DETERMINANTS OF CAPITAL STRUCTURE OF BANKS IN KENYA: AN
EMPIRICAL APPROACH

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DECLARATION

This project is my original work and has not been submitted for a degree in any other university.

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This project has been submitted with my approval as the University Supervisor.

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I thank God for giving me the wisdom and courage and for guiding me throughout my life for without Him I would not have come this far. I would also like to acknowledge the following for their contributions which facilitated the completion of this project.

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Thirdly, I also thank my family for letting me steal their valuable time to work on this project. It is my hope that their sacrifice has finally paid off.

Finally, I owe my gratitude to a number of people who in one way or another contributed towards completion of this project especially my fellow colleagues at work and students.
DEDICATION

This work is dedicated to my family
ABSTRACT

Given the central role of market and credit risk in their core business, the success of banks depend on their ability to identify, assess, monitor and manage these risks in a sound and sophisticated way. In order to assess and manage risks, banks must have effective ways of determining the appropriate amount of capital that is necessary to absorb unexpected losses arising from their market, credit and operational risk exposures. The objective of this study was to find out the determinants of capital structure of commercial banks in Kenya.

The study used inferential research design. The population of this study was all the 43 commercial banks in Kenya. Secondary data was drawn from the financial statements of commercial banks. The data was analysed using descriptive analysis and multiple regression analysis.

The study found that overall leverage of banks is negatively related to operating assets. The study also found that long-term debt structure is positively and statistically related to operating assets. The result also shows that short-term debt of banks is negatively related to banks' profitability, risk and asset structure and positively related to bank size, growth and corporate tax. On the other hand, the long-term debt of the banks is positively related to banks' asset structure and profitability and inversely related to bank risk, growth, size and corporate tax. In conclusion, the empirical evidence from this study suggests that profitability, corporate tax, growth, asset structure and bank size are important variables that influence banks' capital structure. However, there is no support of banks' risk influencing the level of leverage of banks in Kenya. This finding is contrary to earlier studies. The study recommends that commercial banks in Kenya need to remain profitable in order to rely less on external debt as a source of financing. Policies also need to be directed at improving the information environment.
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<tr>
<td>MSE</td>
<td>Micro and Small Enterprises</td>
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<tr>
<td>NPV</td>
<td>Net Present Value</td>
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<tr>
<td>STO</td>
<td>Static Trade-Off</td>
</tr>
<tr>
<td>UK</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>US</td>
<td>United States</td>
</tr>
<tr>
<td>WACC</td>
<td>Weighted Average Cost of Capital</td>
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CHAPTER ONE

INTRODUCTION

1.1 Background

This section presents the theoretical background in section 1.1.1 and 1.1.2. Further, the section presents the contextual background in section 1.1.3.

1.1.1 Capital Structure

The term capital structure is used to represent the proportionate relationship between debt and equity (Pandey, 2008). The various means of financing represent the financial structure of an enterprise. Traditionally, short term borrowings are excluded from the list of methods of financing the firm’s capital expenditure. Capital structure decisions are one of the three financing decisions — investment, financing, and dividend decisions — finance managers have to make (Van Horne and Wachowicz, 1995). 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, 2000).

A number of theoretical and empirical studies investigated the optimal capital structure of a firm. These studies pointed out the importance of the relationships among capital structure, cost of capital, capital budgeting decisions, and firm value. Although capital structure theory is a widely studies topic, there are fewer studies on the capital structure of firms in the banking industry. Subsequent to the departures from Modigliani and
Miller (1958)'s irrelevance proposition, there is a long tradition in corporate finance to investigate the capital structure decisions of non-financial firms and not financial firms such as banks. The standard textbook answer is that there is no need to investigate banks' financing decisions, since capital regulation constitutes the overriding departure from the Modigliani and Miller propositions.

Taken literally, this suggests that there should be little cross-sectional variation in the leverage ratio of those banks falling under the Basel regulatory regime, since it prescribes a uniform capital ratio. In a recent study, Gropp & Heider (2009) noted that standard cross-sectional determinants of firms' capital structures also apply to large, publicly traded banks in the US and Europe, except for banks close to the minimum capital requirement. Beck et al. (2010) noted that banks in Kenya were generally well-capitalized with an overall capital adequacy ratio of 18 percent comparable or considerably above that in other emerging economies and above the 8% recommended by Basel Core Principles. Therefore, bank capital structure deserves further investigation.

1.1.2 Determinants of Capital Structure

A substantial literature on accounting and finance has undertaken to identify what drives one of the key corporate financial policies, the capital-structure decision. The study by Modigliani and Miller (1958) sought to examine this issue. They offered evidence that capital-structure is unrelated to the value of a firm. Five years later, the same authors relaxed the prefect market assumptions and added corporate taxes in their models (Modigliani and Miller, 1963). Consequently, they found that the value of a firm will be
enhanced if the level of debt increases. They elucidated their findings by the fact that interest paid is tax-deductible and hence, firms would enjoy a debt tax shield when funding their activities by long-term debt. However, Modigliani and Miller (1963) did not take into account bankruptcy-related costs. The findings in Modigliani and Miller (1958, 1963) encouraged many researchers to explore further the drivers of corporate capital-structure decisions. Until now, there has been no general agreement about the capital-structure debate. As a result, it is still unclear what drives capital-structure decisions.

Early literature on the capital-structure puzzle by Myers (1984) examined different capital-structure theories. He found that drivers of firms’ decisions to choose debt, equity or hybrid securities are still unknown. The findings in Myers’s article challenged researchers to explore this puzzle further. Berens and Cuny (1995) revisited this puzzle and find that “debt ratios provide an inappropriate framework for empirically examining the trade-off theory of capital-structure”. In particular, they explained that debt (or debt-to-equity) ratios are misguided and lead to poor and inconsistent results when examining the determinants of corporate capital-structure. Barclay and Smith (2005) revisited the capital-structure puzzle and concluded that different capital-structure theories lead to different and diametrically opposed decisions and outcomes.

1.1.3 Commercial Banks in Kenya

According to the Central Bank of Kenya, there are 43 licensed commercial banks in Kenya (see list in appendix 1). Three of the banks are public financial institutions with majority shareholding being the Government and state corporations. The rest are private
financial institutions. Of the private banks, 27 are local commercial banks while 13 are foreign commercial banks.

Commercial banks in Kenya play a major role in Kenya. They contribute to economic growth of the country by making funds available for investors to borrow as well as financial deepening in the country. Commercial banks therefore have a key role in the financial sector and to the whole economy. Commercial banks in Kenya on average have capital adequacy ratio of 18% which is way above the regulatory requirement of 8%. There is therefore need to investigate whether, as Gropp & Heider (2009) concluded, regulations are a second-order determinants of bank capital structure in Kenya.

1.2 Research Problem

Banks provide liquidity on demand to depositors through the current account and extend credit as well as liquidity to their borrowers through lines of credit (Kashyap et al., 1999). Owing to these fundamental roles, banks have always been concerned with both solvency and liquidity. Given the central role of market and credit risk in their core business, the success of banks depend on their ability to identify, assess, monitor and manage these risks in a sound and sophisticated way. In order to assess and manage risks, banks must have effective ways of determining the appropriate amount of capital that is necessary to absorb unexpected losses arising from their market, credit and operational risk exposures.

The Central Bank of Kenya adopted the Basel II capital requirements which suggest that banks should have capital adequacy ratios of at least 8%. As noted by Beck et al. (2010),
banks have averaged 18% as far as capital requirements are concerned and this is way above the recommended ratio of 8%. In fact, this ratio is way above some other countries such as Malaysia (12.7%) and South Africa (12.6%) (Beck et al. 2010). Thus given the above foregoing analysis, the given Kenyan banking sector provides an interesting case to assess the determinants of capital structure.

There are few studies on capital structure of banks. In a study on determinants of capital structure of banks in Ghana, Amidu (2007) found that profitability, corporate tax, growth, asset structure and bank size influenced banks’ financing or capital structure decision. Gonzalez and Gonzalez (2008) studied how bank market concentration and institutions affect capital structure in 39 countries and found that firm leverage increases with bank concentration and the protection of creditor rights, but decreases with the protection of property rights. Gropp and Heider (2009) examined whether capital requirements are a first-order determinant of banks’ capital structure and found that that capital regulation and buffers may only be of second order importance in determining the capital structure of most banks. In Kenya, Olweny and Shipho (2011) studied the effects of banking sectoral factors on profitability of commercial banks and found that capital adequacy had a statistically significant impact on bank profitability. Other studies in Kenya include Chonde (2003) who studied determinants of capital structure of public sector enterprises, and Odinga (2003), Wanjohi (2009) and Kuria (2010) who studied the determinants of capital structure of listed companies. These studies found that capital structure of non-financial institutions were influenced by factors such as size, profitability, growth, tax, asset structure, risk, non-debt tax shields, free cash flows, commercial trade position, age,
and corporate governance. There is therefore a research gap on the determinants of capital structure of banks in Kenya. In as much the banks are regulated, evidence has shown that regulation is a second-order determinant of capital structure of banks and that there are considerable similarities between banks’ and non-financial firms’ capital structures (Gropp and Heider, 2009). This study therefore seeks to answer the following question: what are the firm specific determinants of capital structure of banks in Kenya?

1.3 Research Objective

The objective of this study is to find out the determinants of capital structure of commercial banks in Kenya.

1.4 Value of the Study

This study will be useful to commercial banks in Kenya. The management and board of governors of commercial banks will have an empirical basis upon which they can base their capital structure decisions.

This study will also guide policy makers in the banking sector especially the Central Bank of Kenya and the Treasury in coming up with policies related to capital structure in the banking industry in Kenya.

Researchers will also find this study a very useful study as regards the variables measured in the study. Future research in Kenya and especially in the financial sector can be based
on this study. The recommendations for future studies will also guide future researchers in this area.
CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter presents a literature review. The theories of capital structure, mainly the trade-off theory and the pecking-order theory, are discussed. Then an empirical review on the determinants of capital structure is presented. A summary of the chapter and subsequent research gap is then outlined.

2.2 Theories on Capital Structure

The theoretical principles underlying the capital structure, financing and lending choices of firms can be described either in terms of a static trade-off choice or pecking order framework.

2.2.1 Trade-Off Theory

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, 2003).

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' behaviour 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. Research has found that high growth firms often display similar financial and operating profiles (Hutchinson and Mengersen, 1989).

Debt financing may also lead to agency costs. Agency costs are the costs that arise as a result of a principal-stakeholder relationship, such as the relationship between equity-holders or managers of the firm and debt holders. Myers and Majluf (1984) showed that, given the incentive for the firm to benefit equity-holders at the expense of debt holders, debt-holders need to restrict and monitor the firm's behaviour. These contracting behaviours increase the cost of capital offered to the firm. Thus, firms with relatively
higher agency costs due to the inherent conflict between the firm and the debt-holders should have lower levels of outside debt financing and leverage.

Firms also consider within the static trade-off framework, the tax benefits associated with the use of debt. This benefit is created as the interest payments associated with debt are tax deductible while payments associated with equity such as dividends are appropriated from profit. This tax effect encourages the use of debt by firms as more debt increases the after-tax proceeds to the owner. The theory among other things predicts a positive relationship between tax and leverage.

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 is the opposite of what the trade off theory predicts (sunder & Myers, 1999). According to Myers (1984) the trade-off theory also fails to predict the wide degree of cross-sectional and time variation of observed debt ratios.

2.2.2 Pecking Order Theory

In contrast to the trade-off theory of capital structure, the pecking order theory is based on the premise the dilution associated with issuing equity is so large that it dominates all
other considerations. It states that companies have a preferred hierarchy for financing decisions and maximize value by systematically choosing to finance new investments using the “cheapest available source of funds. Myers (1984) in the “capital structure puzzle” journal of finance suggests that companies would only issue equity as a last resort when debt capacity has been exhausted. This theory is based on the two assumptions about financial managers i.e. that there is asymmetric information where managers know more about the firms current earnings and future growth opportunities that do outside investors and there is a strong desire to keep such information proprietary. Secondly, managers will act in the best interests of existing shareholders they will forgo a positive NPV project if raising fresh equity would give more of the projects value to new rather than existing shareholders (Myers & Majluf 1984).

The pecking order theory suggests that firms have a particular preference order for capital used to finance their businesses (Myers, 1984). Owing to the presence of information asymmetries between the firm and potential financiers, the relative costs of finance vary between the financing choices. Where the funds provider is the firm’s retained earnings, meaning more information than new equity holders, the new equity holders will expect a higher rate of return on capital invested resulting in the new equity finance being more costly to the firm than using existing internal funds.

According to the pecking order theory, managers prefer internally generated funds (retained earnings) to external funding, and if necessary, prefer debt to equity because of lower information costs associated with debt issues. According to Donaldson’s 1961
study of the financing practices of a sample of large corporations, He observed that management strongly favoured internal generation as a source of new funds even to the exclusion of external funds except for occasional unavoidable “bulges” in the need for funds (Myers, 1984).

While the trade-off model implies a static approach to financing decisions based upon a target capital structure, the pecking order theory allows for the dynamics of the firm to dictate an optimal capital structure for a given firm at any particular point in time (Copeland & Weston 1984). A firm’s capital structure is a function of its internal cash flows and the amount of positive-NPV investment opportunities available. A firm that has been very profitable in an industry with relatively slow growth (i.e. few investment opportunities will have no incentive to issue debt and will likely have a low debt-to-equity ratio. A less profitable firm in the same industry will likely have a high debt-to-equity ratio. The more profitable a firm, the more financial slack it can build up. Financial slack is defined as a firm’s highly liquid assets (cash and marketable securities) plus any unused debt capacity. Firms with sufficient financial slack will be able to fund most, if not all, of their investment opportunities internally and will not have to issue debt or equity securities. Not having to issue new securities allows the firm to avoid both the floatation costs associated with external funding and the monitoring and market discipline that occurs when accessing capital markets (Myers, 1984).

The pecking order theory, however, has certain limitations. It does not explain the influence of taxes, financial distress, security insurance costs, agency costs, or the set of
investment opportunities available to a firm upon that firm's actual capital structure. It also ignores the problems that can arise when a firm's managers accumulate so much financial slack that they become immune to market discipline. In such a case it would be possible for a firm's management to preclude ever being penalized via a low security price and, if augmented with non-financial takeover defences, immune to being removed in a hostile acquisition. For these reasons, pecking order theory is offered as a complement to, rather than a substitution for, the traditional trade-off model. Therefore, we can say that while the traditional trade-off model is useful for explaining corporate debt levels, pecking order theory is superior for explaining capital structure changes (Myers, 1984).

2.2.3 Signalling Theory

Another capital structure theory is the signalling theory which can be best explained by the use of two hypotheses; information asymmetry hypothesis and the implied cash flow hypothesis. Myers & Majluf (1984) assumed that the firm's managers have superior information about the true value of the company. If management has favourable information that is not yet reflected in market prices, the release of such information will cause a larger increase in stock than in bond prices. To avoid diluting the value of existing shareholders, managers that believe their shares to be undervalued will choose to issue debt rather than equity, conversely, managers will time a new equity issue if the market price exceeds their own assessment of the stock value i.e. if the stocks are overvalued by the market. This well known propensity of companies to "time" their stock
offerings helps explain the market’s systematically negative response to announcements of such offerings (Myers and Majluf, 1984).

Secondly, another signaling theory hypothesis is implied cash flow hypothesis which is premised on the idea that managers know more that investors do. It claims that financing decisions are designed primarily to communicate management’s confidence in the firm’s prospects and, in cases where management thinks the firm is undervalued, to increase the value of the shares. Increasing leverage has been suggested as one obligates the firm to make a fixed set of cash payments over the term of the debt security, with potentially serious consequences on default. Issuing more debt capital can therefore serve as a credible signal of higher expected future cash flows. On the other hand, raising additional equity by a firm signal also that the net operating cash flows of current operations are disappointing. Investors associate relatively large issues of equity with more severe cash flow changes, resulting in more severe price reactions and therefore firm value (Ross, 1977).

2.2.4 Debt Market Accessibility Theory

Bayless and Chaplinsky (1996) have proposed another capital structure theory known as “the debt market accessibility hypothesis”. The rationale is based on the consideration of investors about the decision of managers to issue equity. If a company is already highly levered, it will be considered as being relatively risky by capital suppliers.
Hence, accessing the debt market will be less attractive and issuing additional equity instead becomes a sound decision. If investors reason in this manner, it is expected that highly levered equity issues will be associated with better post-issue stock performance than issues with relatively low debt-to-equity ratios.

2.3 Firm Level Determinants of Capital Structure

Theoretical constructs of any empirical research are proxied indirectly through the use of firm characteristics. The firm variables discussed are profitability, growth, tax, asset structure, risk and size.

2.3.1 Profitability

Corporate performance has been identified as a potential determinant of capital structure. The tax trade-off models show that profitable firms will employ more debt since they are more likely to have a high tax burden and low bankruptcy risk (Ooi, 1999). However, Myers (1984) prescribes a negative relationship between debt and profitability on the basis that successful companies do not need to depend so much on external funding. They, instead, rely on their internal reserves accumulated from past profits.

Titman and Wessels (1988) and Barton et al. (1989), agree that firms with high profit rates, all things being equal, would maintain relatively lower debt ratio since they are able to generate such funds from internal sources. Empirical evidence from previous studies (Chittenden et al., 1996; Coleman and Cole, 1999; Al-Sakran, 2001; Al-Najjar &
Hussainey, 2011) appears to be consistent with the pecking order theory. Most studies found a negative relationship between profitability and debt financing.

2.3.2 Growth

Applying pecking order arguments, growing firms place a greater demand on their internally generated funds. Consequentially, firms with high growth will tend to look to external funds to finance the growth. Firms would, therefore, look to short-term, less secured debt then to longer-term more secured debt for their financing needs. Myers (1977) confirms this and concludes that firms with a higher proportion of their market value accounted for by growth opportunity will have debt capacity. Al-Najjar & Hussainey (2011) also found a negative relationship between growth opportunities and capital structure.

Auerbach (1985) also argues that leverage is inversely related to growth rate because the tax deductibility of interest payments is less valuable to fast growing firms since they usually have non-debt tax shields. Michaelas et al. (1999) found future growth positively related to leverage and long-term debt, while Chittenden et al. (1996) and Jordan et al. (1998) found mixed evidence.

2.3.3 Tax

Different authors on capital structure have given different interpretations of the impact of taxation on corporate financing decisions in the major industrial countries. Some are concerned directly with tax policy. For instance Auerbach (1985), MacKie-Mason
(1990), etc. studied the tax impact on corporate financing decisions. The studies provided evidence of substantial tax effect on the choice between debt and equity. They concluded that changes in the marginal tax rate for any firm should affect financing decisions. A firm with a high tax shield is less likely to finance with debt. The reason is that tax shields lower the effective marginal tax rate on interest deduction.

Graham (1996) on his part concluded that, in general, taxes do affect corporate financial decisions, but the extent of the effect is mostly not significant. Ashton (1991) confirms that any tax advantage to debt is likely to be small and thus have a weak relationship between debt usage and tax burden of firms. De Angelo and Masulis (1980) on the other hand, show that depreciation, research and development expenses, investment deductions, etc. could be substitutes for the fiscal role of debt. Titman and Wessels (1988) provided that, empirically, the substitution effect has been difficult to measure as finding an accurate proxy for tax reduction that excludes the effect of economic depreciation and expenses is tedious.

2.3.4 Assets Structure

Asset structure is an important determinant of the capital structure of a new firm. The extent to which the firm’s assets are tangible and generic would result in the firm having a greater liquidation value (Harris and Raviv, 1991; Titman and Wessels, 1988). Studies have also revealed that leverage is positively associated with the firm’s assets. This is consistent with Myers (1977) argument that tangible assets, such as fixed assets, can
support a higher debt level as compared to intangible assets, such as growth opportunities.

Assets can be redeployed at close to their intrinsic values because they are less specific (Williamson, 1988; Harris, 1994). Thus, assets can be used to pledge as collateral to reduce the potential agency cost associated with debt usage (Smith and Warner, 1979; Stulz and Johnson, 1985). Feri and Jones (1979), Marsh (1982), Long and Matlitz (1985) and Allen (1995) provide empirical evidence of a positive relationship between debt and fixed assets. The empirical evidence suggests a positive relation consistent with the theoretical arguments between asset structure and leverage for large firms (Michaelas et al., 1999; Al-Najjar & Hussainey, 2011).

2.3.5 Risk

Given agency and bankruptcy costs, there are incentives for the firm not to utilise the tax benefit of debt within the static framework model. As a firm is exposed to such costs, the greater its incentive to reduce its level of debt within its capital structure. One firm variable which impacts upon this exposure is firm operating risk, in that the more volatile a firm’s earnings streams, the greater the chance of the firm defaulting and being exposed to such costs.

Firms with relatively higher operating risk will have incentives to have lower leverage than more stable earnings firms. Empirical evidence suggests that there is a negative
relationship between risk and leverage of small firms (Ooi, 1999; Titman and Wessels, 1988; Al-Najjar & Hussainey, 2011).

2.3.6 Size

Size plays an important role in determining the capital structure of a firm. Researchers have taken the view that large firms are less susceptible to bankruptcy because they tend to be more diversified than smaller companies (Smith and Warner, 1979; Ang and McConnel, 1982). Following the trade-off models of capital structure, large firms should accordingly employ more debt than smaller firms. According to Berryman (1982), lending to small businesses is riskier because of the strong negative correlation between the firm size and the probability of insolvency. Hall (1995) added that, this could partly be due to the limited portfolio management skills and partly due to the attitude of lenders.

Marsh (1982) and Titman and Wessels (1988) report a contrary negative relationship between debt ratios and firm size. Marsh (1982) argues that small companies, due to their limited access to equity capital market tend to rely heavily on loans for their funding requirements. Titman and Wessels (1988) further posit that small firms rely less on equity issue because they face a higher per unit issue cost. Al-Najjar & Hussainey (2011) found a positive relationship between firm size and capital structure. The relationship between firm size and debt ratio is, therefore, a matter for empirical investigation.
2.3.7 Non-debt Tax Shields

Both the pecking order and trade-off theories imply that non-debt tax shields and leverage ratio are negatively related (DeAngelo and Masulis, 1980; Myers, 1984; Myers and Majluf, 1984). Empirical studies confirm this suggestion (Qian et al., 2007; Sayilgan et al., 2006).

Moreover, Erickson and Trevino (1994) reported a negative relationship between non-debt tax shield and leasing usage in US airway companies. Likewise, Upneja and Dalbor (2001) found that non-debt tax shield is negatively associated with leverage ratio in publicly traded US lodging companies.

2.3.8 Free Cash Flows

The trade-off theory suggests a positive relationship between free cash flows and debt ratio, since firms owning big amount of free cash flows are exposed to less risk and borrow more easily in capital market (Benito, 2003; Jensen, 1986; Stulz, 1990). However, a negative relationship is implied by the pecking order theory, since it requires an increase in internal funds arising from free cash flows.

These incremental cash flows would be regarded as a financing source (Myers, 1984; Myers and Majluf, 1984). Empirical studies obtained conflicting evidence on the relationship between free cash flows and leverage ratio (Colombo, 2001; Jensen, 1986; Stulz, 1990; Westphalen, 2002).
2.3.9 Commercial Trade Position

In the pecking order theory net commercial trade position is accepted as an internal fund, since commercial trade positions are internal funds that arise from lending and borrowing activities in the firm. In this sense, this theory suggests a negative relationship between net commercial trade position and debt ratio. Consistent with the pecking order theory, Colombo (2001) found a negative relationship between net commercial trade position and leverage ratio.

2.3.10 Age

Age of the firm is a standard measure of reputation in capital structure models. As a firm continues longer in business, it establishes itself as an ongoing business and therefore increases its capacity to take on more debt; hence age is positively related to debt. Before granting a loan, banks tend to evaluate the creditworthiness of entrepreneurs as these are generally believed to pin high hopes on very risky projects promising high profitability rates. In particular, when it comes to highly indebted companies, they are essentially gambling their creditors’ money. If the investment is profitable, shareholders will collect a significant share of the earnings, but if the project fails, then the creditors have to bear the consequences (Myers, 1977). To overcome problems associated with the evaluation of creditworthiness, Diamond (1989) suggests the use of firm reputation. He takes reputation to mean the good name a firm has built up over the years; the name is recognized by the market, which has observed the firm’s ability to meet its obligations in a timely manner. Directors concerned with a firm’s reputation tend to act more prudently and avoid riskier projects in favour of safer projects, even when the latter have not been
approved by shareholders, thus reducing debt agency costs (by reducing the “temptation” to gamble at creditors’ cost).

It is important to note the extension of firm risk to the personal area of the businessperson (given the unlimited liability of entrepreneurs) to be a way of managing the agency costs resulting from cases of more opportunistic behaviour. Given the fragmentation of information, and the high costs of control and evaluation, the firm’s and the entrepreneur’s reputations become a valuable asset in the management of relations between the principal (investor) and the agent (businessperson) (Landström, 1993). Petersen and Rajan (1994) found that older firms should have higher debt ratios since they should be higher quality firms. Hall et al. (2004) agreed that age is positively related to long-term debt but negatively related to short-term debt. Esperança et al. (2003), however, found that age is negatively related to both long-term and short-term debt. Green, Murinde and Suppakitjarak (2002) also found that age has a negative influence on the probability of incurring debt in the initial capital equation, and no impact in the additional capital equation.

2.4 Corporate Governance Level Determinants of Capital Structure

Prior research (Mehran, 1992; Berger et al., 1997; Wiwattanakantang, 1999; Wen et al., 2002; Du and Dai, 2005; Abor and Biekpe, 2005; Al-Najjar and Hussainey, 2009; Al-Najjar & Hussainey, 2011) found that corporate capital-structure decision is also influenced by corporate governance factors. In particular, Mehran (1992), Berger et al. (1997) and Abor and Biekpe (2005) found a significant negative association between the
size of the board of directors and debt-to-equity ratios. However, Jensen (1986) reported a positive association between higher debt ratios and larger board size. Other researchers (Wiwattanakantang, 1999; Wen et al., 2002; Al-Najjar and Hussainey, 2009) found that there is no significant association between board size and debt-to-equity ratios.

Additionally, Abor and Biekpe (2005) showed positive relationships between capital-structure and board composition (percentage of outside directors), while Wen et al. (2002) found a negative association between outside directors and capital-structure. However, Al-Najjar and Hussainey (2009) found no association between the two variables.

Finally, Wiwattanakantang (1999) found that managerial shareholdings have consistent positive influence on family-owned firm leverage. Al-Najjar and Hussainey (2009) found that insider ownership is the main corporate governance factor affecting firms' capital-structure. A study by Al-Najjar & Hussainey (2011) found that corporate governance characteristics (board size and outside directorships) were the main drivers of capital structure of UK firms. Given the above mixed results, it is important to revisit this research area and examine the association between corporate governance and capital-structure.

2.5 Capital Structure Determinants in Kenya

Nyang’oro (n.d) studied the impact of tax on the capital structure of listed companies in Kenya. The study adopted the static trade-off theory (STO) of capital structure given that
this theory incorporates the impact of taxes on capital structure. Panel data analysis of a sample of 20 listed non-financial companies was used to determine the impact of tax on capital structure covering the period 1993 to 2001. The main proxies for the tax effect considered included the marginal effective tax rate, and non-debt tax shields as depreciation and the tax loss carry-forward. The marginal tax rate was proxied using the average effective tax rate. Other variables likely to determine the capital structure of firms such as liquidity, tangibility, growth opportunities, profitability, dividend yield and size of the firm were included to control for their effects. The study used the Hausman test to identify the best model and the fixed effects model is found to be the best in estimating this situation. The results showed that the tax rate was significant in determining the leverage of firms but showed unexpected (negative) sign. Non-debt tax shield variable was found to be insignificant in determining the leverage of these firms. Profitability, tangibility and growth opportunities were found to be significant in explaining the capital structure of these firms. The firms were also found to adjust their leverage to the target debt ratio while in the process incurring positive adjustment costs. This implied that the firms would not at any time fully adjust to the target debt level due to the presence of the adjustment costs. Other factors found to be relevant in determining the capital structure in the study were tangibility, growth and profitability.

Green et al (2002) utilized a unique comprehensive dataset, drawn from the 1999 baseline survey of some 2000 micro and small-scale enterprises (MSEs) in Kenya to analyse the financing behaviour of these enterprises within the framework of a heterodox model of debt-equity and gearing decisions. The study found that measures of the tangibility of the
owner's assets, and the owner's education and training had a significant positive impact on the probability of borrowing and of the gearing level.

Ojah (2009) 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.

Jepkemboi (n.d) studied the determinants of pecking order behaviour for listed companies in Kenya. 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 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 poles 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. However, inclusion of the agency costs, information asymmetry and cumulative deficit caused the $R^2$ of the equation to change much (from
0.6504 to 0.9926). The $R^2$ increased since according to the pecking order hypothesis they are the main determinants.

### 2.6 Summary and Research Gap

The above review has clearly shown that there are a number of factors other than regulations that influence capital structure of commercial banks. In fact, the review has shown that regulation is a second order determinant of capital structure of banks. As far as studies on Kenya are concerned, there are numerous studies on the determinants of capital structure of listed firms. Banks have not been studied in the past in Kenya probably because scholars always assumed that their capital structures were only influenced by regulations. This is wrong as the literature has suggested. There is therefore a gap in literature that this present study sought to bridge.
CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the research methodology that was used to carry out the study. It starts with research design which will hypothesis testing research design. It states the research population, the sample size, the sampling design, data collection, analysis and presentation.

3.2 Research Design

The study used inferential research design to find out the relationship between independent variables and dependent variables of the study. Inferential research design is used in quantitative research which is used for quantifying relationships between variables. This design is used to test the relationship between independent variables and dependent variables in order to come up with conclusions of the relationships between the variables.

Statistical inference is the process of making conclusions using data that is subject to random variation, for example, observational errors or sampling variations. Statistical inference makes propositions about populations using data drawn from the population via some form of random sampling. Given a parameter or hypothesis about which one wishes to make an inference, statistical inference uses a statistical model of the random process it is supposed to generate data, and a particular realization of the random process (Freedman and David, 2009).
3.3 Population

The population of this study was all the 43 commercial banks in Kenya currently licensed by the Central Bank of Kenya to operate. Given that the number is not so large, no sampling was made. This was therefore a census of all the 43 banks.

3.4 Data Collection

Secondary data was drawn from the financial statements of commercial banks in Kenya from 2002-2011. This data is also available from the Banking Survey (2011) booklet and therefore was drawn from there. The data collected for the study from these sources include capital structure variables which include debt, equity and total assets as well as the data on determinants (independent variables in the model below).

Following Holmes (2003) the three dependent variables are leverage; short-term leverage and long-term leverage. Short-term debt is defined as the portion of the bank’s total debt repayable within one year. This includes deposits and current accounts, payable within one year. Long-term debt is the bank’s total debt repayable beyond one year.

The leverage (LEV) is total debts divided by total capital. The short-term debt ratio (SHORT) is total short-term debt to total capital while the long-term debt ratio (LONG) is the total long-term debt divided by total capital. The explanatory variables include profitability (PRE), risk (RSK), asset structure (AST), tax (TAX), size (SZE), sales growth (GROW). The entire variable for this study was based on book value in line with
the argument by Myers (1984) that book values are proxies for the value of assets in place.

3.5 Data Analysis

This section presents both the conceptual model in 3.5.1 and the empirical model in 3.5.2.

3.5.1 The Conceptual Model

This research is based on the following conceptual model adapted from Myers (1984):

\[ CS = f(PRE, GRW, TAX, AST, RSK, SZE) \] .......... (1)

Where:

- \( CS \) is the capital structure measured using three variables: \( LEV, \) \( LONG, \) and \( SHORT \)
- \( LEV_{it} \) is the ratio of total debt to total capital for firm \( i \) in period \( t; \)
- \( LONG_{it} \) is the ratio of long-term debt to total capital for firm \( i \) in period \( t; \)
- \( SHORT_{it} \) is the ratio of short-term debt to total capital for firm \( i \) in period \( t; \)
- \( PRE_{it} \) is the ratio of pre-tax profits to total assets for firm \( i \) in period \( t; \)
- \( GRW_{it} \) is the percentage change in turnover for firm \( i \) in period \( t; \)
- \( TAX_{it} \) is the ratio of pre-tax profits to total assets for firm \( i \) in period \( t; \)
- \( AST_{it} \) is the ratio of fixed assets to total assets for firm \( i \) in period \( t; \)
- \( RSK_{it} \) is the variability in profit for firm \( i \) in period \( t; \)
- \( SZE_{it} \) is the log of total assets for firm \( i \) in period \( t; \) and
3.5.2 The Analytical Model

Based on the conceptual model above, three models were tested as follows:

\[
\text{LEV}_{i,t} = \beta_0 + \beta_1 \text{PRE}_{i,t} + \beta_2 \text{GRW}_{i,t} + \beta_3 \text{TAX}_{i,t} + \beta_4 \text{AST}_{i,t} + \beta_5 \text{RSK}_{i,t} + \beta_6 \text{SZE}_{i,t} + e
\]

\[
\text{LONG}_{i,t} = \beta_0 + \beta_1 \text{PRE}_{i,t} + \beta_2 \text{GRW}_{i,t} + \beta_3 \text{TAX}_{i,t} + \beta_4 \text{AST}_{i,t} + \beta_5 \text{RSK}_{i,t} + \beta_6 \text{SZE}_{i,t} + e
\]

\[
\text{SHORT}_{i,t} = \beta_0 + \beta_1 \text{PRE}_{i,t} + \beta_2 \text{GRW}_{i,t} + \beta_3 \text{TAX}_{i,t} + \beta_4 \text{AST}_{i,t} + \beta_5 \text{RSK}_{i,t} + \beta_6 \text{SZE}_{i,t} + e
\]

The data was entered into the SPSS version 20 and analysed using descriptive analysis and multiple regression analysis. Descriptive analysis was used to determine the mean values of the variables in the model and to show the trend analysis. Multiple regression analysis was used to estimate the models in the study. Pearson correlation coefficients were interpreted for their effect and significance on the dependent variables. The models were also tested for their significance using the ANOVA at 5% level of confidence. The strength of the relationships was tested using t-statistics. The results are presented using tables.
CHAPTER FOUR
DATA ANALYSIS, RESULTS AND INTERPRETATION

4.1 Introduction

This chapter presents the results of data analysis. The chapter is organised as follows.

Section 4.2 presents the descriptive analysis results while section 4.3 presents the regression analysis results.

4.2 Descriptive Statistics

Table 1 provides a summary of the descriptive statistics of the dependent and explanatory variables.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Minimum</th>
<th>Median</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEV</td>
<td>0.8703</td>
<td>0.0851</td>
<td>0.5254</td>
<td>0.8775</td>
<td>1.1491</td>
</tr>
<tr>
<td>SHORT</td>
<td>0.7752</td>
<td>0.2117</td>
<td>0.0934</td>
<td>0.8473</td>
<td>1.1491</td>
</tr>
<tr>
<td>LONG</td>
<td>0.0822</td>
<td>0.1564</td>
<td>0.0000</td>
<td>0.0252</td>
<td>0.7818</td>
</tr>
<tr>
<td>PRE</td>
<td>0.0538</td>
<td>0.0384</td>
<td>-0.1470</td>
<td>0.0538</td>
<td>0.1276</td>
</tr>
<tr>
<td>RSK</td>
<td>0.8209</td>
<td>3.1089</td>
<td>-15.7600</td>
<td>0.5530</td>
<td>16.2200</td>
</tr>
<tr>
<td>TAX</td>
<td>0.2561</td>
<td>0.1477</td>
<td>0.0000</td>
<td>0.3233</td>
<td>0.5656</td>
</tr>
<tr>
<td>GROW</td>
<td>0.6488</td>
<td>1.7795</td>
<td>-0.7500</td>
<td>0.3914</td>
<td>16.1923</td>
</tr>
<tr>
<td>AST</td>
<td>0.0367</td>
<td>0.0201</td>
<td>0.0078</td>
<td>0.0324</td>
<td>0.0959</td>
</tr>
<tr>
<td>SZE</td>
<td>26.7152</td>
<td>1.3368</td>
<td>24.0717</td>
<td>26.7478</td>
<td>29.2592</td>
</tr>
</tbody>
</table>

Source: Author (2012)

This shows the average indicators of variables computed from the financial statements.

The mean (median) leverage of banks was 0.8703 (0.8775). This means that more than 87 per cent of the banks in Kenya are financed by debts. The average of long-term leverage suggests that it represents around 8.2 per cent of the capital of the bank while the mean (median) short-term ratio (measured by total short-term debts/total capital) of the banks...
was 0.7752 (0.8473). Total short-term debts appear to constitute more than three quarters of the capital of the banks. This highlights the importance of short-term debts over the long-term debts in Kenyan banks’ financing. This seems to be consistent with standard practice as banks working capital is largely on the customers’ deposit.

Profitability, given as the ratio of pre-tax profits to total assets, registered a mean value of 0.0538 indicating a return on assets of 5.38 per cent. Risk is measured as the variability of profit and this shows a mean (median) of 0.8209 (0.5530). Corporate tax rate on average was 26.61 per cent. The mean (median) growth (measured as growth in sales) was 0.6488 (0.3914). This indicates that, on average, growth rate in sales was 64.88 per cent during the six-year period. Operating assets (fixed assets) had a mean (median) of 0.0367 (0.0324). This indicates that, on average, fixed assets accounted for 3.67 per cent of total assets of the banks sampled. Size, determined as the natural logarithm of total assets had a mean (median) of 26.7152 (26.7478).

4.3 Regression Analysis
The results of the OLS regression between leverage (dependent variables) and the six explanatory variables are reported in Table 2.
Table 2: Determinants of Leverage

<table>
<thead>
<tr>
<th>Explanatory Variables</th>
<th>Coefficient</th>
<th>t-statistic</th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE</td>
<td>-1.1509</td>
<td>-7.0230</td>
<td>0.0000</td>
</tr>
<tr>
<td>RSK</td>
<td>1.1800</td>
<td>0.0019</td>
<td>0.9985</td>
</tr>
<tr>
<td>TAX</td>
<td>0.1556</td>
<td>4.0095</td>
<td>0.0001</td>
</tr>
<tr>
<td>GROW</td>
<td>0.0022</td>
<td>0.6025</td>
<td>0.5486</td>
</tr>
<tr>
<td>AST</td>
<td>-1.0642</td>
<td>-10.5953</td>
<td>0.0000</td>
</tr>
<tr>
<td>SZE</td>
<td>0.0103</td>
<td>2.9541</td>
<td>0.0041</td>
</tr>
<tr>
<td>R-square</td>
<td>0.9940</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>2184.2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prob(F-statistics)</td>
<td>0.0000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author (2012)

The results indicate a negative relationship between profitability and leverage. The results, which are also consistent with previous studies (Titman and Wessels, 1988; Barton et al., 1989) show that, higher profits increase the level of internal financing. Profitable banks accumulate internally reserves and this enables them to depend less on external funds. Even though profitable banks may have better access to external financing, the need for debt finance may possibly be lower, if new investments can be financed from accumulated reserves. This finding is consistent with the pecking order theory that suggests that profitable firms prefer internal financing to external financing.

There is no support of risk influencing the level of leverage of banks in Kenya. The coefficient for risk on leverage is positive and statistically insignificant. This finding raise a question as whether risk is important in the capital structure of banks in Kenya.

The results show a positive relationship between growth on the one hand and leverage on the other hand. Growing firms place a greater demand on the internally generated funds of the firm. Consequently, banks with a relatively high growth rate will tend to look at
short-term less secured debt first then to longer-term more secured debt to finance their growth.

Surprisingly, the results on Table 2 show a negative correlation between operating assets and leverage. The results also indicate a statistically significant positive relationship between size and leverage. The results suggest that the bigger the bank, the more external funds it will use. One reason is that, larger banks are more diversified and hence have lower variance of earnings, enable them to manage high debt ratios. The providers of the debt capital are more willing to lend to larger banks as they are perceived to have lower risk levels. Other the hand, smaller banks may find it relatively more costly to resolve issues of information asymmetries with the providers of capital debt, thus, may present lower debt ratios. This result supports financial theory and is consistent with the empirical evidence. Table 3 is the regression results of the relationship between short-term debt and banks level characteristics.

Table 3: Determinants of Short-term Debt

<table>
<thead>
<tr>
<th>Explanatory Variables</th>
<th>Coefficient</th>
<th>t-statistic</th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE</td>
<td>-1.8704</td>
<td>-8.9660</td>
<td>0.0000</td>
</tr>
<tr>
<td>RSK</td>
<td>-0.0011</td>
<td>-0.9967</td>
<td>0.3219</td>
</tr>
<tr>
<td>TAX</td>
<td>0.5884</td>
<td>11.5692</td>
<td>0.0000</td>
</tr>
<tr>
<td>GROW</td>
<td>0.0169</td>
<td>2.9067</td>
<td>0.0047</td>
</tr>
<tr>
<td>AST</td>
<td>-1.3465</td>
<td>-3.6016</td>
<td>0.0006</td>
</tr>
<tr>
<td>SZE</td>
<td>0.0337</td>
<td>7.4053</td>
<td>0.0000</td>
</tr>
<tr>
<td>R-square</td>
<td></td>
<td>0.9670</td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td></td>
<td>386.4032</td>
<td>0.0000</td>
</tr>
<tr>
<td>Prob(F-statistics)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author (2012)
The results show a negative relationship between the banks' profit, risk and asset tangibility and short-term debt. The correlation between profitability and short-term debt shows that profitable banks make use less short-term debt. The negative coefficient and statistically insignificant of risk (defined as variability of pre-tax profit) clearly shows that risk has no influence on banks structure. Contrary to the empirical evidence, the negative relationship between assets tangibility and short-term debts indicate less short-term debt in banks operating assets financing. Again the results in Table 3 below show a positive and statistically significant between taxation, growth and size on one hand and short-term debt on the other hand. The results show that, in all the variables (apart from risk), short-term debt and leverage appear to be moving in the same direction. It could be due to the fact that short-term debt constitutes a significant portion of banks capital.

Table 4 shows the results of relationship between long-term debt and banks' profit, risk, corporate tax, growth and asset structure.

Table 4: Determinants of Long-term Debt

<table>
<thead>
<tr>
<th>Explanatory Variables</th>
<th>Coefficient</th>
<th>t-statistic</th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE</td>
<td>0.4540</td>
<td>5.4811</td>
<td>0.0000</td>
</tr>
<tr>
<td>RSK</td>
<td>-0.0008</td>
<td>-0.7896</td>
<td>0.4321</td>
</tr>
<tr>
<td>RSK</td>
<td>0.2970</td>
<td>8.3540</td>
<td>0.0000</td>
</tr>
<tr>
<td>TAX</td>
<td>-0.0044</td>
<td>-2.6596</td>
<td>0.0095</td>
</tr>
<tr>
<td>GROW</td>
<td>0.4662</td>
<td>3.5606</td>
<td>0.0006</td>
</tr>
<tr>
<td>AST</td>
<td>-0.0060</td>
<td>-2.9012</td>
<td>0.0048</td>
</tr>
<tr>
<td>SZE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-square</td>
<td>0.1481</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>2.2886</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prob(F-statistics)</td>
<td>0.0434</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author (2012)
The results reveal a statistically significant and positive relationship between profitability and long-term debts of banks. The finding seems to contrast with empirical evidence that profitable firms use less debt capital. The results also show a negative relationship between risk and long-term debt. Although this result shows a statistically insignificant, it is consistent with the arguments that high risk firms normally use less debt. Contrary to the trade-off model, the regression results show a negative relationship between corporate tax and long-term leverage. The results also show a negative and statistically significant between long-term debt and banks' growth. Growing firms place a greater demand on the internally generated funds. Thus, banks with a relatively high growth rate will tend to look at their accumulated reserves then short-term debt before long-term debt to finance their growth. This finding supports the pecking order theory that suggest that firms have a preference order for capital used to finance their investments.

The results also show a positive relationship between operating assets (fixed assets) and long-term debt. The results suggest that Kenyan banks with a higher proportion of operating assets are financed by long-term debt capital. The reason could be that higher proportions of banks’ operating assets denote less operating risks, therefore, the banks may not be exposed to more risk from the use of more long-term debt capital. The result shows a negative relationship between size and long-term debt. This means that smaller banks, due to their limited access to equity capital market tend to rely on long-term debt for their financing requirements. the results are largely consistent with prior studies such as Chittenden et al. (1996), Coleman and Cole (1999), Al-Sakran (2001), and Al-Najjar & Hussainey (2011).
CHAPTER FIVE
SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction
This chapter presents the summary of the study in section 5.2, conclusion in section 5.3, recommendations for policy in section 5.4, limitations of the study in section 5.5 and suggestions for further research in section 5.6.

5.2 Summary
The objective of this study was to find out the determinants of capital structure of commercial banks in Kenya. The study used inferential research design to find out the relationship between independent variables and dependent variables of the study. The population of this study was all the 43 commercial banks in Kenya currently licensed by the Central Bank of Kenya to operate. Secondary data was drawn from the financial statements of commercial banks in Kenya from 2002-2011. The data was analysed using descriptive analysis and multiple regression analysis.

The study found that overall leverage of banks is negatively related to operating assets. However, splitting the duration of debt into long and short components, it is found that long-term debt structure is positively and statistically related to operating assets. The result also shows that short-term debt of banks is negatively related to banks' profitability, risk and asset structure and positively related to bank size, growth and corporate tax. On the other hand, the long-term debt of the banks is positively related to banks' asset structure and profitability and inversely related to bank risk, growth, size and corporate tax.
5.3 Conclusion

This study examined the determinants of capital structure of banks in Kenya. Generally, the variables examined were consistent with the static trade-off and pecking order arguments, with the only exception being risk. However, the inferences associated with this variable were significantly affected by the choice of proxy employed to represent risk.

The study has also highlighted the importance of distinguishing between long and short forms of debt when inferences about capital structure. Given the relatively high proportion of short-term debt financing of banks in Kenya, and banks being a source of capital to other firms, overall leverage of banks is negatively related to operating assets. However, splitting the duration of debt into long and short components, it is found that long-term debt structure is positively and statistically related to operating assets. This is intuitive both from theoretical and duration matching perspectives. The result also shows that short-term debt of banks is negatively related to banks’ profitability, risk and asset structure and positively related to bank size, growth and corporate tax. On the other hand, the long-term debt of the banks is positively related to banks’ asset structure and profitability and inversely related to bank risk, growth, size and corporate tax.

Apart from risk, the results show that, in all the variables, short-term debt and leverage appear to be moving in the same direction. It could be due to the fact that short-term debt constitutes a significant portion of banks capital.
The study reveals that more than 87 per cent of the Kenyan banks' assets are financed by debts, of this, short-term debts appear to constitute more than three quarters of the capital of the banks. This highlights the importance of short-term debt over the long-term debt in Kenyan banks’ financing.

In conclusion, the empirical evidence from this study suggests that profitability, corporate tax, growth, asset structure and bank size are important variables that influence banks’ capital structure. These results are consistent with the theories developed in finance to explain capital structure within the firm, including static trade-off arguments utilising bankruptcy, agency and tax costs and pecking order arguments. However, there is no support of banks’ risk influencing the level of leverage of banks in Kenya. This finding is contrary to earlier studies.

5.4 Recommendations for Policy
The study recommends that commercial banks in Kenya need to remain profitable in order to rely less on external debt as a source of financing. As the results showed, higher profitability was negatively correlated with capital structure of banks.

Clearly, the pecking order theory appears to dominate the Kenyan capital structure story. It is therefore important for policy to be directed at improving the information environment.

Policy makers should place greater emphasis on the facilitation of equity capital since it provides a base for further borrowing, reduces businesses' sensitivity to economic cycles,
and provides firms with access to syndicates of private and institutional venture capital suppliers.

There could also be policies intended to encourage firms to access public equity capital by, for example, reducing listing requirements and subsidizing flotation cost. It is appropriate to establish financing schemes to assist firms in specific industries.

5.5 Limitations of the Study
This study was done on banks in Kenya. Thus the results are therefore limited to commercial banks in Kenya and may not be generalized to other industries in Kenya or to other African nations.

The study also focused on firm level characteristics as the determinants of capital structure of banks in Kenya. The results are therefore limited to the firm characteristics modeled in this study.

5.6 Suggestions for Further Research
Following from these findings, it would be useful to also consider the following directions for future research: how does risk influences capital structure of banks using value at risk concept; and the relationship between capital structure and the bank credit.

This study can also be replicated to other industries in Kenya especially to the small and medium enterprises to find out the determinants of their capital structure. A study of the same nature in corporative societies and also in microfinance firms would be instrumental
in establishing the determinants of capital structure in small financial institutions in Kenya.
REFERENCES


APPENDICES

Appendix 1: Commercial Banks

<table>
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<tr>
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<th>Bank Name</th>
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<tbody>
<tr>
<td>1</td>
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<td>3</td>
<td>Bank of Baroda (K) Ltd.</td>
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<td>8</td>
<td>Chase Bank (K) Ltd.</td>
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<td>13</td>
<td>Credit Bank Ltd.</td>
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<td>Development Bank of Kenya Ltd.</td>
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<td>Giro Commercial Bank Ltd.</td>
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