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FINANCIAL FACTORS INFLUENCING FIRM LEVERAGE: A CASE OF AGRICULTURAL FIRMS LISTED IN THE NAIROBI SECURITIES EXCHANGE, KENYA

[1]LoiseMukami Mwangi, [2]Dr.Yusuf Muchelule

[1]Student of Msc in Finance in the Department of Economics, Accounts &Finance In The School Of Business, Jomo Kenyatta University of Agriculture and Technology, Kenya

[2]Lecturer in the Department of Economics, Accounts &Finance In The School Of Business, Jomo Kenyatta University of Agriculture and Technology, Kenya

Abstract: **Leverage is the inclusion of debt in a company's capital structure. The purpose of leverage is to finance viable business ventures in a company with a promise to pay the debt providers the principal and interest when they fall due in exchange for their cash now. Debt financing needs a lot of consideration when it comes to agricultural firms because its repayment is determined by the dynamics facing the agricultural sector .This study sought to examine the financial factors that influence the leverage of agricultural firms listed in the Nairobi securities exchange. Specifically the study established whether and the extent to which asset tangibility, profitability, retained earnings and firm size influence leverage in the agricultural firms listed on the NSE. The study used secondary data gathered from audited annual financial statements and reports from the Capital Market Authority resource centre. Financial statements for a period of 2012 to 2016 were used for this study. The study adopted a descriptive research. Financial ratio analysis, correlation analysis and finally multiple regression analysis was used. Multiple regression analysis revealed that the was no relationship between leverage and the four independent variables combined together asset tangibility, retention ratio, profitability and firm size, this is because the significance level was found to be 0.245, which was higher than the p-value of 0.05. The conclusion was that Leverage was not affected by the combined independent variables in question therefore the model was not a good fit and one of the recommendation was that further data should be collected to not only cover the listed agricultural firms in the NSE so that other researchers could have more data that might reveal significant correlation when analysed.**

Keywords: **Financial Factors, Leverage, Agricultural Firms Listed in the NSE.**

1. INTRODUCTION

Business firms needs finances to support their daily transactions and operations. The main source of finances are debt and equity. Debt involves borrowing money to be repaid together with accrued interest. Equity involves purchasing of shares by shareholder who expect a return (dividend) on the investments made. Leverage is commonly described as the use of borrowed money to make an investment and return on that investment (Jie Cai,2011).The difference between a levered firm and an unlevered firm is that, a levered firm's capital structure uses a mix of equity and various forms of debt. On the other hand an unlevered firm uses only equity in its capital structureKumar (2008).

The leverage decision is not an easy one and a lot of consideration has to be in place to ensure that it doesn't influence the performance and value of the company negatively (Chesang and Ayuma, 2016). A company's leverage decision centres on the allocation between debt and equity. The level to which a firm uses debt or financial leverage has implications for the firm. By raising funds through debt, shareholders are able to maintain control without having to increase investment. If a firm gets more returns on investments financed with debt than the interest due on debt then the shareholders returns are leveraged too (Erhardt and Brigham,2006). It results in liability that must be serviced and hence, there are cash flow obligations fall due regardless of the project's success or failure.

Many researchers have analyzed the factors affecting the capital structure composition of listed firms at the NSE especially in the banking, construction, manufacturing and allied sectors while other is scarce research that has been conducted on the influence of firm financial factors on the leverage decision of Agricultural firms listed in the Nairobi Securities Exchange. This study focused specifically on the dimensions of the financial leverage. It sought to fill information inadequacy has left a glaring research gap, by specifically examining the influence of tangibility of asset, profitability, retained earnings and firm size on leverage.

2. EMPIRICAL REVIEW

The available literature is mixed with regards to influence of various firm factors on capital structure. Kinyua (2015), investigated the determinants of capital structure of Agricultural firms both at the macro and micro level in Kenya. The results revealed a negative relationship between profitability and long term debt and a positive relationship between age and of the firm and long term debt. The results further revealed a positive relationship between age and short term debt, while a negative relationship link was evident between liquidity and the company size and the short term debt.

Anwar (2011) aimed to find out cross industry determinants of capital structure. He sampled 199 agricultural firms. Using data collected between 2005 and 2009, he found out that profitability and tangibility of assets are the most significant determinants of capital structure in all the three sectors. Etyang (2011) investigated the determinants of leverage of 15 Non-profit making hospitals in Nairobi. The investigated the relationship between leverage and profitability, growth, size, liquidity and asset structure. The results indicated that the all the variables except asset structure had a negative relationship with the leverage. Asset structure had a positive relationship with leverage .It was apparent that non-profit making hospitals in Nairobi Kenya depend on the internal funds for their operations.Turere (2012) studied the determinants of capital structure in the energy and petroleum of companies listed in the NSE. The study focused on size of the firm, age of the firm, growth rate and ownership structure. The study showed that age of the firm, growth rate of the firm and company structure have a negative impact on the total leverage of the company. The study findings revealed that size of the firm and its financial performance has a positive impact on leverage. However, while size, age, growth rate and ownership structure have a significant impact on leverage, financial performance has an insignificant impact on total leverage. The study found out that the key determinants of capital structure in energy and petroleum sector are; size, age of company, growth rate and ownership and that financial performance is not a key determinant of capital structure.Smith (2010) on his study of capital structure determinants for tax- exempt organizations, he found out that debt use is positively related to asset tangibility, growth and size and negatively related to age, liquidity and profitability. Onoferei, Tudose, Durdureanu and Anton (2015) investigated the determinants of leverage of micro and macro enterprises based in the Romania. Their findings revealed that leverage is negatively related to tangibility of assets, profitability and liquidity. The size of the firm and growth opportunities also had a negative relationship with leverage but to a lower extent.

3. CONCEPTUAL FRAMEWORK

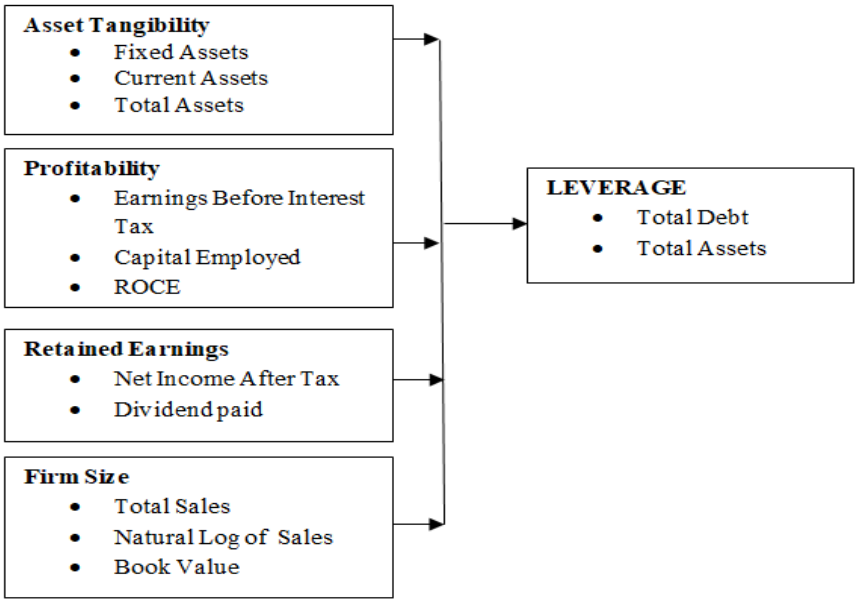

Figure 2.1: Conceptual Framework

4. SUMMARY AND CRITIQUE OF EXISTING LITERATURE

Based on Patrick Ogebe (2013) study on the impact of capital structure on firms' performance in Nigeria, it shows that leverage has a negative and statistically significant relationship with firm performance and firms should use more of equity than debt in financing their business activities. This result is supported by Chen eta al (2008) and Kyereboah-Coleman (2007) which analysed on the connection between capital structure and performance of microfinance institutions in sub-Saharan Africa viewing that high leverage is certainly associated with performance. Asset structure was found to be positively related to long term debt. Firms with high tangible assets are perceived to use long term debt. The study was carried out in oil dominated economy and the findings.

5. RESEARCH METHODOLOGY

The study employed descriptive research survey design. The target population of the study was seven agricultural firms listed in the Nairobi Securities Exchange. The research utilized secondary data which was collected from Capital Markets Authority, and various databases of the listed agricultural companies. The study used published annual financial statement and reports for the period 2012 to 2016. The data collected was used to extract the following variables: Leverage, Tangibility of assets, profitability, retained earnings and firm size.

Multiple regression model was used to find out the relationship between the independent variables and the dependent variable. Multiple regression was also used to determine the strength of association between the predictors (independent) and successful completion among its dimensions The following multiple linear regressions was used:

The dependent variable for this for this study was the firm's Leverage. The Leverage (LEV) is total debts divided by total capital. The independent variables included; Asset Tangibility (AT), Profitability (P), Retained Earnings (RE) and Firm Size (FS). For this study, all the variables were based on book value in line with Myers (1984) who argued that book values are the proxies for the value of assets in place. The analytical model for this study was;

$LG = \beta o + \beta_1 AT + \beta_2 P + \beta_3 R\ E + \beta_4 FS + \varepsilon$

Where;

LG = Leverage given by; Total Debt divided by Total Assets

AT =Asset Tangibility is given by; Total Fixed Assets divided by Total Assets

P = Profitability is given by; EBIT divided by Total Assets

RE = Retained earnings is given by Net Income after Taxes minus Dividend Paid

FS = Firm Size is given by; Natural Logarithm of Sales

Bo = Constant Term

Ɛ = the error term, which defines the variation in the response variable LG. which cannot be explained by the predictor variable.

6. RESULTS, DISCUSSION AND CONCLUSION

These are computed ratios of all the study variables of each company and then an average was taken for the period of 2012 to 2016 and are summarized in the table 4.3 below.

Table 4.3: Averages of the variables from year 2012 to 2016

Averages (2012-2016)	**Leverage**	**Profitability**	**Asset Tangibility**	**Retention Ratio**	**Firm Size**
Companies					
Kakuzi	0.229	0.128	0.664	0.704	14.452
Rea Vipingo	0.229	0.306	0.580	0.935	14.942
Limuru	0.252	0.105	0.579	1.456	11.583
EAGGAADS	0.157	-0.062	0.891	1.000	11.566
Sasini	0.218	0.029	0.880	0.631	14.893
Williamson	0.259	0.100	0.666	1.036	15.008
Kapchorua	0.333	0.094	0.639	0.993	15.008

Table 4.3.1: Descriptive statistics

	Mean	Std. Deviation	N
Leverage	.2400	.05113	7
Firm size	13.9217	1.61445	7
Retention Ratio	.9671	.26781	7
Asset Tangibility	.7000	.13128	7
Profitability	.1013	.11242	7

The results indicate that over the five year period the descriptive statistics the agricultural firms had a mean leverage of 0.24, Asset Tangibility 0.70, Profitability 0.10, Retention Ratio 0.97 and firm size mean of 13.92.The standard deviation for the variables were all less than except Firm Size of 1.61.

Table 4.3.2 Analysis of the Variance (ANOVA) Table

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	.014	4	.003	3.306	.245[b]
	Residual	.002	2	.001		
	Total	.016	6			

a. Dependent Variable: Leverage

b. Predictor: (Constant), Profitability, Retention Ratio,Firm Size and Asset Tangibility

From the table 4.3.2, the Analysis of Variance was used to test the significance of the regression model as pertains to significant differences in the means of the dependent and the independent values. Significance level is at 0.245 which is greater than 0.05 (p=0.05) this indicates that the regression model is not a good fit for this data. Therefore, the there is no significant relationship between leverage of the firm and the dependent variables.

Table 4.3.3 Multiple Regression Model Summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.932[a]	.869	.606	.03210	.869	3.306	4	2	.245

a. Predictors: (Constant), Profitability, Retention Ratio, Firm size, Asset Tangibility

Table 4.3.3: Model summary of regression analysis

The study used table 4.3.3 to establish whether the dependent variable leverage has a linear dependence on the independent variables. The multiple correlation co-efficient R measures the strength and direction of a linear relationship between variables. The study established a correlation value of 0.932, (93.2%). Which depicts a strong linear dependence between the two variable.The regression equation appears to be very useful for making predictions since the value of *R* (multiple correlations co-efficient) is 0.932, which is very close to the maximum correlation value of 1. Therefore profitability, asset tangibility, retained earnings ratio and firm size can be used to predict the leverage of agricultural firms listed in the NSE. The R-square indicates the coefficient of multiple determination which is the proportion of variance in the dependent variable that can be explained by independent variables. The coefficient of multiple determinations (R Square) is 0.869; which explains that about 86.9% of the variation in leverage of the agricultural firms listed in the NSE are explained by the profitability, size of the firm, asset tangibility and retained earnings ratios.

4.3.4 Determining the multiple regression equation for the study

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	.045	.445		.102	.928	-1.871	1.962					
	Firm size	.031	.015	.990	2.100	.171	-.033	.096	.491	.829	.538	.295	3.384
	Retention Ratio	.074	.111	.387	.666	.574	-.403	.551	.203	.426	.171	.195	5.141
	Asset Tangibility	-.385	.268	-.989	-1.437	.287	-1.538	.768	-.608	-.713	-.368	.139	7.203
	Profitability	-.432	.246	-.949	-1.755	.221	-1.490	.626	.313	-.779	-.450	.225	4.450

a. Dependent Variable: Leverage

Table 4.3.4: Multiple regression equation coefficients.

From table 4.3.4, the multiple regression equation for this data is explained as Y being the Dependent variable which is represented as Leverage (LG), the constant having a figure of 0.045 and respective coefficients of the dependent variables; , number of firm size(FS), retention ratio (RE), asset tangibility (AT) and profitability (P) as 0.031, 0.074, -0.385 and -0.432 respectively. Therefore, the equation obtained is as follows.

$LG = \beta o - 0.385AT - 0.432P + 0.074RE + 0.031FS + \varepsilon$

7. SUMMARY OF FINDINGS

When other factors have been held constant, both Asset Tangibility and profitability both have a negative correlation with leverage and have a statistical significance level of 28.7% and 22.1% respectively .This implies that as the level of Asset Tangibility and Profitability increase the use of debt to finance investments decrease. The Retained Earnings and Firm Size have a positive correlation with the leverage have a statistical significance level of 57.4% and 17.1%,that is as the level of Retention Ratio and Firm Size increase, the use of debt increases too.

However, from the table 4.3.3, The Model Summary; all the independent variables in the model are insignificant since all of them have a p-value of 0.245 which is greater than 0.05 which indicate that the model was not a good fit for the data. This therefore shows that the model does not support any relationship between the dependent variable, leverage of Agricultural firms listed in the NSE and the four independent variables (Firm size, Retention ratio, Asset tangibility and Profitability).

8. CONCLUSION

The study revealed that according to the data analysed from period 2012 to 2016, the results showed that the model proved insignificant statistically since the significance level was found to be 0.245 which is greater than 0.05(5%). This means that this model does not support any relationship between the dependent variable, leverage of Agricultural firms listed in the NSE and the independent variables (Firm size, Retention ratio, Asset tangibility and Profitability). This shows that there are underlying factors that influence leverage apart from the mentioned four variables. The underlying factors could be growth of a firm, governance policies or type of firm involved.

9. RECOMMENDATIONS

Some of the financial factors that influence leverage include profitability, asset tangibility, retained earnings and firm size. However the finance department should consider other agricultural sector related dynamics when making the leverage decision. The agricultural sector has unique dynamics that are inherent to this sector only.

Additionally, this research could extend the data to cover more agricultural firms that might include those that are not listed in the NSE, this is so that the study can have a wider scope of data where statistically the model can be significant and be applicable to predict the dependent variable in question.

The Capital Market Authority and the Nairobi Securities Exchange should oversee that the financial statements reported are a true reflection of the firms' financial performance. This will enable more scholars access to valid secondary data that not be subjected to manipulation at the primary entry.

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