Effect of Capital Structure on Financial Performance of Banking Institutions Listed in Nairobi Securities Exchange

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Abstract: Capital structure is a financial tool that helps to determine how firms choose their capital structure, a firm’s capital structure is then the composition or structure of its liabilities. The general objective of this study is to determine the effect of capital structure to the company’s financial performance of the listed banking institutions in Nairobi Securities Exchange. The specific objectives of the study was to; establish how debt, leverage risk; interest rate; and debt equity combinations affect performance of banking institutions listed at the NSE. The study made use of descriptive research study design and data was collected using questionnaires which were administered to the management of the selected banks under study. Correlation and multiple regression analysis were used for analysis. The results of the study were analysed to see whether there is any effect of capital structure on financial performance. The study also determined whether capital structure have effect on financial performance of the firm by considering the debt, leverage risk, debt equity ratio and interest rates and how they are related to Return on Equity (ROE), Return on Assets (ROA), Gross Profit Margin and Net Profit Margin (NPM) at determined significant level. The study targeted 35 respondents but managed to obtain responses from 30 of them thus representing 86% response rate. The findings indicated that debt had a coefficient of 0.747; leverage risk had a coefficient of 0.731, interest rate had a coefficient of 0.781, and debt-equity proportion had a coefficient of 0.791. The study revealed that majority of the respondents agreed that the central bank lending rate affected the decision to finance their firms’ working capital to a great extent (3.8676), majority of the respondents agreed that the ratio of non-performing assets is high in a majority of the banks under study (3.8971) and that capital was always maintained at levels above regulatory levels in many banks (3.8971). In addition, the study findings revealed that majority of the respondents agreed that the bank found it cheaper using more of equity financing to a great extent (4.4647) and that the leverage risk affected the performance of many banks and that the trend of earnings was properly monitored by the bank to a great extent (3.6765). The research findings indicated that there was a positive relationship (R= 0.608) between the variables. The study also revealed that 56.4% of financial performance of commercial banks listed at the NSE could be explained by capital structure aspects under study. The study findings revealed that the combined effect of the four aspects under study on financial performance of commercial banks listed at the NSE was statistically significant. This was revealed by the ANOVA findings where high F values and log p values were registered at 95% confidence interval. The study recommends that, The Central Bank of Kenya to formulate and enact a policy which makes commercial debt cheaper hence reduce cost of operations of banks, Management of commercial banks listed at the NSE to reduce interest rates so as to attract investors who will inject more funds into these banks. These funds can be used for onward lending hence increased interest income and management of commercial banks listed at the NSE to contain insolvency to enhance credibility among their customers. The study recommended that a broad based study covering both public and private institutions be done to find out the effect of the factors under study on their financial performance. It is also suggested that future research should focus on the capital structure factors on organizational performance.

Keywords: Capital Structure, Financial Performance, Banking Institutions

1. Background of the Study

A firm basic resource is the stream of cash flows produced by its assets. When the firm is financed entirely by common stock, all of those cash flows belong to the stockholders. When it issues both debt and equity securities, it undertakes to split up the cash flows into two streams, a relatively safe stream that goes to the debt-holders and a more risky one that goes to the stockholders. In finance, capital structure refers to the way in which an organization is financed a combination of long term capital (ordinary shares and reserves, preference shares, debentures, bank loans, convertible loan stock and so on) and short term liabilities such as a bank overdraft and trade creditors. A firm’s capital structure is then the composition or ‘structure’ of its liabilities. (Nirajini & Priya, 2013)

One of the most important issues in corporate finance is responding “how do firms choose their capital structure?” Locating the optimal capital structure has for a long time been a focus of attention in many academic and banking institutions that probes into this area. This is comprehensible as there is a lot of money to be made advising firms on how to improve their capital structure. Defining the optimal capital structure is a critical decision. This decision is important not only because of the impact such a decision has an organization’s ability to deal with its competitive environment. (Abor, 2005).

Capital structure plays a role in determining the risk level of the company, and fixed cost is the key factor whether it is involved in production process or fixed financial charges. It should be kept low if the management is likely to confront an uncertain environment but how low or how high is the basic question. The assets of the company can be financed by owner or the loaner. The owner claims increase when the firm raises funds by issuing ordinary shares or by retaining the earnings which belong to the shareholders, the loaners claim increase when the company borrows money from the market using some instrument other than shares. The various
The importance of financing decisions cannot be over emphasised since many of the factors that contribute to business failure can be addressed using strategies and financial decisions that drive growth and the achievement of organizational objectives (Salazar, Soto & Mosqueda, 2012). The finance factor is the main cause of financial distress (Memba & Nyanumba, 2013). Financing decisions result in a given capital structure and suboptimal financing decisions can lead to corporate failure. A great dilemma for management and investors alike is whether there exists an optimal capital structure. The objective of all financing decisions is wealth maximisation and the immediate way of measuring the quality of any financing decision is to examine the effect of such a decision on the firm’s performance.

According to the Central Bank of Kenya, there are forty three (43) licensed commercial banks in Kenya. Three (3) 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, twenty seven (27) are local commercial banks while thirteen (13) are foreign commercial banks (CBK, 2014). Of all the licensed commercial banks in Kenya only eleven (11) are listed in the Nairobi Securities Exchange (see list of licensed commercial banks in Appendix III).

Commercial banks 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. (Kiruri, 2013). The banking sector continued to register growth in assets, deposits and profitability (Central Bank of Kenya, 2013). Banks’ assets expanded by 15.3 per cent from Kshs 2.02 trillion in 2011 to Kshs 2.33 trillion in 2012. Customer deposits continued to be the main source of the banks’ funding. The deposits increased by 14.8 per cent from Kshs 1.49 trillion in 2011 to Kshs 1.71 trillion due to aggressive mobilization of deposits by banks, remittances and receipts from exports. There was an increase by 20.6 per cent of banks’ pre-tax profits to Kshs 107.9 billion in 2012 from Kshs 89.5 billion in 2011. Growth in credit portfolio and investment in government securities contributed to increased profits (Central Bank of Kenya, 2013). Data from the Central Bank of Kenya shows a significant growth in the industry in all areas including financial performance (CBK, 2014). While this is the case, some banks, especially the foreign banks, have been performing better than others. The factors leading to this needs an investigation as has been the focus of many studies in other countries such as China, Nigeria, Singapore, UAE, UK, USA, among others. (CBK, 2014).

The capital structure of banking institutions has become an increasingly prominent issue in the world of finance, particularly in the wake of the 2008 banking collapse and the ensuing government bailouts and institutional restructuring efforts. During any time of financial or banking crisis, when bailout funding/aid is available, questions of capital structure become more salient. What is the best mix of debt, equity, and grant funding which will ensure solvency and self-sufficiency? The question of optimal capital structure for lending institutions, particularly ones with access to grant funding, is an open and weighty question.

According to Bodhanwala, (2009), the financing or capital structure decision is significant managerial decision, as it influences the shareholder return and risk. The market of the share also is affected by the capital structure decision. The company has to plan its capital structure initially at the time of its promotion. Subsequently, whether the funds have to be raised, a capital structure decision is involved. A demand for raising funds generates a new capital structure which needs a critical analysis.

2. Objectives

The general objective of this study will be to determine the effect of capital structure to the company’s financial performance of the listed banking institutions in Nairobi Securities Exchange.

The Specific Objectives of the study are:
1) To investigate the effect of debt performance of banking institutions listed at Nairobi Securities Exchange (NSE).
2) To determine the leverage risk of banking institutions listed at Nairobi Securities Exchange (NSE).
3) To examine the effect of interest rates on performance of banking institutions listed at Nairobi Securities Exchange (NSE).
4) To determine the effect of debt-equity combinations on performance of banking firms listed at Nairobi Securities Exchange (NSE).

3. Literature Review

Introduction

This chapter reviews the theoretical and empirical literature relevant to the factors affecting firm performance. It mainly focuses on the concept of firm performance, leverage, liquidity, company size, company’s age, agency theory and the conceptual framework

Theoretical framework

This study was underpinned by capital structure relevance theories, working capital management theories. The capital structure relevance theories underpinning this study include
the agency theory and the Modigliani and Miller capital structure relevance theory. Jensen and Meckling, in their agency theory, asserted that managers do not always run the firm they work for to maximise shareholders’ wealth but may instead pursue their own self-interest. According to the agency theory, debt finance acts as a controlling tool to restrict the tendency towards opportunistic behaviour for personal gain by managers. Debt finance reduces the free cash flows within the firm by paying fixed interest payments and in the process forces managers to avoid negative investments and work in the interest of shareholders.

**Modigliani and Miller Approach**

In an effort to validate MM theory in Kenya, Maina and Kondongo, (2013) investigated the effect of debt-equity ratio performance of firms listed at the Nairobi Securities exchange. A census of all firms listed at the Nairobi Security Exchange from year 2002-2011 was the sample. The study found a significant negative relationship between capital structure (D/E) and all measures of performance. This results collaborated MM theory that indeed capital structure is relevant in determining the performance of a firm. The study further found that that firms listed at NSE used more short-term debts than long-term.

Modigliani and Miller modified an earlier capital structure irrelevance theory in which they argued that capital structure really does matter in determining the value of a firm. The theory was based on the argument that the use of debt offers a tax shield. Based on this assertion, firms could opt for an all-debt capital structure. Brigham and Gapenski, (2004), however, contend that the Miller-Modigliani (MM) model is true only in theory, because in practice, bankruptcy costs exist and will even increase when equity is traded off for debt.

The Modigliani and Miller result that firm value is independent of dividend policy has also been examined extensively. Bhattacharya, (2006), and others show that firm dividend policy can be a costly device to signal a firm’s state, and hence relevant, in a class of models with: (i) asymmetric information about stochastic firm earnings; (ii) shareholder liquidity (a need to sell makes firm valuation relevant); and (iii) deadweight costs (to pay dividends, refinance cash flow shocks or cover under-investment). In a separating equilibrium, only firms with high anticipated earning pay high dividends, thus signaling their prospects to the stock market, as in other costly signaling models, why a firm would use financial decisions to reveal information, rather than direct disclosure, must be addressed. As previously, taxes are another important friction which affect dividend policy (e.g., see Allen, Bernardo and Welch, (2001)).

**Pecking Order Theory**

Halov and Heider, (2004), argue that the standard pecking order is a special caseof adverse selection. When there is adverse selection about firm value, firms prefer to issue debt over outside equity and standard pecking order models apply. However, when there is asymmetric information about risk, adverse selection arguments for debt apply and firms prefer to issue external equity over debt. Thus, adverse selection can lead to a preference for external debt or external equity depending on whether asymmetric information problems concern value or risk. The main conclusion is that adverse selection models can be a bit delicate. It is possible to construct equilibria with a pecking order flavor. But adverse selection does not imply that pecking order as the general situation.

The pecking order theory put forth presents the idea that firms will initially rely on internally generated funds, i.e. undistributed earnings, where there is no existence of information asymmetry, and then they will turn to debt if additional funds are needed and finally they will issue equity, only as a last resort, to cover any remaining capital requirements. The order of preferences reflects the relative costs of the various financing options (Abor, 2005; Berk & DeMarzo, 2007).

Asymmetries of information between insiders and outsiders will force the company to prefer financing by internal resources, then by debt and finally by stockholders’ equity. SMEs are often opaque and have important adverse selection problems that are explained by credit rationing and therefore bear high information costs (Psillaki, 2004). These costs can be considered null for internal funds but are very high when issuing new capital. SMEs prefer debt to new equity mainly because debt means lower level of intrusion and lower risk of losing control and decision-making power than new equity.

The pecking order theory suggests that firms follow a certain hierarchical fashion in financing their operations. They initially use internally generated funds in the form of retained earnings, followed by debt, and finally external funding. The preference is a reflection of the relative cost of the available sources of funds, due to the problem of information asymmetries between the firm and potential finance providers, (Javed & Akhtar, 2012).

**Trade-off Theory**

The trade-off theory says that the firm will borrow up to the point where the marginal value of tax shields on additional debt is just offset by the increase in the present value of possible cost of financial distress. The value of the firm will decrease because of financial distress (Myers, 2001). According to the study, financial distress refers to: “the costs of bankruptcy or reorganization, and also to the agency costs that arise when the firm’s creditworthiness is in doubt”. The trade-off theory weighs the benefits of debt that result from shielding cash flows from taxes against the costs of financial distress associated with leverage. “According to this theory, the total value of a levered firm equals the value of the firm without leverage plus present value tax savings from debt, less the present value of financial distress costs”.

4. **Conceptual Framework**

The sources of funding for a business are divided into two main categories, owners’ funding (equity) and borrowed funding (debt). The objective of the business owners is to increase their wealth and the performance of firms. In
relation to this objective the increase in the performance is measured by the increase in return on the shareholders’ funds. The independent variable in this study is capital structure and the dependent variable is the financial performance. The concept assumes that increasing the level of the debt in the capital structure increases the turnover of the business and hence its profit, resulting in an increase in returns to the business owners. An increase in interest rate is expected to result in reduced borrowing, increased interest expenses and thus reduced returns to business owners. The conceptual framework identifies the identified independent variables that affect the dependent variable which profitability.

5. Research Gaps

A number of studies have been done relating to capital structure and its effect on profitability but few has exploited on the implication of profitability of banking institutions. Therefore this study aimed at filling the gap on capital structure and its implication on profitability of banking institutions listed in NSE in Kenya.

This research aimed at determining how managers of the companies listed on the Nairobi Securities Exchange combine the different sources of funding for their businesses, given the unique characteristics of these economies and to determine, whether there exists a relationship between the capital structure and the return on shareholders’ funding for these firms. It is also an analysis of how the return on borrowed funds compared with the return on assets financed is carried out to determine, whether the return on assets warranted the borrowing.

6. Data Analysis and Presentation

Data collected for the study was compiled, sorted, edited, classified, coded and analysed using a computerised data analysis package known as SPSS 20.0. Descriptive statistics was used to depict the characteristics of the population. The mean and the variance was calculated using SPSS. This study used multivariate linear regressions where return on equity was regressed against debt, interest rate and debt equity proportion.

The model can be mathematically represented as follows:

\[ \text{ROE}_{it} = \alpha + \beta_1(DR)_{it} + \beta_2(INT)_{it} + \beta_3(GR)_{it} + e \]

Where: \( \text{ROE}_{it} \) = Return on Equity Ratio of a firm \( i \) at time \( t \) 
\( \alpha \) = Constant term for the independent variables 
\( \beta_1 \) = Regression model coefficient 
\( \beta_2 \) = Debt ratio 
\( \beta_3 \) = Represents the interest rate as a proxy of 91 day Treasury bill rate 
\( GR \) = Gearing ratio 
\( e \) = The error term

The model helped in determining if there is a relationship between capital structure and financial performance of banking institutions*, data was collected and subjected to the analysis tools SPSS version 20.0. The test of significant was done at the individual company level and then compared for all the companies in the sample. The research study used 95 percent significance level. The 95 percent, a significance of \( p = 0.05 \) was used since it is the generally accepted conventional level in social sciences research. This indicates that 95 times out of 100, we can be sure that there is a true or significant correlation between the two variables, and there is only a 5% chance that the relationship does not truly exist.

Analysis of variance (ANOVA) was used to test the impact of independent variables on dependent variable. The ANOVA tests the model’s acceptability and how model fits. It shows Regression display information about the variation accounted for by the model and the Residual information about the variation that is not accounted by the model. In ANOVA, if significance value of \( F > 0.05 \) then it means that model is not acceptable and variation illustrated by the model is by chance. However, if significance value of \( F < 0.05 \) then it means that model is acceptable and variation showed in the model is not just by chance.

Data presentation

The data findings were presented using tables, charts, percentages, means and other central tendencies. Tables were used to summarize responses for further analysis and facilitate comparison. This generated quantitative reports through tabulations, percentages, and measures of central tendency. Data was presented using tables and graphs among other data presentation tools.

Methodology

The study was carried out using a descriptive research study design which employed primary quantitative data. Descriptive analysis shows the mean, and standard deviation of the different variables of interest in this study. The target population of the study comprised of all branch managers of the eleven listed banking institutions in the Nairobi Securities Exchange. Population is the abstract idea of a large group of many cases from which a researcher draws a sample and onto which results from a sample are ultimately generalized. The study grouped the target population into eleven subgroups of branch managers of each listed banking institution. From each sub group, stratified sampling was used to select the sample size.

A sample of 35 respondents from all the listed banking institutions branches was considered ideal for the study. One widely used rule of thumb states that the sample size should be 30 or more (Daniel & Terrel, 2005). Respondents were 35 comprising of branch managers of the listed banking institutions branches for the study.

The sample size was arrived at using the following formula:

\[ n = \frac{NC^2}{C^2 + (N-1)e^2} \]

Where, \( n \), is the sample size,
\( N \), is the population size,
\( C \), is the coefficient of variation which is \( <30\% \), and
\( e \), is the margin of error which is fixed between 2-5%

The study sample was calculated at thirty percent coefficient of variation and five percent margin of error. Thirty percent coefficient of variation was used to ensure that the sample is enough to justify the results being generalized for the banks. Higher coefficients of variation were not used to avoid very large samples due to time and financial constraints. Five
percent margin of error was used because the study necessitates relatively higher margin of error. Thus the sample size was determined through the following calculations:

\[ n = \frac{667 \times (0.3)^2}{0.3^2 + (667 - 1) \times 0.5^2} = 35 \]

The sample size comprised of 35 branch managers of the listed banking institutions. To arrive at the sample size, stratified random sampling technique was used to collect the elements in the study sample. The population was divided into eleven strata based on the number of listed banking institutions. This sampling technique is preferred for the study because it increases the sample’s statistical efficiency.

**Response Rate**

The study targeted 35 respondents but managed to obtain responses from 30 of them thus representing 86% response rate. This response rate is considered satisfactory to make conclusions for the study.

**Debt**

Respondents were required to indicate the extent to which they agreed to various aspects on debt and their effect on performance. Items that were measured on a five point Likert-Type scale ranging from 1 being “Strongly Disagree” to 5 being “Strongly Agree”. Means of between 1.9706 - 3.8676 and standard deviations of between 0.59612 - 0.73107 were registered. The study findings therefore revealed that majority of the respondents agreed that their firms always had always had access to commercial debt to a great extent (3.8676). They further agreed that they always raised funds from banks easily though to a moderate extent (3.4613). On the other hand the findings revealed that majority of the respondents agreed that the bank found it cheaper to use more of commercial debt to a small extent (1.9706).

**Interest Rates**

Respondents were required to indicate the extent to which they agreed to various aspects on interest rates and their effect on performance. Items that were measured on a five point Likert-Type scale ranging from 1 being “Strongly Disagree” to 5 being “Strongly Agree”. Means of between 2.4559 - 3.8676 and standard deviations of between 0.54374 - 0.76968 were registered. The study findings therefore revealed that majority of the respondents agreed that the central bank lending rate affected the decision to finance their firms’ working capital to a great extent (3.8676). They further agreed that the overnight lending interest rate influenced the decision to finance working capital using short term loans to a great extent (3.7794). However, the findings revealed that their interest rates did not attract their investors (2.4559) and that they were not fair compared to other banks.

**Leverage Risk**

Respondents were required to indicate the extent to which they agreed to various aspects on leverage risk and their effect on performance. Items that were measured on a five point Likert-Type scale ranging from 1 being “Strongly Disagree” to 5 being “Strongly Agree”. Means of between 3.1912 - 3.8971 and standard deviations of between 0.65254 - 0.93453 were registered. The study findings therefore revealed that majority of the respondents agreed that the ratio of non-performing assets is high in a majority of the banks under study (3.8971) and that capital was always maintained at levels above regulatory levels in many banks (3.8971). However, the findings revealed that the solvency of many banks was at risk when their assets became impaired to a small extent (3.1912).

**Debt Equity Proportion**

Respondents were required to indicate the extent to which they agreed to various aspects on leverage risk and their effect on performance. Items that were measured on a five point Likert-Type scale ranging from 1 being “Strongly Disagree” to 5 being “Strongly Agree”. Means of between 2.2118 - 4.4647 and standard deviations of between 0.59612 - 0.78437 were registered. The study findings therefore revealed that majority of the respondents agreed that the bank found it cheaper using more of equity financing to a great extent (4.4647). Further the findings revealed that there were clear specifications of the rights of equity holders in their banks (3.6382). However, the findings revealed that it was not easy to raise funds from external parties (2.2118).

**Financial Performance**

Respondents were required to indicate the extent to which they agreed to various aspects on financial performance of banks listed at the NSE. Items that were measured on a five point Likert-Type scale ranging from 1 being “Strongly Disagree” to 5 being “Strongly Agree”. Means of between 2.8824 - 3.7500 and standard deviations of between 0.10514 - 0.96379 were registered. The study findings therefore revealed that majority of the respondents agreed that the leverage risk affected the performance of many banks and that the trend of earnings was properly monitored by the bank to a great extent (3.6765). Further the findings revealed that majority of the banks incurred many operational costs which reduced their profitability to a great extent (3.5147). However, the findings revealed that the high interest rates charged by many of the banks hindered their financial growth (2.8824).

**7. Conclusions**

The objective of this study was to evaluate the capital structure factors affecting financial performance of commercial banks listed at the NSE. Based on previous studies, the aspects were expected to have a positive effect on financial performance. The study findings indicate that there is a significant positive relationship between the factors under study and financial performance of commercial banks listed at the NSE namely: Debt, interest rates, leverage risk and debt-equity proportion. The findings also indicate that debt-equity proportion, debt, interest rate and leverage risk respectively influenced financial performance of commercial banks listed at the NSE.

**8. Recommendations**

The study suggests recommendations that the Central Bank of Kenya should formulate and enact a policy which makes commercial debt cheaper hence reduces cost of operations of
banks. In this way the banks will be able to acquire more financing through acquisition of debt which will help in improving working capital and subsequently their performance.

Management of commercial banks listed at the NSE to reduce interest rates so as to attract investors who will inject more funds into these banks. These funds can be used for onward lending hence increased interest income which forms part of their earnings. Focus should be made on financial deepening and attraction of investors who in turn will improve their performance. Management of commercial banks listed at the NSE to contain insolvency to enhance credibility among their customers. This will increase customers’ loyalty who will increase deposits and up take of loans and subsequently boost the performance of the commercial banks. Management of commercial banks listed at the NSE to monitor non-performing loans hence reduced loan defaulting rates and encourage borrowing from equity holders because it is cheaper in the long-run.

9. Recommendations for Further Research

This study is a milestone for future research in this area, particularly in Kenya. First, this study focused on capital structures variables under study and their effect on financial performance of the financial institutions listed at the NSE and therefore, generalizations cannot adequately extend to other sectors. The study recommends that it’s important to study other variables such as working capital management, Customer satisfaction, Corporate Governance and dividend payout ratio and their effect on financial performance of listed firms in the NSE.

The study also recommends that a study be done on all listed firms in the NSE so as to have general view of the effect of capital structure and the financial performance of firms covering both public and private institutions. This may help to come up with a generalise the idea of effect of capital structure on financial performance of the listed firms in the NSE.

References


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