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Effect of Asset Structure on Value of a Firm: a Case of Companies Listed In Nairobi Securities Exchange

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Abstract
The decisions on the most suitable financing method to be used by companies and to what levels have been a great puzzle to many financial experts and academicians forming the subject of discussion in many fields of finance. This research sought to establish the effect of capital structure on value of the firm through the determinant of asset structure. The assets form the basis through which financiers have the confidence to lend to an entity because it guarantees them recovery of their capital. It is this funds that enable the firm to acquire more and improve the level of their efficiency. This translates ultimately to increased profit for the firm. The findings confirmed that the asset structure determines the firm's value to a high extent. Firms did not seem to consider appropriately all elements before making decisions on the composition and alteration of their capital structures thus affecting their values negatively. Management of companies should initiate regular capital structure monitoring and control mechanisms to ensure that any change made adds value to their firms in the long run.
Keywords: Assets structure; Value of Firm, Capital Structure, Market Price, Profitability

1.0 Introduction

Capital structure is the ratio of different kinds of securities raised by a firm as long-term finance. It involves two main decisions which are; type of securities to be issued for instance equity shares, preference shares and long term borrowing (debentures) as well as the relative ratio of the securities as determined by the process of capital gearing. This basis causes companies to be divided into highly geared companies and lowly geared companies. While highly geared companies have a small equity capitalization, lowly geared companies have high proportions of equity capitalization. (Harry, 2011).

Capital structure can be dated back to 1958 when Franco Modigliani and Merton Miller (M-M) presented a formal model on the valuation of capital structure. In their seminar papers (1958;1963), they showed that under the assumptions of perfect capital markets , equivalent risk class, no taxes, 100 per cent dividend payout ratio and constant cost of debt , the value of a firm is independent of its capital structure. When corporate taxes exist, the value of a firm increases linearly with debt-equity (D/E) ratio because of interest payments being tax exempted. M-M's work has been at the centre stage of financial research till date. Their models have attracted criticism, support and extension over the last 55 years.

Scott (1976; 1977) supported the M-M model, but only under the conditions of risk free debt and costless bankruptcy. When bankruptcy has positive costs, there exists optimal capital structure which is a trade-off between tax advantage of debt and bankruptcy costs.

Since the seminal work of Modigliani -Miller (1958), much subsequent research has been devoted to the task of finding coherent explanation for what influences the choice of capital structure. Traditional corporate finance models suggest that firms choose optimal capital structures by trading off various tax incentive benefits of debt financing against financial distress costs. While there is support for these trade off models in the empirical literature, other studies indicate that a firm's capital structure decisions are affected by several firm related characteristics such as future growth options, earnings volatility and profitability and control (Titman & Wessels, 1988; Glen and Pinto,1994).

In Chicago capital structure composition is determined by the perspective of asymmetric information and agency costs. The decision on what source of finance to use is dictated by the extent of information that is at the disposal of the company management. Agency costs involve payments made to facilitate operations of the company

(Rajan and Zingales, 1995). However in the international context norms, type and size of industry and host government controls could play a role in determining the capital structure. For instance it has been suggested that tax differentials between countries influence the way the firm is financed (Booth et al 2001)
In India a firm's capital structure is composed of common stock which carry the risk of loss along with the profits made by the firm, preferred stock that have fixed rights to dividend and debt that has fixed interest rates in the event of either loss or profit. A corporation's capital structure mainly consists of the securities issued by the corporation in exchange for cash, property or services contributed or that will be contributed to it in the future (Talla, 2012)

The capital structure of a company should be as optimal as possible in order to realize maximum benefits to a firm. An optimal capital structure is that mix of debt and equity that maximizes the value of the firm or minimizes the cost of capital for the firm. Companies should seek to achieve an optimal capital structure to maximize their value. Njeru 2003 on his study about the effects of capital structure on company valuation points out that debt capital is a low cost source of finance in Kenya because interest on debt is an allowable charge for tax purposes. In Kenya Companies can obtain debt capital and repay according to the expected cash flows, giving the company greater flexibility to plan and control its capital structure. Equity it is more costly due to its permanence nature. Companies engage in loan financing in order to expand the scale of their operations. The common types of long term financing in the Kenyan market include long term debt, common stock, preferred stock and retained earnings (Njeru, 2003)
NSE provides a forum for trading stocks, bonds and shares paving way for companies across the spectrum of industry to raise capital from members of the public for expansion purposes. As the level of profits for these companies improve due to the expanded operations, the dividends are passed on to the shareholders in a cycle of economic empowerment that reflects the stability and wellbeing of a nation. Capital Markets Authority (CMA) put in place stringent measures to be complied with by companies operating in NSE. It ensures that investors are provided with the necessary information not only during a public issue but also on a continuous basis in order for them to make informed investment decisions (NSE Handbook, 2006)

From CMA Act Cap 12 (d) (1999) a securities exchange shall within four months after the end of each financial year make available to the authority and to the investors a summary of information on companies listed at the securities exchange. It provides information on the earning per share, dividend per share, shareholding structure and the total number of shareholding. Companies under this study are operating under the same economic and political environments. Government policies and macro-economic factors like interest rates and inflation impact on all quoted companies at the same time hence effects on individual companies are offset. In each of the quoted companies, capital structure overrides company specific activities like capital budgeting decisions and dividend policies. Similar accounting procedures apply to all the listed companies and different levels of debt dictate the levels at which the company can pay the dividends. Besides capital structure there are other factors that influence dividend payout and these factors have been held constant to undertake this study. These factors include profits, market price, liquidity and working capital (NSE Handbook, 2006).

The essence of financial management is the creation of shareholder value. According to Ehrhand and Bringham (2003) the value of business based on the growing concern expectation is the present value of all the expected future cash flows to be generated by the assets, discounted at the company's weighted average cost of capital (WACC). In effect it is evident that WACC has a direct impact on the value of the business (Johannes & Dharaj, 2007). WACC is used to define a firm's value by discounting future cash flows. Minimizing WACC of any firm will maximize the value of the firm (Messbacher, 2004).

2.0 Assets Structure and Value of the Firm
Harris and Raviv (1991), suggest that the extent to which the firm's assets are tangible and generic would result in the firm having greater liquidation value. Myers (1977), argues that tangible assets such as fixed assets, can support a higher debt level as compared to the intangible assets like corporate image, business network strength and growth opportunities. Harris (1994) added that assets can be redeployed at close to their intrinsic values since they are less specific. Therefore, assets can be used to pledge as collateral to reduce the potential of distress costs like agency cost related to debt use (Stalz and Johnson, 1985)

Marsh (1982) provided empirical evidence of a positive relationship between debt and fixed assets suggesting a positive relation that is in line with the theoretical arguments between the asset structure and leverage for large

firms (Michaelas et al 1999). When the volatility of the assets differ from each other, each of the single –asset entities, can adjust its optimal leverage more precisely than the multi-asset firms. This advantage increases the overall value of the single asset firms relatively to the overall value of the multi-asset firm .

Lewellen (1971) proposed a positive correlation between assets of different volatility levels on the overall value of the multi-asset firm. He argued that a decrease in correlation of the assets increases the coinsurance effect thus translating to an increase in overall value of the firm. Greenbaum and Thakor (1987), addressing the relevancy of asset structure in connection to the value of the firm, indicated that, if a financial institution discloses private information of their assets which is not available to the investors, then the institution is better off if it sells and securitize better quality assets while keeping worse quality assets in its books and finance then with deposits. Their study showed that only the asset structure matters but also the suitability of securitization in transforming the asset structure to optimize the value of the firm.

The capital structure weightings are in proportions to the market values of equity and debt and therefore as the proportions of equity and debt vary so will the weighted average cost of capital ,WACC (Myers 2006).The search for the optimal capital structure is directly related to the search for the lowest WACC because when WACC is minimized, the value of the company wealth is minimized (Glen, 2006). Ordinarily the cost of debt is cheaper than the cost of equity. Debt is less risky than equity because the required return needed to compensate the debt investors is less than the required return needed to compensate the equity investors (Wilkies, 2007). The less risky state of debt can also be attributed to the fact that payment of interest is often a fixed amount and compulsory in nature and it is paid in priority to the payment of dividends, which are in fact discretionary in nature. Further in the event of liquidation, debt holders would receive their capital repayment before shareholders as they are higher in the creditor hierarchy as shareholders are paid out last (Meara, 2008).

Debt is also cheap from a company's perspective because of the different corporate tax treatment of interest and dividends. In the profit and loss account , interest is subtracted before the tax has been calculated thus companies get a tax relieve on interest. However dividends are subtracted after the tax is calculated and therefore companies do not get the tax relieve on dividends (Brayshaw, 2007). The intuitive response for lowering the WACC as adopted by most companies is to gear up by replacing some of the more expensive equity with the cheaper debt. However increasing debt increases the interest rate due to high levels of interest payments. These increased interest payments increases the volatility of dividend payment to shareholders because if the company has a poor year, the increased interest payments must still be paid

3.0 Methodology

Descriptive statistics was used to describe and understand the basic features of the data that was used in the study and particularly to do with the minimum, maximum, mean, as well as the annual growth rates of each of the variables. To test the effect of independent variables on the dependent variable simple regression analysis was used holding all other variables constant. The simple regression equation was of the form $Y = a + bx$.

4.0 Findings and Discussion

This study sought to determine the effect of asset structure on the value of a firm. Averages for the fixed assets composition for the five years were computed as well as the annual percentage changes in fixed assets. Regression equation was also established to determine the effect of asset structures on the value of the firm.

Table 4.3.1 Averages of Fixed Assets and Market Prices of Firms

Code	Fixed Assets Shs. '000'	Market Prices Shs.'Millions'
001	487012.8	36600
002	1338549	102456
003	1124177	64540
004	628946.4	55600
005	1492265	168686
006	1114169	187800
007	937969.6	128600
008	298920	22400
009	729418	40420
010	607760	63240
011	420740	141456
012	4842596	286000
013	1639034	118740
014	805562.4	65516

The analysis of the fixed assets structures revealed that decisions on investment in fixed assets by various companies is unique to the existing company needs which include expansion of the business, improvement of quality of the product, mergers and acquisition arrangements among other needs. Equally the asset valuation methods and policies adopted by companies differ from each other though the same company could adopt the particular valuation methods and policies from time to time in line with the consistency concept of accounting. However Sameer Africa Ltd (008) indicated the lowest average in fixed assets of Shs.298.92 Million matching with the lowest firm value of Shs.22.4 Billion while Access Kenya Limited (012) showed the highest average of fixed assets of Shs. 4,842,596,000 matching with the highest firm value of Shs. 286 Billion. The table averages points out to the fact that, higher investment in fixed assets translates to high value of the firm when the assets are optimally utilized for the purpose they were acquired. Though when not utilized to capacity the value of the firm may not improve.

Figure 4.2 indicates that Total Kenya Limited (009) recorded the highest growth rate in its fixed assets of 185.18% in year 2009 while Pan African insurance Limited (010) registered the highest decline of 49.62% in the level of its fixed assets in the same year. In the years 2010 the Standard group (003) registered the highest increment of 93.13% in its investment in fixed assets while Access Kenya Limited (012) experienced the highest decline of 64.68% in its fixed asset levels.

The increment in fixed assets level for Total Kenya and Standard group is attributed to the expansion programs undertaken by the companies in order to reach out to their wider customer base at the customers' proximity and in a more appealing way. On the other hand the decline in the fixed asset levels for Pan African Insurance Limited and Access Kenya Limited in 2009 and 2010 respectively could be as a result change in the management of Pan African Insurance Limited that considered acquisition and merger option of its various investment sectors. The world economic crisis could be the reason behind the decline in value of Access Kenya's fixed assets since the crisis affected the trading prices at the Nairobi stock exchange changing investor perceptions.

Annual Percentage Rate of Change of Non Currents Assets

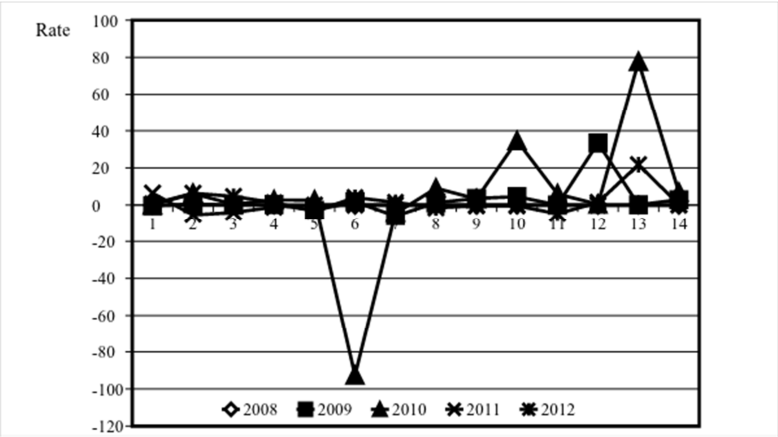

Fig. 4.2 Annual Percentage Growth Rate in Fixed Assets

Table 4.3.2 Annual Percentage Growth Rate in Fixed Assets

	2008	2009	2010	2011	2012
Code					
001	0.00	0.00	0.00	0.64	0.62
002	0.00	0.00	1.51	-1.40	1.58
003	0.00	-48.18	93.13	0.00	0.00
004	0.00	0.00	2.74	-1.10	1.27
005	0.00	0.00	0.00	0.00	-1.37
006	0.00	0.00	-31.36	0.00	10.56
007	0.00	-9.92	0.00	0.00	0.00
008	0.00	1.25	9.09	161.20	0.00
009	0.00	185.18	1.21	25.17	-19.82
010	0.00	-49.62	7.20	0.00	0.00
011	0.00	0.00	5.97	0.00	-4.78
012	0.00	-6.87	-64.68	0.00	0.01
013	0.00	0.00	22.14	0.00	9.89
014	0.00	18.12	17.70	0.00	11.74

Table 4.3.2 above indicates that Williamson Tea Kenya Limited (001),Kenya Airways (002), Centum Investments (005), Bamburi Cement Limited (007) and Jubilee Holdings (011) experienced minimal growth of their fixed assets over the between year 2008 and year 2012, while the Standard Group (003), Equity Bank Limited (006), Sameer Africa Limited (008) and Total Kenya Limited (009) experienced moderate growth of less than 26% over the five year period. This trend points to the fact that change in fixed assets is a major

decision that requires strategic considerations and therefore calls for proper evaluations before purchasing an asset with regard to the assets' economic viability, operational viability and technological viability.

4.3.1 Effect of Asset Structure on Value of the Firm

To establish the effect of asset structure on the value of a firm a regression equation of the form of Y=a + bX was used. Y represented the market value of the firm, a the constant, b is the coefficient of fixed assets in relation to market value of the firm while X represents the fixed assets.
The results are as indicated in the table below

Table 4.3.3 Table of Coefficients of Fixed Assets

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	57940.951	8706.837		6.655	0.000
FA	0.041	0.005	0.705	8.196	0.000

The table of coefficients of Fixed assets above indicated that the regression equation was then Y= 57940.951 + 0.41X. This means that when fixed assets increase by 1 shilling market value the firm increases by 0.41 shillings. Also the standardized beta value of 0.705 shows that an increase in fixed assets by 1% causes an increase in market value of the firm by 70.5%

To test goodness of fit of the regression model used above F test was used and the results are as indicated in the table below.

Table 4.3.4 Fixed Assets ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.957E11	1	1.957E11	67.170	0.000
	Residual	1.981E11	68	2.914E9		
	Total	3.938E11	69			

The F value of 67.170 is a significant value implying that the model is appropriate and can hold and it is more than the critical value of F at 5% level of significance which is 3.95. This means the null hypothesis is rejected since the calculated value is higher than the table value. Therefore there is a significant effect of fixed assets on the value of the firm.

Table 4.3.5 Fixed Assets Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.705[a]	.497	.490	53977.36677	.626

The r square value in the table above shows that fixed assets can explain 49.75% of the variation in the market value of the firm. However, 50.25% of the variation in market value of the firm can be explained by other factors.

4.3.2 Test of Hypothesis

To test for the hypothesis that there is no significant effect of asset structure on the value of the firm t values and p- values from table 4.3.3 were used. The calculated t value showed a figure of 8.196 while the critical table value at 5% level of significance is 1.165. Since the computed value falls outside the acceptance region, the null hypothesis that there is no significant effect of a firm's assets structure on the value of the firm is rejected. The p-values in the table 4.3.3 indicate 0.00 value which is less than 0.05 level of significance, implying that the effect of asset structure on the value of the firm is significant.

The results indicated that firms with a higher fixed asset base have higher value than those with lower fixed asset values. This is the case because fixed assets form collateral for the company when the firm is borrowing funds for investments. With large asset base then the financiers can entrust their funds in the company and vice versa.

The obtained cash is then invested in viable project which attract substantial returns to the company, thus increase in value of the firm. This finding confirm the work of Stalz and Johnson (1985), who indicated that assets can be used to pledge as collateral to reduce the potential of distress costs like agency costs related to debt use

5.0 Conclusion

Fixed asset composition really determines the ultimate value of a given firm. Firms with appropriate asset portfolios are likely to harness investment opportunities when they rise. Most financial stable firms have high value of investment in terms of fixed assets. When these assets are optimally utilized by competent staff it converts to increase in return to the firm and eventually growth in value of the firm.

6.0 Recommendation

Companies' asset structure should be monitored and evaluated on a regular basis by the respective company managements to ensure that the composition meets the strategic requirements of the firms. Further the portfolio should comprise of assets which are negatively correlated to reduce the level of risk and maximize the returns from the use of those assets.

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