
<td>190</td>
<td>1.52</td>
<td>21.62</td>
<td>5.3321</td>
<td>4.66259</td>
</tr>
<tr>
<td>Effective Tax Rate</td>
<td>190</td>
<td>.01</td>
<td>.17</td>
<td>.0916</td>
<td>.05145</td>
</tr>
<tr>
<td>Size</td>
<td>190</td>
<td>.03</td>
<td>.89</td>
<td>.4805</td>
<td>.28102</td>
</tr>
<tr>
<td>Risk</td>
<td>190</td>
<td>.00</td>
<td>.03</td>
<td>.0105</td>
<td>.00970</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>190</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
From the findings, the study found that there was a mean of 5.3321 for capital structure, 0.0916 for the effective tax rate, 0.4805 for size and 0.0105 for risk. The mean of the capital structure was ranging between 1.52 to 21.62 meaning the data skewed more towards the minimum point of the analysis. The study found that the standard deviation for capital structure was 4.66259, this is an indication there was high variation in capital structure among the firms listed in the NSE.

The standard deviation for effective tax rate was .05145 an indication that there were few variation on effective tax rate among firms listed in the NSE. This is an indication that the effective tax rate is more uniform considering the data used took into account both the tax charged in relation to profit made. Size of the firm was found to have a standard deviation of 0.28102 an indication that there major variation in size of firm listed in NSE. The variation in the size of the company is due to different assets held in their balance sheet of which some firms have comparatively high valued fixed asset. The study further established that there were few variations on risk among firm listed in the NSE as shown by standard deviation of 0.00970.

4.3 Test for Normality and Collinearity of the data

4.3.1 Test on Normality

A further test on normality on normality using the Shapiro-Wilk test produced results in table below.
### Table 4.2: Tests of Normality

<table>
<thead>
<tr>
<th></th>
<th>Statistic</th>
<th>Shapiro-Wilk Df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital structure</td>
<td>0.997</td>
<td>190</td>
<td>0.003</td>
</tr>
<tr>
<td>Effective Tax Rate</td>
<td>0.872</td>
<td>190</td>
<td>0.116</td>
</tr>
<tr>
<td>Size</td>
<td>0.985</td>
<td>190</td>
<td>0.036</td>
</tr>
<tr>
<td>Risk</td>
<td>0.890</td>
<td>190</td>
<td>0.049</td>
</tr>
</tbody>
</table>

On the normality test for capital structure, the Shapiro-Wilk test shows that the Standardized residuals are significantly normally distributed with a significance of 0.003 which is less than 0.05. The test for normality for effective tax rate, the Shapiro-Wilk test now shows that the Standardized residuals are significantly normally distributed with a significance of 0.116 which is less than 0.05. The test for normality for size, the Shapiro-Wilk test now shows that the Standardized residuals are significantly normally distributed with a significance of 0.036 which is less than 0.05. In the further test for normality for risk, the Shapiro-Wilk test shows that the Standardized residuals are significantly normally distributed with a significance of 0.049 which is less than 0.05. This is an indication that data was normally distributed.

### 4.3.2 Multicollinearity

#### Table 4.3: Collinearity Statistics

<table>
<thead>
<tr>
<th>Model</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tolerance</td>
</tr>
<tr>
<td>Effective Tax Rate</td>
<td>0.273</td>
</tr>
<tr>
<td>Size</td>
<td>0.072</td>
</tr>
<tr>
<td>Risk</td>
<td>0.243</td>
</tr>
</tbody>
</table>

To detect for Multicollinearity, the study examined the correlation matrix or by using Variance Inflation Factor (VIF) as shown in Table below. The Variance Inflation Factor
(VIF) quantifies the severity of Multicollinearity in an ordinary least-squares regression analysis. VIF's greater than 10 are a sign of multicollinearity; the higher the value of VIF's, the more severe the problem (Agresti, 2007). Results show that all the three variables had a variance inflation factors (VIF) of below 5. This implies that there was no collinearity with the variables thus all the variables were maintained in the regression model.

4.4 Correlations Analysis

In this section, the study presents the research finding on the Pearson product moment correlation. Pearson product moment correlation was conducted to determine the strength of relationship between the study variables. Correlation analysis is the statistical tool that can be used to determine the level of association of two variables (Levin & Rubin, 1998). This analysis can be seen as the initial step in statistical modeling to determine the relationship between the dependent and independent variables.

Prior to carrying out a multiple regression analysis, a correlation matrix was developed to analyze the relationships between the independent variables as this would assist in developing a prediction multiple models. Correlation analysis helped to detect any chance of multicollinearity. Correlation value of 0 shows there is no relationship between the dependent and the independent variables. On the other hand, a correlation of ±1.0 means there is a perfect positive or negative relationship (Hair et al., 2010). The values were interpreted between 0 (no relationship) and 1.0 (perfect relationship). The relationship was considered small when \( r = \pm 0.1 \) to \( \pm 0.29 \), while the relationship was be considered medium when \( r = \pm 0.3 \) to \( \pm 0.49 \), and when \( r = \pm 0.5 \) and above, the relationship was considered strong.
Table 4.4: Correlations

<table>
<thead>
<tr>
<th></th>
<th>Capital Structure</th>
<th>Effective Tax Rate</th>
<th>Size</th>
<th>Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Structure</td>
<td>Pearson Correlation</td>
<td>1.000</td>
<td>0.876</td>
<td>0.793</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.112</td>
<td>0.096</td>
<td>0.166</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>190</td>
<td>190</td>
<td>190</td>
</tr>
<tr>
<td>Effective Tax Rate</td>
<td>Pearson Correlation</td>
<td>0.876</td>
<td>1.000</td>
<td>0.996**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.112</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>190</td>
<td>190</td>
<td>190</td>
</tr>
<tr>
<td>Size</td>
<td>Pearson Correlation</td>
<td>-0.393</td>
<td>0.996**</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.096</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>190</td>
<td>190</td>
<td>190</td>
</tr>
<tr>
<td>Risk</td>
<td>Pearson Correlation</td>
<td>0.731</td>
<td>0.944**</td>
<td>0.939**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.166</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>190</td>
<td>190</td>
<td>190</td>
</tr>
</tbody>
</table>

On the correlation of the study variables, the researcher conducted a Pearson Product Moment correlation. This formulation is advantageous in that it tells us the direction of relationship. When the coefficient is greater than 0 it indicates positive relationship and ensures that the numerical value range from -1.0 to +1.0. This enables us to get an idea of the strength of relationship or rather the strength of linear relationship between the variables.

From the findings on the correlation analysis between capital structure and effective tax rate, size and risk, the study found that there was positive correlation coefficient between capital structure and effective tax rate as shown by correlation factor of 0.876, the study also found a positive correlation between capital structure and size of the firm as shown by correlation coefficient of 0.793, association between capital structure and risk was found to have positive relationship as shown by correlation coefficient of 0.731. This is an indication that
there was strong relationship between capital structure and effective tax rate, size, and risk of firm listed in the NSE.

4.5 Corporation Taxation and Capital Structure Analysis

In this study, a multiple regression analysis was conducted to test the influence among predictor variables. The research used statistical package for social sciences (SPSS V 20) to code, enter and compute the measurements of the multiple regressions. In using multiple regressions have predicted the values of variables based on the value of dependant and independent variables

Multiple regression analysis is a statistical method utilized to determine the relationship between one dependent variable and one or more independent variables (Hair et al., 2010). This study employed a multiple linear regression analysis using capital structure as dependent variables and independent variables effective tax rate, size and risk as the independent variable.

Table 4.5a: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.887a</td>
<td>.787</td>
<td>.725</td>
<td>.00401</td>
</tr>
</tbody>
</table>

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 study found that there was variation of 72.5 percent on capital structure of firm listed in the NSE due to changes in effective tax rate, size and risk at 95 percent confidence interval, this is an
indication that 72.5 percent changes in capital structure of firm listed in the NSE could be accounted to changes in effective tax rate, size and risk. R is the correlation coefficient which shows the strength of the relationship between the independent and the independent variable, from the findings the study found that there was a strong positive relationship between capital structure and effective tax rate, size and risk as shown by 0.887.

Table 4.5b: Analysis of variance

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>13.362</td>
<td>3</td>
<td>4.454</td>
<td>22.609</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>36.642</td>
<td>186</td>
<td>.197</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>50.004</td>
<td>189</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From the finding on the Analysis of variance the study found that the population parameters, had a significance level of 0.6%, this shows that the data is ideal for making a conclusion on the population’s parameter as the value of significance is less than 5%. The calculated value was greater than the critical value (22.609>2.653) an indication that effective tax rate, size and risk significantly influence the capital structure of firms listed at the Nairobi Securities Exchange.
Table 4.5c: Coefficients\(^a\)

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>1.361</td>
<td>.358</td>
<td>3.802</td>
</tr>
<tr>
<td></td>
<td>Effective Tax Rate</td>
<td>.890</td>
<td>.351</td>
<td>.643</td>
</tr>
<tr>
<td></td>
<td>Size</td>
<td>.773</td>
<td>.239</td>
<td>.416</td>
</tr>
<tr>
<td></td>
<td>Risk</td>
<td>.654</td>
<td>.147</td>
<td>.499</td>
</tr>
</tbody>
</table>

The established regression equation was

\[ Y = 1.361 + 0.890 \times X_1 + 0.773 \times X_2 + 0.654 \times X_3 \]

From the above regression equation it was revealed that holding effective tax rate, size and risk to a constant zero capital structure of firms listed at the Nairobi Securities Exchange would be at 1.361, a unit increase in effective tax rate would lead increase in capital structure of firms listed at the Nairobi Securities Exchange by a factors of 0.890, a unit increase in size of the firm would lead to increase in capital structure of firms listed at the Nairobi Securities Exchange by factors of 0.773, further unit increase in risk of the firm would lead to increase in capital structure of firms listed at the Nairobi Securities Exchange by factors of 0.654. All the p-values were found to be less than 0.05 an indication that effective tax rate, size and risk significantly affect the capital structure of firms listed at the Nairobi Securities Exchange.

At 5% level of significance and 95% level of confidence, effective tax rate had a 0.047 level of significance; size of the firm showed a 0.002 level of significance while risk showed 0.000
level of significance hence the most significant factor is size. Overall risk had the greatest effect on capital structure, followed by size and then effective tax rate had the least effect to capital structure. All the variables were significant (p<0.05).
5.1 Introduction

This chapter presented the summary findings, conclusion drawn from the findings highlighted and recommendation made there-to. The conclusions and recommendations drawn were focused on addressing the objective of the study. The researcher had intended to examine the effects of corporate taxation on the capital structure of firms listed in Nairobi Stock Exchange (NSE)

5.2 Summary of Findings

The objective of the study was to examine the effects of corporate taxation on the capital structure of firms listed in Nairobi Stock Exchange (NSE). The study used an explanatory research design, where secondary data was obtained for a period of 10 years. The study sampled 19 firm listed in the NSE. Data was analysed using descriptive statistics, correlation analysis and regression analysis. From the finding on the correlation analysis the study found that there was positive correlation between capital structure and effective tax rate, size of the firm and risk. From the findings on the Adjusted R squared is coefficient of determination, the study found that there was 72.5 percent on capital structure of firm listed in the NSE due to changes in effective tax rate, size and risk, this is an indication that 72.5 percent changes in capital structure of firm listed in the NSE could be accounted to changes in effective tax rate, size and risk. The study also revealed that there was strong positive relationship between capital structure and effective tax rate, size and risk. In a study similar as this one, Mutsotso (2007) revealed there was a positive relationship between the corporate tax rate and the
capital structure of companies listed at the NSE. From the finding on Analysis of variance the study found that effective tax rate, size and risk significantly influence the capital structure of firms listed at the Nairobi Securities Exchange. Kamere’s work, Omondi (1996) study found significant positive relationship between capital structure and taxation of the firm. From the regression equation the study found that a unit increase in effective tax rate, size of the firm and risk would lead to increase in capital structure of firms listed at the Nairobi Securities Exchange. From normality testing the study found capital structure based on effective tax rate, firm size and risk is normally distributed.

5.3 Conclusions
From the finding the study revealed that there was positive significant relationship between effective tax rate and capital structure of firms listed in the Nairobi Securities Exchange. The study also found that a unit increase in effective tax rate lead to increase in capital structure of firms listed in the NSE. Thus the study concludes that effective tax rate positively affect the capital structure of firms listed in the Nairobi Securities Exchange.

The study also found that a unit increase in size of the firm lead to increase capital structure of firms listed in the Nairobi Securities Exchange. The study further established that there was strong positive relationship between size of the firm and capital structure of firms listed in the Nairobi Securities Exchange. From the findings the study concludes that size of the firm positively affect the capital structure of firms listed in the Nairobi Securities Exchange.

The study further established that there was strong positive relationship between risk and capital structure of firms listed in the Nairobi Securities Exchange, from the findings on the regression analysis the study found that a unit increase in risk lead to increase in capital
structure of firms listed in the Nairobi Securities Exchange. From the finding the study recommends that there risks positively affect the capital structure of firms listed in the Nairobi Securities Exchange.

5.4 Policy recommendations

From the findings the study recommend that there is need for the management of firms listed in the NSE to use more of debt when financial their project as the study found that effective tax rate positively affect the capital structure of firms listed in the Nairobi Securities Exchange. Size of the firm was found to positively affect the capital structure of firms listed in the Nairobi Securities Exchange. Thus the study recommends that there is need for the management of firms listed in the NSE to enhance their size as it affects the capital structure positively.

There is need for the management of the firm listed in the NSE to increase their use of debt over equity as it was revealed that debt was more favourable to effective tax compared to debt as the study found that effective tax rate positively affect the capital structure of firms listed in the Nairobi Securities Exchange.

5.5 Limitations of the Study

There were various limitations encountered that may have affected the findings of this study. For instance, the study relied on secondary data sources. Secondary data can, however, be unreliable as they were intended for other purposes. This could include convincing external stakeholders that the business performs well. To curb this, the study sought audited financial results.
The study sought to examine the effects of corporate taxation on the capital structure of firms listed in Nairobi Stock Exchange (NSE). For this reason the non-listed firms could not be incorporated in the study.

In attaining its objective the study was limited to 19 firms listed companies in the NSE. Commercial banks and insurance companies were excluded since their leverage is highly dependent on legislation. The study could not therefore incorporate the impact on these of companies Some quoted companies at the Nairobi Stock Exchange were not included in the sample due to unavailability of data and other companies data were outliers. This reduction in sample size would have affected the calculations of this study.

The study was based on ten year study period from the year 2005 to 2014. A longer duration of the study will have captured periods of various economic significances such as booms and recessions. This may have probably given a longer time focus hence given a broader dimension to the problem.

5.6 Suggestions for Further Research
This study sought to examine whether corporate taxation has any effect on the capital structure of firms listed at the Nairobi Securities Exchange. There are currently 62 companies listed in the Nairobi stock exchange under 12 sectors. The study covered only the 19 listed non-financial firms. Therefore, additional investigation is required to examine all firms in the different sectors to ascertain their different capital structure patterns as a result corporation taxation. It is important that a similar study be conducted with a bigger sample and time
horizon by using advanced time series models to enhance our understanding of the association between the tax rate and the capital structure.

Further research can also be done to examine the impact the effect of corporation tax on capital structure of non-listed firms since the research only dealt on listed institutions. There are some other factors found which also affect the capital structure which are not focused in this study. Key among the factors is ownership status, management decisions on desired capital structure, privatizations and composition of assets. There is need for further investigation to determine their effect and ascertain their influences on capital structure. The study recommends that a similar study should be conducted to examine whether corporate taxation has any effect on the capital structure of non-listed Firms in Kenya.
REFERENCES


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## APPENDICES

### Appendix I: Capital Structure and Corporate Taxation of a Sample of Firms Listed at NSE

<table>
<thead>
<tr>
<th>FIRM</th>
<th>CAPITAL STRUCTURE</th>
<th>NCL</th>
<th>Total Financing</th>
<th>Taxation</th>
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<tbody>
<tr>
<td><strong>Share Capital</strong></td>
<td><strong>Reserves</strong></td>
<td><strong>Share Premium</strong></td>
<td><strong>Retained earnings</strong></td>
<td><strong>Revaluation Surplus</strong></td>
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<td>925,718</td>
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<td>Limuru tea Company Ltd</td>
<td>24,000</td>
<td>209,233</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Rea Vipingo Plantations Ltd</td>
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<td>-</td>
<td>84,496</td>
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<tr>
<td>Sasini Ltd</td>
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<td>6,065,616</td>
<td>6,293,671</td>
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<td>Williamson Tea Kenya Ltd</td>
<td>43,782</td>
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<tr>
<td>Marshalls (EA) Ltd</td>
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<td>-</td>
<td>-</td>
<td>165,575</td>
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<td>Express Kenya Ltd</td>
<td>177,019</td>
<td>10,766</td>
<td>10,502</td>
<td>-</td>
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<tr>
<td>Kenya Airways Ltd</td>
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<td>20,280,00</td>
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<td>39380</td>
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<td>TPS EA (Serena)</td>
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<tr>
<td>Company</td>
<td>Shares</td>
<td>Dividends</td>
<td>Market Cap</td>
<td>P/E Ratio</td>
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<td>-----------------------</td>
<td>--------</td>
<td>-----------</td>
<td>------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Uchumi Supermarkets Ltd</td>
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<td>-</td>
<td>2,657,810</td>
<td>80,309</td>
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<tr>
<td>Arm Cement Ltd</td>
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<td>302,027</td>
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<tr>
<td>EAC Cables Ltd</td>
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<td>907,023</td>
<td>1,288,584</td>
<td>602,314</td>
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<tr>
<td>Kenolkobil Ltd</td>
<td>73,588</td>
<td>5,166,350</td>
<td>859,568</td>
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<tr>
<td>KENGEN</td>
<td>5,495,904</td>
<td>6,039,818</td>
<td>33,319,646</td>
<td>-</td>
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<tr>
<td>Total Kenya Ltd</td>
<td>9,974,771</td>
<td>1,967,520</td>
<td>2,250,385</td>
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### Appendix II: Firms Listed In The NSE

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<thead>
<tr>
<th>AGRICULTURAL</th>
<th>ENERGY &amp; PETROLEUM</th>
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<tr>
<td>1 Eaagads Ltd</td>
<td>36 KenGen Co. Ltd</td>
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<tr>
<td>2 Kakuzi Ltd</td>
<td>37 KenolKobil Ltd</td>
</tr>
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<td>3 Kapchorua Tea Co. Ltd</td>
<td>38 Kenya Power &amp; Lighting Co Ltd</td>
</tr>
<tr>
<td>4 The Limuru Tea Co. Ltd</td>
<td>39 Total Kenya Ltd</td>
</tr>
<tr>
<td>5 Rea Vipingo Plantations Ltd</td>
<td>40 Umeme Ltd</td>
</tr>
<tr>
<td>6 Sasini Ltd</td>
<td>INSURANCE</td>
</tr>
<tr>
<td>7 Williamson Tea Kenya Ltd</td>
<td>41 British-American Investments Co.(Kenya) Ltd</td>
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<td>AUTOMOBILES &amp; ACCESSORIES</td>
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<tr>
<td>8 Car &amp; General (K) Ltd</td>
<td>43 Jubilee Holdings Ltd</td>
</tr>
<tr>
<td>9 Marshalls (E.A.) Ltd</td>
<td>44 Kenya Re Insurance Corporation Ltd</td>
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<td>10 Sameer Africa Ltd</td>
<td>45 Liberty Kenya Holdings Ltd</td>
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<td>BANKING</td>
<td>46 Pan Africa Insurance Holdings Ltd</td>
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<tr>
<td>11 Barclays Bank of Kenya Ltd</td>
<td>INVESTMENT</td>
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<tr>
<td>12 CFC Stanbic of Kenya Holdings Ltd</td>
<td>Centum Investment Co Ltd</td>
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<td>13 Diamond Trust Bank Kenya Ltd</td>
<td>Olympia Capital Holdings Ltd</td>
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<td>14 Equity Bank Ltd</td>
<td>49 Trans-Century Ltd</td>
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<td>15 Housing Finance Co.Kenya Ltd</td>
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<td>16</td>
<td>I&amp;M Holdings Ltd</td>
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<td>Kenya Commercial Bank Ltd</td>
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<td>National Bank of Kenya Ltd</td>
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<td>The Co-operative Bank of Kenya Ltd</td>
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<td>Express Kenya Ltd</td>
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**CONSTRUCTION & ALLIED**
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<td>Crown Paints Kenya Ltd</td>
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<td>E.A.Cables Ltd</td>
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<td>35</td>
<td>E.A.Portland Cement Co. Ltd</td>
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Source: NSE (2015)