Perceived Relationship between Corporate Capital Structure and Firm Value in the Kenyan Listed Companies

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Abstract

The purpose of this study was to establish the perceived relationship between corporate capital Structure and Firm value in the Kenyan Listed Companies. The study employed an explanatory research design. The population of the study consisted of 61 companies listed on the NSE. The sample size for this study was made up of 35 listed companies excluding the financial companies, Investment and Insurance companies due to their peculiar nature of capital structure. The study relies on Secondary data sourced from annual audited financial statement of the firms listed on Nairobi Securities Exchange. The study utilized descriptive and regression analysis to determine the relationship between corporate capital structure and firm value of the Kenyan listed companies. The study results were that companies used more debt as a source of financing its assets than equity capital. The regression results indicated that there was a positive relationship between capital structure, size of the firm, liquidity, growth opportunity and firm value. Therefore, the higher the debt to equity ratio, the higher the firm value. The unique contribution of this paper is that it reduces the lack of conclusiveness on the debate about the relationship between corporate capital structure and firms value. The study recommended the listed companies in Kenya to engage strategic investors to shore up their debt capital and also recommended that the equity share holder should be substituted for debt share holding in future. This would bring about improved firms value.

Keywords: Corporate capital Structure, Firm value, Finance, Growth Opportunity, Liquidity

1. Background and Research Problem

Capital structure refers to the combination of debt and equity capital that a firm uses to finance its long-term operations. Brealey and Myers (2003) define capital structure as the firm’s mix of different securities used in financing its investments. They observe that a firm can issue dozens of distinct securities in countless combinations, but it tries to find the particular combination that maximizes its overall market value. Capital structure refers to the mix of its financial resources available to a business (Myers, 2003). Brockington (1990) describe the capital structure of a firm as the components of its sources of financing, broadly categorized as equity and debt. Equity is the finance that is provided by owners of the business. The equity finance holders own a portion of the firm denominator in shares and they are entitled to the profits of a business and are also entitled to share in the risks of the business.

The term capital structure according to Kennon (2010) refers to the percentage of capital (money) at work in a business by type. There are two forms of capital: equity capital and debt capital. Each has its own benefits and drawbacks and a substantial part of wise corporate stewardship and management is attempting to find the perfect capital structure in terms of risk and reward payoff for shareholders. Alfred (2007) stated that a firm’s capital structure implies the proportion of debt and equity in the total capital structure of the firm. Pandey (1999) differentiated between capital structure and financial structure of a firm by affirming that the various means used to raise funds represent the firm’s financial structure, while the capital structure represents the proportionate relationship between long-term debt and equity. There are various measures of capital structure, which can be classified as accounting based measures. When choosing a measure of capital structure, it is useful to keep in mind that the theoretical framework for the relationship between capital and performance is based on market values of leverage. Since market values of leverage may be difficult to obtain, accounting based measures are often applied as proxies.

Firm value depends upon its expected earnings stream and the rate used to discount this stream. The rate used to discount earnings stream is the firms required rate of return or the cost of capital. Capital structure decision can thus affect the value of the firm either by changing the expected earnings or the cost of capital or both.

The importance of capital structure in a growing organization is imminent. Moreover, there is need to understand different sources of funds for organizations and what informs the decision on their choice of capital structure. A
company that uses very high leverage may face high risk of debt as it is obligated to pay consistent interest to its lenders. This limits payment of dividends to the shareholders (Mugo, Onyuma, and Karuitha, 2011). Low or non-payment of dividends discourages investors from investing in shares thus reducing the shareholding capacity. High debt levels are also not optimal because they may lead to losses. When a company incurs losses, then it also loses its tax shield. In addition, high levels of debt lead to financial distress and bankruptcy costs. This may erode the brand image and confidence that investors have on the company (Adelegan, 2009).

According to Salawu and Agboola (2008), the move towards a free market, coupled with the widening and deepening of various financial markets has provided the basis for the corporate sectors to optimally determine their capital structure. Mainly, the corporate sector is characterized by a large number of firms operating in a largely deregulated and increasingly competitive environment. Since 1987, financial liberalization has changed the operating environment of firms, by giving more flexibility to the Nigerian financial managers in choosing their firms’ capital structure.

Alfred (2007) suggested that a firm’s capital structure implies the proportion of debt and equity in the total capital structure of the firm. Pandey (1999) differentiated between capital structure and financial structure by affirming that the various means used to raise funds represent the firm’s financial structure, while the capital structure represents the proportionate relationship between long-term debt and equity capital. Therefore, a firm’s capital structure simply refers to the combination of long-term debt and equity financing. However, whether or not an optimal capital structure exists in relation to firm value, is one of the most important and complex issues in corporate finance.

Although the capital structure issue has received substantial attention in developed countries, it has remained neglected in the developing countries. The reasons for this neglect according to Bhaduri (2002) was, that until recently, developing economics have placed little importance to the role of firms in economic development, as well as the corporate sectors in many developing countries, faced several constraints on their choices regarding sources of funds, and that access to equity markets was either regulated, or limited due to the underdeveloped stock markets. Consequently in Kenya, determining the actual effect a firm’s capital structure has on its firm value has been a major challenge among researchers. Particularly, specifying what capital mix seems to optimize firms’ values has been a difficult puzzle to unravel. There have been a limited number of studies in Kenya that have examined the firm’s choice of capital structure and its firm value, but only a few of the findings ever expressed that a firm’s choice of corporate capital structure could be influenced by the impact it has on its firm value. According to Pandey (2005), the capital structure decision of a firm is a significant managerial decision; it influences the shareholders return and risk, and subsequently affects the firm value of the firm. The purpose of this paper was to establish the perceived relationship between Corporate Capital Structure and Firm value in the Kenyan Listed Companies.

2. Theoretical Framework

2.1 Modigliani-Miller with Corporate Taxes (1963)

The Modigliani-Miller with corporate taxes which is also referred to proposition II Theory (MM II) defines cost of equity is a linear function of the firm's debt/equity-ratio. According to them, for any firm in a given risk class, the cost of equity is equal to the constant average cost of capital plus a premium for the financial risk, which is equal to debt/equity ratio times the spread between average cost and cost of debt. Also Modigliani and Miller (1963) recognized the importance of the existence of corporate taxes. Accordingly, they agreed that the value of the firm will increase or the cost of capital will decrease with the use of debt due to tax deductibility of interest charges. Thus, the value of corporation can be achieved by maximizing debt component in the capital structure. This theory of capital structure for the study provided an important and analytical framework. According to this approach, value of a firm is \( VL = VU = \frac{EBIT (1-T)}{equity + TD} \) where TD is tax savings. Modigliani-Miller Proposition II is assuming that the tax shield effect of each is the same, and continued in sight. Leverage firms are increased in interest expense due to reduced tax liability, has also increased the allocation to the shareholders and creditors of the cash flow. The above formula can be deduced from the company debt the more the greater the tax saving benefits, the greater the value of the company.

The revised capital structure of the Modigliani-Miller Proposition II, pointed out that the existence of tax shield in a perfect capital market conditions cannot be reached, in an imperfect financial market, the capital structure changes will affect the company's value. Therefore, the value and cost of capital of corporation with the capital structure changes in different leverage, the value of the levered firm will exceed the value of the unlevered firm. MM Proposition theory suggests that the higher the debt ratio is more favorable to corporate, but though borrowing adds an interest tax shield it may lead to costs of financial distress. Financial distress occurs when
promises to creditors are broken or honored with difficulty. Financial distress may lead to bankruptcy. The trade-off theory of capital structure theory in MM based on the added risk of bankruptcy and further improves the capital structure theory, to make it more practical significance.

2.2 Trade-off Theory of Capital Structure

According to Myers (1984), a firm that follows the trade-off theory sets a target debt to value ratio and then gradually moves towards the target. The target is determined by balancing the tax benefits of using debt against costs of financial distress that rise at an increasing rate with the use of leverage. It so predicts moderate amount of debt as optimal. But there is evidence that the most profitable firm in an industry tend to borrow the least, while their probability of entering in financial distress seems to be very low. This fact contradicts the theory because if the distress risk is low, an increase of debt has a favorable tax effect. Under the trade-off theory, high profits should mean more debt-servicing capacity and more taxable income to shield and therefore should result in a higher debt ratio.

This idea has been developed in many papers, including Brennan & Schwartz (1978), DeAngelo and Masulis (1980) and Bradley, Jarrell and Kim (1984). However, it has been questioned by many others, including Miller (1977) and Graham (1990), who argue that the Static Trade-off model implies that many firms should be more highly levered than they really are, as the tax savings of debt seem large while the costs of financial distress seem minor. A few such studies have since appeared, although some relate in part to financing tactics, and none gives conclusive support for the trade-off theory. For example, Mackie-Mason (1990) estimated a profit model for companies issuing debt or equity securities. He predicted that companies with low marginal tax rates-for example companies with tax loss carry-forwards-would be more likely to issue equity, compared to more profitable companies facing the full statutory tax rate. This was clearly true in his sample.

Mackie-Mason's (1990) result is consistent with the trade-off theory, because it shows that taxpaying firms favor debt. But it is also consistent with a Miller (1977) equilibrium in which the value of corporate interest tax shields is entirely offset by the low effective tax rate on capital gains. In this case, a firm facing a low enough tax rate would also use equity, because investors pay more taxes on debt interest than on equity income. Thus, we cannot conclude from Mackie-Mason's results that interest tax shields make a significant contribution to the market value of the firm or that debt ratios are determined by the tradeoff theory.

2.3 Pecking Order Theory

In their pioneering work, Myers and Majluf (1984) showed that, if investors are less well-informed than current firm insiders about the value of the firm's assets, then equity may be mispriced by the market. If firms are required to finance new projects by issuing equity, under pricing may be so severe that new investors capture more than the NPV of the new project, resulting in a net loss to existing shareholders. In this case the project will be rejected even if its NPV is positive. This underinvestment can be avoided if the firm can finance the new project using a security that is not so severely undervalued by the market. For example, internal funds and/or riskless debt involve no undervaluation, and, therefore, will be preferred to equity by firms in this situation. Even (not too) risky debt will be preferred to equity.

Myers (1984) refers to this as a pecking order theory of financing, i.e., that capital structure will be driven by firms' desire to finance new investments, first internally, then with low-risk debt, and finally with equity only as a last resort. Myers' (1984) study and find that debt is preferable even though it is risky.

The study presents a pecking order theory of financing choice. The defining prediction of the model is that firms will not have an optimal capital structure, but will instead follow a pecking order of incremental financing choice that places internally generated funds at the top of the order, followed by debt, and finally, when the firm reaches its “debt capacity,” external equity. This theory is based upon costs derived from asymmetric information between managers and the market and the assumption that trade-off theory costs and benefits of debt financing are of second-order importance when compared to the costs of issuing new securities in the presence of asymmetric information. The development of a pecking order based upon costs of adverse selection requires an ad hoc specification of the manager's incentive contract (Dybvig and Zender (1991)) and some limitation on the types of financing strategies that may be pursued (e.g. Brennan and Kraus (1987).

2.4 Free Cash Flow Theory

According to free cash flow theory of capital structure innovated by Jensen (1986), leverage itself can also act as a monitoring mechanism and thereby reduces the agency problem hence increasing firm value, by reducing the agency costs of free cash flow. There are some consequences derived if firm is employing higher leverage level.
Managers of such firm will not be able to invest in non-profitable new projects, as doing so the new projects might not be able to generate cash flows to the firm, hence managers might fail in paying the fixed amount of interest on the debt or the principal when it’s due. It also might cause in the inability to generate profit in a certain financial year that may result in failing to pay dividends to firm shareholders.

Furthermore, in employing more leverage, managers are forced to distribute the cash flows, including future cash flows to the debt holders as they are bonded in doing so at a fixed amount and in a specified period of time. If managers fail in fulfilling this obligation, debt holders might take the firm into bankruptcy case. This risk may further motivate managers to decrease their consumption of perks and increase their efficiency (Grossman and Hart, 1982). This statement has been supported by Jensen (1986) which states that from the agency view, the higher the degree of moral hazard, the higher the leverage of the firm should be as managers will have to pay for the fixed obligation resulting from the debt. Hence, it will reduce managers’ perquisites. Extensive research suggests that debt can act as a self-enforcing governance mechanism; that is, issuing debt holds managers’ “feet to the fire” by forcing them to generate cash to meet interest and principle obligations (Gillan, 2006).

3. Methodology

This study employed an explanatory research design. An explanatory design is appropriate because the study intends to establish if there is a causal relationship between corporate capital structure and firm value. The population of the study consisted of 61 companies listed on the NSE. The sample size for this study was made up of 35 listed companies excluding the financial companies, Investment and Insurance companies due to their peculiar nature of capital structure. The study relied on Secondary data sourced from annual audited financial statement of the firms listed on Nairobi Securities Exchange. This study entailed the use of secondary data from annual reports of the quoted companies over a period of five years i.e. 2008-2012.

The data was analyzed through coding in a spreadsheet where the researcher used descriptive statistics to present the performance of independent variables in tables and charts based on their percentages. A regression was run to determine the coefficients of the independent variables in relation to the dependent variable. This was with the aid of the Statistical Package for Social Sciences (SPSS). This helped the researcher to establish the impact of the independent variable to the dependent variable. The results of the findings were presented in the form of tables and charts for easy interpretation and understanding.

The multivariate model was as follows;

\[ Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \mu \]

Where;

- \( Y \) = value of the Firm
- \( X_1 \) = Corporate capital structure
- \( X_2 \) = Size of the Firm
- \( X_3 \) = Liquidity of the Firm
- \( X_4 \) = Growth Opportunity of the Firm

In the model, \( \beta_0 \) = the constant term while the coefficient \( \beta_i \) = 1….4 was used to measure the sensitivity of the dependent variable (Y) to unit change in the predictor variables. \( \mu \) is the error term which captures the unexplained variations in the model. In its complete form, the model is;

Value of the Firm = a+b1D/E +b2 Size of the Firm + b3liquidity of firm+b4growth opportunity + e

Value of the Firm is measured by the log profitability

Corporate capital structure was measured by debt to equity ratio

Size of the firm was measured by log total asset

Liquidity of the Firm was measured by the liquidity ratio obtained from the division of current assets to current liabilities

Growth Opportunity of the Firm was measured by Book Value over Market value.

The sign of the regression coefficient indicated whether the relationship is positive or negative. The strength of the relationship was measured by the reported p values. A p value of less than 0.05 indicated that a relationship is strong or significant.
4. Findings and Discussion

4.1 Trend Analysis Results

The study sought to establish the Perceived Relationship between Corporate Capital Structure and Firm value in the Kenyan Listed Companies.

Figure 1: Trend Analysis for corporate capital structure of the Firm

The study findings indicated that there was an increase in the debt to equity ratio (a measure of capital structure) for the last six years. Results in Figure 1 shows that there was a considerable increase of debt to equity ratio from 4.25 in 2007 to 8.08 in the year 2012. The rise in capital structure as measured by debt to equity ratio through the years indicates that companies used more debt as a source of financing its assets than equity capital.

The study sought to find out extent to which size of the firm affects profitability of listed companies in Kenya. The trend is presented in figure 2.

Figure 2: Trend Analysis for size of the firm

Results in Figure 2 indicate that the trend for size of the firm for the last six years (2007 to 2012) has been increasing gradually. The rise in size of the firm implies that listed firms have been investing heavily in the years under study.

Figure 3: Trend Analysis for liquidity
Figure 3 indicated that the trend analysis for liquidity in the listed companies in Kenya shows that liquidity increased slightly in the years of study. In the year 2007 the ratio was at 1.79 and decreased to 1.61 in the year 2008 and year 2009 and in the year 2010, the ratio increased to 1.73. It also increased to 1.98 in 2011 and finally it went up to 2.38 in the year 2012. The rise in the liquidity may have been brought about by an increase in cashflows. The results showed that the companies in 2009 to 2012 did not fall into financial difficulties as they had enough liquidity to manage their short term and long term obligations.

Figure 4 presents the trend analysis for growth opportunity.

![Figure 4: Trend Analysis for Growth Opportunity](image)

Figure 4 the trend in firm growth opportunity indicates a recorded decrease from year 2007 up to 2010. There was a decline in the year 2007 from 2.14 to 1.51 in 2008 and 1.37 in the year 2009 and 1.45 in the year 2010. The trend however, recorded a very slight increase in year 2011 and 2012. This changes and shift of the opportunities of the firm is as a result of changes in political arena and global financial crisis which may have affected opportunities for growth in the period 2007 to 2010. However, the positive macroeconomic policies put in place by the government may have improved the growth opportunities of the firms.

### 4.2 Inferential Results

In order to establish the statistical significance of the independent variables on the dependent variable (Value of the Firm) regression analysis was employed. The results indicate that the variables; corporate capital structure, size of the firm, liquidity and growth opportunity were satisfactory in explaining profitability. This conclusion is supported by the R square of 0.737. This means that the combined effect of the predictor variables (corporate capital structure, size of the firm, liquidity and growth opportunity) explains 73.7% of the variations in value of the Firm of Kenyan listed companies.

#### Table 1: Regression Model Robustness

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>0.737</td>
</tr>
<tr>
<td>R Square</td>
<td>0.544</td>
</tr>
<tr>
<td>Std. Error of the Estimate</td>
<td>0.10770</td>
</tr>
</tbody>
</table>

Analysis of variance (ANOVA) on Table 2 shows that the combined effect of corporate capital structure, size of the firm, liquidity and growth opportunity was statistically significant in explaining changes in value of the Firm of listed company in Kenya. This is demonstrated by a p value of 0.000 which is less that the acceptance critical value of 0.05. This further implies that the overall model was significant.
Table 2: ANOVA

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>.401</td>
<td>4</td>
<td>.100</td>
<td>8.637</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>.336</td>
<td>29</td>
<td>.012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>.737</td>
<td>33</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3 displays the regression coefficients of the independent variables. The results reveal that corporate capital structure, liquidity and growth opportunity are statistically significant in explaining value of the Firm of listed company in Kenya. Size of the firm was insignificant.

An increase in capital structure (debt to equity ratio) by one unit leads to an increase in value of the firm (profitability) by 0.001 units. The findings agree with those in Modigliani and Miller (1963) who argued that leverage firms have higher interest expense and since interest expense is a deductible expense, the greater the tax saving benefits, and the greater the value of the company.

An increase in liquidity by one unit leads to an increase in value of the firm (profitability) by 0.037 units. An increase in opportunities by one unit leads to an increase in value of the firm (profitability) by 0.079 units.

Table 3: Regression Coefficient

<table>
<thead>
<tr>
<th>Variables</th>
<th>Beta</th>
<th>Std. Error</th>
<th>T</th>
<th>sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.335</td>
<td>0.0216</td>
<td>1.552</td>
<td>0.00</td>
</tr>
<tr>
<td>Average Capital structure</td>
<td>0.001</td>
<td>0.0003</td>
<td>3.333</td>
<td>0.01</td>
</tr>
<tr>
<td>Average size of firm</td>
<td>0.021</td>
<td>0.015</td>
<td>1.400</td>
<td>0.24</td>
</tr>
<tr>
<td>Average Liquidity</td>
<td>0.037</td>
<td>0.003</td>
<td>12.333</td>
<td>0.00</td>
</tr>
<tr>
<td>Average Opportunity</td>
<td>0.079</td>
<td>0.017</td>
<td>4.638</td>
<td>0.00</td>
</tr>
</tbody>
</table>

5. Conclusion and Recommendations

The findings of this study were crucial in the formulating study conclusions. However, the study also took into account the expectations of the study. It was possible to conclude from the study findings that most listed companies in Kenya use more debt or long term liability as a source of financing than equity capital from shareholders. Debt is used as an asset financing source than equity capital because in most cases equity capital requires some ownership of the company where giving up a certain right of the company to someone else is not really welcomed by many business owners.

Descriptive results show that he in growth opportunities has been positive. This changes and shift of the opportunities of the firm is as a result of changes in political arena and global financial crisis which may have affected opportunities for growth in the period 2007 to 2010. However, the positive macroeconomic policies put in place by the government may have improved the growth opportunities of the firms.

Results show that the size of the firm has been increasing over the years. The rise in size of the firm implies that listed firms have been investing heavily in the years under study. Results further show that the rise in the liquidity may have been brought about by an increase in cashflows. The results showed that the companies in 2009 to 2012 did not fall into financial difficulties as they had enough liquidity to manage their short term and long term obligations.

Results show that there has been a rise in debt to equity ratio over the years. The rise in capital structure as measured by debt to equity ratio through the years indicates that companies used more debt as a source of financing its assets than equity capital.

The results reveal that corporate capital structure, liquidity and growth opportunity are statistically significant in explaining value of the Firm of listed companies in Kenya. Size of the firm was insignificant. Leverage firms have higher interest expense and since interest expense is a deductible expense, the greater the tax saving benefits, and the greater the value of the company.
Following the study results, it was recommended that listed company in Kenya should engage strategic investors in an effort to source for more debt capital. Such investors should provide loans to the listed company. For example such strategic investor can advance long term loans to the listed company that will improve the profitability. It is recommended that the equity shareholder should be substituted for debt share holding in future. This is because an increase in debt share holding arising out of substitution would be beneficial to the listed companies because it will result into value of the firm.

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