

Determinants of Capital Structure of Private Firms in Thika Town

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Abstract: The goal of this research was to assess factors that affect capital structure in non-listed firms in Thika town. The intention was to close the gap in empirical literature in respect to capital structure determinants in Kenya. In particular the main objectives were; evaluate whether, growth opportunities, profitability, tangibility and firm size affect the financial capital in any way. The study adopted descriptive survey research design. The target sample was 49 top managers in 218 non-listed companies in Thika town. These managers were served with questionnaires. Only 35 of the 49 questionnaires were recovered. This was a recovery rate of 71% which was a good data sample for further analysis. The data was analyzed through descriptive statistics and inferential statistics. Multiple regression analysis was employed to determine the effect of growth opportunities, profitability, and tangibility and firm size variables on the financial capital. The study found a negative relationship between firm size and capital structure, negative relationship between growth opportunity and capital structure, negative relationship between profitability and capital structure and positive relationship between tangibility and capital structure. The researcher concluded that in Thika town in Kenya profitability, tangibility, firm size and growth opportunities affected the capital structure of the non-listed firms. The study recommended that the managers and boards of directors are advised to make sure that they consider setting an optimal capital structure in their firms. They should further consider the size effect when making financing decisions. This findings supports the pecking order theory which postulate that firm must consider internal sources of finance followed by external debt and finally if financing become a real challenge issue equity as a last resort.

Keywords: capital structure, firm size, tangibility, profitability and growth opportunities.

1. INTRODUCTION

The literature on determinants of capital structure is well-known due to the existence of four theories: Modigliani and Miller theory, trade-off theory, pecking order theory and free cash flow theory (or managerial agency costs). Each theory presents a different explanation of corporate financing (Eldomiati, 2007). The pecking order theory assumes hierarchical financing decisions where firms depend first on internal sources of financing and, if these are less than the investment requirements, the firm seeks external financing from debt as a second source, then equity as the last resort. The free cash flow theory assumes that debt presents fixed obligations (debt interests and principals to pay) that have to be met by the firm.

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These obligations are assumed to take over the firm's free cash flow (if exists), therefore prevents managers from over consuming the firm's financial resources (Eldomiati, 2007).

Many empirical papers have been written in the quest for the determinants of optimal capital structure. The question is still under investigation by various researchers all over the world. Lemma, and Negash, (2014) for example try to hypothesize some of the determinants of capital structure and finds that firms in developing countries do temporarily

deviate from (and partially adjust to) their target capital structures. Their results also indicate that: more profitable firms tend to rapidly adjust their capital structures than less profitable firms; the effects of firm size, growth opportunities, and the gap between observed and target leverage ratios on adjustment speed are functions of how one measures capital structure; and adjustment speed tended to be faster for firms in industries that had relatively higher risk and countries with common law tradition, less developed stock markets, lower income, and weaker creditor rights protection.

1.1 Statement of the problem:

Decisions concerning capital structure are imperative for every business organization. In the corporate form of business, generally it is the job of the management to make capital structure decisions in a way that the firm value is maximized. However, maximization of firm value is not an easy job because it involves the selection of debt and equity securities in a balanced proportion keeping in view of different costs and benefits coupled with these securities. A wrong decision in the selection process of securities may lead the firm to financial distress and eventually to bankruptcy (Sheikh and Wang, 2011).

The relationship between capital structure decisions and firm value has been extensively investigated in the past few decades. Over the years, alternative capital structure theories have been developed in order to determine the optimal capital structure. Despite the theoretical appeal of capital structure, a specific methodology has not been realized yet, which managers can use in order to determine an optimal debt level. This may be due to the fact that theories concerning capital structure differ in their relative emphasis; for instance, the trade-off theory emphasizes taxes, the pecking order theory emphasizes differences in information, and the free cash flow theory emphasizes agency costs. However, these theories provide some help in understanding the financing behavior of firms as well as in identifying the potential factors that affect the capital structure (Sheikh and Wang, 2011).

1.2 Objectives of the study:

1.2.1 General objective:

The general objective of this paper was to evaluate the determinants of capital of non-listed firms within Thika town Kenya.

1.2.2 Specific objectives:

1. To investigate the relationship between profitability and the capital structure of non-listed firms.
2. To evaluate the relationship between asset tangibility and the capital structure of non-listed firms.
3. To investigate the relationship between the growth opportunities and the capital structure of non-listed firms.
4. To evaluate the relationship between firm size and the capital structure of non-listed firms.

1.3 Research Hypothesis:

The research was guided by the following Hypothesis

H₁ Firm size has no significant influence on capital structure of non-listed firms in Thika town

H₂ Profitability has no significant influence on capital structure of non-listed firms in Thika town

H₃ Tangibility has no significant influence on capital structure of non-listed firms in Thika town

H₄ Growth Opportunities has no significant influence on capital structure of non-listed firms in Thika town

2. LITERATURE REVIEW

2.1 Capital Structure:

According to Al-Najjar and Hussainey (2011) investigated the capital-structure using the UK data. Both fixed effects panel models and random effects Tobit models were applied, using around 379 firms across the period from 1991 to 2002. Their results showed that the capital-structure of the UK firms followed the same determinates as suggested in previous literature; namely, capital-structure in the UK firms could be determined by asset tangibility, market-to-book ratio, firm size, firm risk, firm profitability, non-executive directors and board size. In addition, their results showed that changing the definition of capital-structure may result in changing the sign and the number of determinants that may affect the capital-structure decision.

Al-Najjar, and Hussainey, (2011) argued that another dimension of the capital-structure should be introduced, which is related to the selected definition of capital-structure used by various studies Their aim was not to provide an optimal set of factors that may affect the decision of capital-structure, but to highlight the effect of the different definitions of capital-structure that can be used by different studies, which makes the comparison between such studies complicated or even-flawed.(Al-Najjar, and Hussainey,2011) used three different definitions of capital-structure; namely, long-term debt-to-equity ratio, debt-to-capital ratio and debt-to-equity ratio and hypothesize that each determinant has the same effect across the capital-structure models.

2.2 Firm Size:

According to According to Sheikh and Wang (2011) the trade-off theory suggests that large firms should borrow more because these firms are more diversified, less prone to bankruptcy, and have relatively lower bankruptcy costs. Furthermore, large firms also have lower agency costs of debt, for example, relatively lower monitoring costs because of less volatile cash flow and easy access to capital markets. Therefore a positive relationship between the firm size and leverage is expected. On the other hand, the pecking order theory suggests a negative relationship between firm size and the debt ratio, because the issue of information asymmetry is less severe for large firms. Owing to this, large firms should borrow less due to their ability to issue informational sensitive securities like equity.

According to Sbeti anMoosa(2012) Firm size is measured by the use of total sales. It is generally accepted that firm size is an important determinant of the ability of firms to raise capital through debt or equity, and the majority of studies suggest a positive relation between leverage and size. The most important underlying argument is that information asymmetries are less severe for large firms than for small ones. Furthermore, large firms can diversify their investment projects on a broader basis and limit their exposure to cyclical fluctuations in one particular line of production. Following previous studies, we proxy firm size by the value of total assets.

According to Daskalakiset al.(2014) the size of the firm was found to have a significant and positively relationship with financial leverage. Thus, thus the larger firms were associated with higher debt ratios, as found by other studies and supported by theoretical considerations. Size was confirmed to be a proxy for financial robustness, that is supported by the hypothesis that larger firms are more diversified and thus bear lower risk of facing financial distress problems. Serrasqueiro and Rogão ,(2009) found a positive and statistically significant relationship between size and debt. The positive relationship between size and debt corroborated the arguments of the trade-off theory.

Nunkoo and Boateng (2009) investigated the determinants of target capital structure and adjustment to the long-run target in Canadian firms. Panel data covering the period 1996 to 2004 was analyzed using a much stronger estimation technique, that is, a dynamic regression model. The results also show that the firm size had an impact on the leverage ratios of Canadian firms. The coefficient of the size variable was significant and negative at the 5% level

The study also suggested that firms have long-term target leverage ratios, but the speed of adjustment to the target leverage ratios was relatively slow in the context of Canadian firms.

Liang et al. (2014) investigated the factors that explain the capital structure of China's listed property firms. The study was based on quantitative methods such as dynamic panel data models and a panel data set containing financial and accounting data for all listed property companies from 2006 to 2010 in China. The findings confirmed that the total size of assets had a positive and significant impact on the leverage ratio of listed property firms in China. Al-Najjar and Hussainey (2011) found that there is a positive relationship between firm size and capital-structure in UK.

According to Sheikh and Wang (2011) in Pakistan the variable size had a positive and significant impact on the debt ratio. This finding was consistent with the implications of the trade-off theory suggesting that larger firms should operate at high debt levels due to their ability to diversify the risk and to take the benefit of tax shields on interest payments.

Mukherjee and Mahakud (2010) found that size was statistically significant but it had the positive relationship with the book leverage and negative relationship with the market leverage. The difference in the results for book and market leverage ratios was interpreted as being due to the changing nature of the market data. The positive effect of size on the leverage ratio was taken to reflect several features. First, large firms might have better access to financial markets to raise long-term debt. Second, the ratio of bankruptcy costs to the firm value is higher for smaller firms since these costs include fixed costs which can be negligible for large firms. Since bankruptcy risk increases with borrowings, small firms borrow less than the large firms. Finally, the positive coefficient of the size was in line with the prediction that small firms were

more vulnerable to a liquidation risk when they are in financial distress since banks are generally tougher against small firms. The negative relationship between size and market leverage was attributed to the fact that the existence of information asymmetry between firm insiders and capital markets are lower for large firms, so that large firms are more capable of issuing sensitive securities like equity and therefore have lower debt.

2.3 Tangibility:

The firms with less collateralizable assets (tangibility) may choose higher debt levels to stop managers from using more than the optimal level of perquisites. This agency explanation suggests a negative association between tangibility and leverage (Sheikh and Wang, 2011). Tangibility is measured as the ratio of fixed assets to the book value of total assets. The trade-off theory predicts a positive relation between leverage and the proportion of tangible assets. On the other hand, since tangible assets can be used as collateral (thus reducing the creditor's risk of suffering such agency costs of debt), a high fraction of tangible assets is expected to be associated with high leverage (Sbeti and Moosa,2012).

Serrasqueiro and Rogão (2009) concluded that transaction costs are relevant in listed Portuguese companies' access to debt. Tangibility of assets was the determinants that contribute for a greater adjustment of debt towards optimal level. The results also suggested that the capital structure decisions of listed Portuguese companies can be explained in the light of trade-off and pecking order theories, and not according to what is forecast by market timing theory.

Daskalakiset al., (2014) found Asset structure to have a significant and negatively correlated with leverage ratios. The result supported the hypothesis that firms that rely more on tangible assets tend to use less debt than firms with relatively fewer tangible assets. In their interpretation of the empirical findings, they arguments in favor of suggesting that banks may prefer to lend firms with more tangible assets, it is the firms themselves that decide on their capital structure. Hence, their result leads them to the conclusion that firms view tangible assets as a stable source of return which provides more internally generated funds and leads firms to use less debt, following the pecking order financing theory.

Al-Najjar and Hussainey (2011) in UK showed that there is a negative relationship between capital-structure and asset tangibility. This result contradicted the positive expected sign in prior research, in which fixed assets can be considered as collaterals. However, this result may be due to the fact that managers are averse to bankruptcy because of its negative impact on their compensation plans and job security. Therefore, firms with lower tangible assets may tend to use more debt to control managerial activity regardless of the cost of issuing debt.

According to Sheikh and Wang (2011) in Pakistan the expected relationship between the debt ratio and tangibility (asset structure) was positive.

Mukherjee and Mahakud(2010) found the regression coefficients of tangibility to be significant for both the book and market definition of leverage but with the negative sign. The negative impact of tangibility was attributed to the fact that higher tangible assets have been associated with low information asymmetry which can make the external equity cheaper than debt financing.

2.4 Profitability:

According to Sheikh and Wang (2011) the trade-off theory suggests a positive relationship between profitability and leverage because high profitability promotes the use of debt and provides an incentive to firms to avail the benefit of tax shields on interest payments. The pecking order theory postulates that firms prefer to use internally generated funds when available and choose debt over equity when external financing is required. Thus, this theory suggests a negative relationship between profitability (a source of internal funds) and leverage.

Profitability is measured by the ratio of profit before interest, tax and depreciation to total assets. There are conflicting theoretical predictions on the effects of profitability (PRF) on leverage. According to the pecking order theory, firms raise capital by using retained earnings first, then to debt, and to issuing new equity as a last resort. In the trade-off theory, however, agency costs and bankruptcy costs push more profitable firms towards higher book leverage, thus a positive relation between profitability and leverage is expected Sbeti and Moosa(2012).

Serrasqueiro and Rogão (2009) investigating the determinant of debt in Portuguese found a negative and statistically significant relationship between the profitability of listed Portuguese companies and their level of debt. This result corroborated with the arguments of the pecking order theory. The fact that the more profitable listed Portuguese companies have lower levels of debt suggests they followed a hierarchical order of preference concerning financing sources.

Daskalakiset al.(2014) found a negative relationship between profitability and debt. This result supported the idea that firms that generate relatively high internal funds tend to avoid debt financing. It seemed that the pecking order theory applied within the context of their sample of SMEs and held for all sub-samples. Thus, first, SMEs seemed to be opaque enough to produce high information costs, translated as high costs for external finance and thus leading firms to use internal financing as their primary source of funds and second, owners seek mainly to minimize the intrusion in their business and thus avoid external finance in favor of internal funds.

Liang et al. (2014) investigated the factors that explain the capital structure of China's listed property firms. The study was based on quantitative methods such as dynamic panel data models and a panel data set containing financial and accounting data for all listed property companies from 2006 to 2010 in China. The findings confirmed that the profitability had a positive and significant impact on the leverage ratio of listed property firms in China.

According to Sheikh and Wang (2011) in Pakistan empirical findings, profitability had a negative and significant relationship with the debt ratio, which confirms that firms finance their activities following the financing pattern implied by the pecking order theory. Moreover, high cost of raising funds might also restrict the Pakistani firms to rely on internally generated funds because of relatively limited equity markets combined with lower levels of trading. This finding also confirms that information asymmetry is especially relevant in the capital structure decisions of the firms listed on KSE.

2.5 Growth Opportunity:

According to Sheikh and Wang (2011) state that According to trade-off theory, firms holding future growth opportunities, which are a form of intangible assets, tend to borrow less than firms holding more tangible assets because growth opportunities cannot be collateralized. This finding suggests a negative relationship between leverage and growth opportunities. Agency theory also predicts a negative relationship because firms with greater growth opportunities have more flexibility to invest sub-optimally, thus, expropriate wealth from debt holders to shareholders. In order to restrain these agency conflicts, firms with high growth opportunities should borrow less. Growth opportunity is market value of assets to the book value of assets. Growth opportunities (GOP) are also an important variable. The relation between the expected growth of a firm and its leverage ratio should be negative because (i) the cost of financial distress increases with expected growth, forcing managers to reduce debt in the capital structure (trade-off theory); and (ii) firms issue equity instead of debt when overvaluation leads to higher expected growth (information asymmetry) Sbeti and Moosa (2012).

Growth was found to be significant and positively related to debt for all groups of firms. Thus, the researchers were led to the conclusion that high-growth firms were also most likely to exhaust internal funds and use debt as a good alternative in their search for additional capital, as raising equity may be difficult and time-consuming for smaller firms (Daskalakis et al.,2014).

Nunkoo and Boateng (2009) investigated the determinants of target capital structure and adjustment to the long-run target in Canadian firms. Panel data covering the period 1996 to 2004 was analysed using a much stronger estimation technique, that is, a dynamic regression model. The coefficient of growth opportunities, as measured by the market-to-book value ratio, was negative and significant at 5% level. This was in line with the argument that firms that have a relatively large proportion of intangible assets cannot support a high leverage ratio. The results might also indicate that firm with higher growth opportunities might have lower debt to equity ratio because of the fear that debt holders might pass up valuable investment opportunities. The results suggest that Canadian firms do base their borrowing decisions on their growth opportunities.

Al-Najjar and Hussainey (2011) showed a positive relationship between growth opportunities and capital-structure in UK. This result contradicted the agency theory, which expects a negative sign between capital-structure and growth opportunities. However, they explained their positive sign drawing on the fact that high growth UK firms tended to rely on debt financing to pay for their investment opportunities. Another explanation was that these firms had a lower chance of financial distress and hence they could more easily access to debt financing than do low growth firms.

According to Mukherjee, and Mahakud, (2010) the estimated coefficients of growth with the interaction term was found to be statistically significant for book leverage ratio measured by total debt to total assets and market leverage ratio

measured by total liabilities to total assets. It had a positive sign for the book definition of leverage and negative sign with the market value of leverage.

2.6 Critique of Existing Literature:

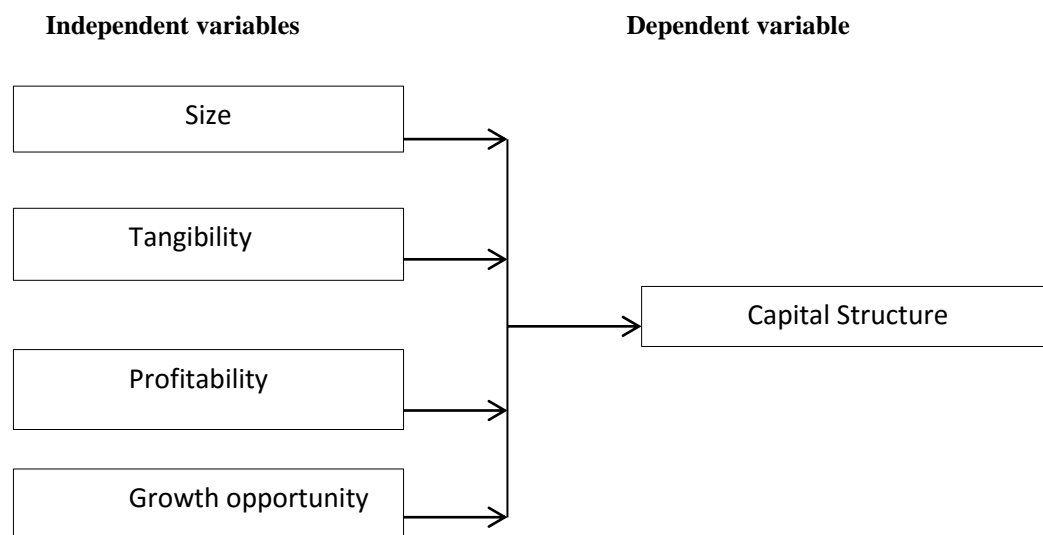
The existing literature has documented mixed results on the determinants of capital structure across the world. The review of existing literature also revealed that same variables had different results on capital structure in the same or different countries. These results motivated the researcher to assess the influence in reference to the non-listed companies in Thika town.

2.7 Research Gaps:

From the scope of literature the researcher was able to review, only a few were in case of Kenya. Thus motivated by the absence of very concrete papers this study was initiated to add on already little that exist.

2.8 Conceptual framework:

A conceptual framework is a graphical or diagrammatic representation of the relationship between variables in a study (Mugenda and Mugenda, 2003).



In this study, the conceptual framework was based on four (4) independent variables that were presumed to affect capital structure of private firms in Thika town. The independent variables were, firm size, tangibility, profitability and firms growth opportunities. Capital structure was measured using debt to equity ratio.

3. METHODOLOGY

A stratified research design was chosen. The target population for this study was a total of 218 businesses in six categories which were sampled as follows; hotel, construction, engineering, furniture manufacturing and processing industries in Thika. This research study used stratified sampling technique of which 49 organizations from the total 218 was used the sample represented 22% of the total population. Primary data was collected by use of both structured and unstructured questions in the questionnaire. Data collected was analyzed with the help of the Statistical Packages for Social Sciences (SPSS) package. Linear regression model was used to establish the relationship between determinants of capital structure and performance.

4. RESEARCH FINDINGS AND DISCUSSION

4.1 Firm size as a determinant of capital structure:

The researcher wanted to identify the relationship between firm size and the capital structure of the firm. Pearson correlation test was used to identify the strength of the relationship. Table 4.1 illustrated the results.

Table.4.1: Relationship between firm size and capital structure

		size	Capital structure
Size	Pearson Correlation	1	-.34**
	Sig. (2-tailed)		.000
	N	35	35
Capital structure	Pearson Correlation	-.34**	1
	Sig. (2-tailed)	.000	
	N	35	35

The correlation represented in the Table 4.1 is negative, and the value of – 0.341 is significantly different from 0 because the p-value of 0.00 is less than 0.10. The results therefore indicated that firm size must be incorporated with other factors in the firm in order to influence the capital structure of the firm. Firm size alone cannot be relied upon in determining the capital structure of the firm.

4.2 Growth opportunities:

To determine the relationship between growth opportunities and capital structure of the firm, a correlation test was established and table 4.2 had the summary of the results.

Table.4.2: Relationship between growth opportunities and capital structure

		size	Capital structure
Size	Pearson Correlation	1	-.18**
	Sig. (2-tailed)		.002
	N	35	35
Capital structure	Pearson Correlation	-.18**	1
	Sig. (2-tailed)	.002	
	N	35	35

The correlation represented in the Table 4.2 is negative, and the value of – 0.182 is significantly different from 0 because the p-value of 0.002 is less than 0.10. The results therefore indicated that firm growth opportunities must be considered with other factors in the firm in order to influence the capital structure of the firm. Growth opportunities alone influence capital structure of the firm to a certain extent and therefore cannot be relied upon in determining the capital structure of the firm.

4.3 Profitability:

To determine the relationship between profitability and capital structure of the firm, a correlation test was established and table 4.3 had the summary of the results.

Table.4.3: Relationship between profitability and capital structure

		size	Capital structure
Size	Pearson Correlation	1	-.056**
	Sig. (2-tailed)		.024
	N	35	35
Capital structure	Pearson Correlation	-.056**	1
	Sig. (2-tailed)	.024	
	N	35	35

The correlation represented in the Table 4.3 is negative, and the value of – 0.056 is significantly different from 0 because the p-value of 0.024 is less than 0.10. The results therefore also indicated profitability of the firm alone cannot be fully relied to determine the capital structure of the firm. There are more factors which determine the firm capital structure.

4.4 Tangibility

To determine the relationship between tangibility and capital structure of the firm, a correlation test was established and table 4.4 had the summary of the results.

Table.4.4: Relationship between tagibility and capital structure

		size	Capital structure
Size	Pearson Correlation	1	.140**
	Sig. (2-tailed)		.012
	N	35	35
Capital structure	Pearson Correlation	.140**	1
	Sig. (2-tailed)	.012	
	N	35	35

The correlation reported in the table 4.4 is positive and significantly different from 0 because the p-value of 0.140 is greater than 0.10. This suggests that the firm should to some extent focus its efforts on tangibility in determining its capital structure.

4.5 Summary of the findings:

The main objective of the study was to evaluate the determinants of capital of private firms within Thika town Kenya. The study focused on several of industries industries in the locality to identify the determinants of capital structure.

The study was guided by the following objectives; To investigate the relationship between profitability and the capital structure of non-listed firms; To evaluate the relationship between asset tangibility and the capital structure of non-listed firms; To investigate the relationship between the growth opportunities and the capital structure of non-listed firms; To evaluate the relationship between firm size and the capital structure of non-listed firms.

Among the determinant of Capital structure firm size was found to have the most effect of capital structure decisions. The variable was found to contribute up to 23% effect on the capital structure decisions. The findings support the pecking order theory which postulates a negative relationship between firm size and capital structure of a company. The negative result contradict with the trade-off theory which predict a positive relationship between debt and firm size (that is large firms should be in a position to absorb more debt due to their huge sales).

Profitability was found to contribute up to 6% effect on the capital structure decisions.

Tangibility was found to contribute up to approximately 13.3% effect on the capital structure decisions. Growth opportunities were found to contribute up to approximately 13% effect on the capital structure decisions.

Generally the expectation was that there was significant relationship between profitability, tangibility, firm size and growth opportunity of the capital structure of non-listed firms. The data used was primary and was collected by use of questionnaire as the data collecting instrument. The response rate was 71% which was more than half the target sample that is 35 of 49 questionnaires were recovered from the respondents. The used study used frequency distribution as well as regression analysis.

4.6 Conclusion:

The researcher concluded that in Thika town in Kenya profitability, tangibility, firm size and growth opportunities affected the capital structure of the non-listed firms. The influence of different factors had various degrees. This means that some variables have a greater effect on capital structure than others. The results were found to support the findings of the earlier researchers. 74% of the respondents were for the opinion that firms had an optimal debt to equity target.

4.7 Recommendation:

The following recommendations were made in line with the findings of this study:

The study recommended that profitability, tangibility, firm size and growth opportunities affected the capital structure of the private firms. The influence of different factors had various degrees. This means that some variables have a greater effect on capital structure than others. The managers and boards of directors are advised to make sure that they consider setting an optimal capital structure in their firms.

4.7.1 Firm Tangibility:

The finding that the tangibility of the firm had a positive relationship with capital structure revealed the need by the managers to consider the tangibility effect when making financing decisions. These findings supports the trade-off theory

which postulates that firm should consider external sources of financing followed by external financing. The firm should consider the tax advantage of debt financing before resulting to the use of internal resources.

4.8 Area for further research:

This study recommends future research to also focus on the listed companies as well. Further research is required to assess the financing behaviour of private firms since the regression results indicated that only 50% of the variation in capital structure could be explained by the four factors considered. Others variables such as liquidity and risk should be included in the future research work.

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