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## **Financial Leverage and Performance of the Agricultural Companies Listed at Nairobi Securities Exchange, Kenya**

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# Financial Leverage and Performance of the Agricultural Companies Listed at Nairobi Securities Exchange, Kenya

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## Abstract

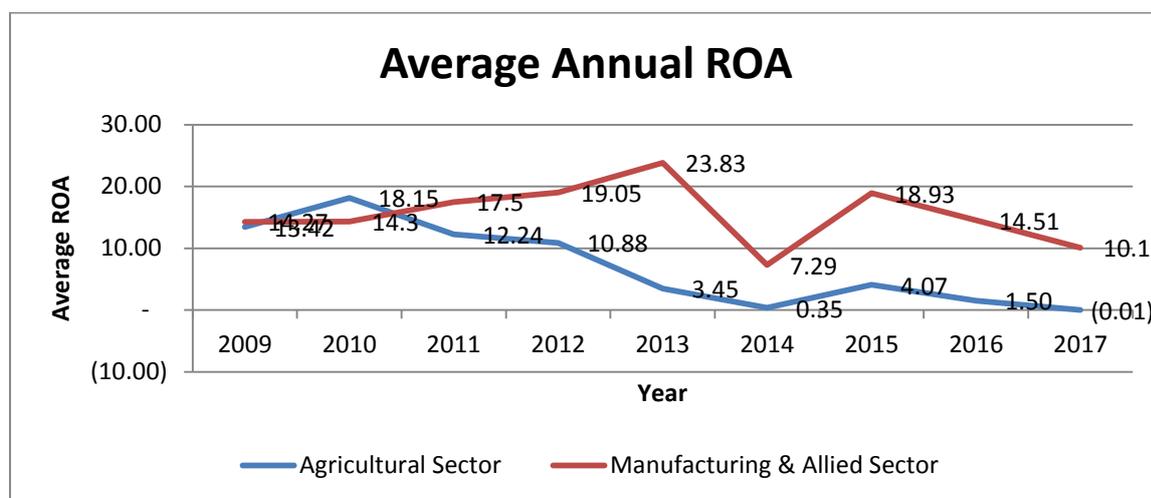
The purpose of this study was to establish the effects of financial leverage on financial performance of the agricultural companies listed at Nairobi Security Exchange market in Kenya. Precisely, this research emphasized on the effects of debt financing, debt-equity finance, long terms debts and short terms debts on financial performances of agricultural firms listed at Nairobi security market in Kenya. The research utilized panels data as obtained from secondary source including yearly financial records of agricultural companies listed in the securities market at Capital Market Authority website, Nairobi Security Exchange handbooks for the periods of reference and library materials. This research study assumed explanatory and non-experimental research designs to analyze the relationship between financial performances and leverage for agricultural organizations trading at the security markets in Kenya. Various attributes of financial leverage were described using descriptive analysis. The study used panel regression method to examine data as a model. Both correlation and regression analysis were applied to examine the link involving the study variables. The study findings revealed that debt equity financing had a positive and significant effect on return on asset. The study further found that long term debt and short-term debt had a negative and significant effect on return on asset. In addition, the study found that debt financing had a positive albeit insignificant effect on return on asset. The study concluded that debt equity financing had a positive and significant effect on return on asset. The implication is that increase in debt equity financing makes it easy for companies to effectively manage their assets. Further, the concluded that long term debt and short-term debt had a negative and significant effect on return on assets. The implication is that the more firms depend on debts, the lower the return on assets. This could be associated with the fact that instead of using its returns for reinvestment, it uses it to meet liabilities of the creditors. The study recommends that managers of the agricultural companies listed at Nairobi Security Exchange market in Kenya should employ minimal debt level which will not affect the firms' performance due to the adverse effect of short term debt on return on asset.

**Keywords:** *Financial Leverage, Performance, Agricultural Companies, Nairobi Securities Exchange*

### 1.1 Background of the Study

Agriculture in Africa accounts for nearly 32 percent of its Gross Domestic Product (GDP). This sector is very crucial in poverty alleviation and provision of employment among the rural folks in the region. Agriculture in sub-Sahara Africa is said to be the most effective in poverty reduction than GDP growth in other sectors. Despite this, it has not been properly utilized; this made Africa to turn from being a food exporter to food importer (Mayaki, 2016). Following the implementation of the new constitution in Kenya, agricultural sector was the first to be devolved. This was aimed at ensuring that farmers at the grassroots levels receive the much-needed support to enhance their productivity. As cited by FAO (2019) report, Agriculture is a key area to Kenya's economy, adding to 26 percent of the GDP and another 27 percent of GDP through other connections with different segments. It provides employment to more than 40 percent of the people and 70 percent of people living in rural setting. Kenya Vision 2030 identifies agriculture as one of the key sectors through which to achieve the projected 10 percent annual economic growth rate.

Financial performance denotes financial yields received by an organization after performing designated operations (Kajirwa, 2015). Agricultural companies mentioned at Nairobi Securities Exchange (NSE) Kenya's output was not constant; it rotated between profit making and loss. This was clearly depicted by their performance over the years as analyzed in the table 1.1. Basically, financial performance refers to financial well-being of an organization. Erasmus (2008) additionally cited that money related performance measures, similar to productivity and liquidity among others have been helpful in assessment of firms' past and current productivity. Some of the common proxies of firms' financial performance are ROA, ROE and turnover (Adekunle and Sunday, 2010). Figure 1 shows comparison of average Returns on Asset of the agricultural and manufacturing companies quoted at NSE between the years 2009 and 2017.



**Figure 1: Average Return on Assets**

Source: NSE Kenya Handbook, 2016-2017, 2017-2018

Based on Figure 1, performance of agricultural corporations in year 2009 was at par with that of manufacturing corporations trading at NSE, but from 2010 onwards, performance of agricultural corporations declined compared to that of manufacturing and allied sectors. The performance of the agricultural companies was declining overtime generally from 2009 to 2017 and in comparison to manufacturing companies over the same periods, agricultural companies performed poorly. Past studies also indicated that leverage does affect financial performance. It's because of this poor performance of quoted agricultural firms that necessitated this study which sought to link the measures of financial leverage and financial performance of the agricultural firms quoted at NSE, Kenya.

A firm's leverage rises with increase in debt to equity ratio. An association's ideal capital structure is characterized as the structure that would amplify its stock cost while financial leverage is the point at which fixed salary security is utilized in a corporation's capital structure (Brigham and Houston, 2009). Monetary leverage can be compared to money requested from lending institutions by a company for investment purposes, such that the returns from the venture should be more than the cost of servicing the debt (Abubakar, 2015). Organizations utilize debts with expectations of earning more returns (Enekwe, Agu and Eziedo, 2014).

Adenugba, Ige and Kesinro, (2016) established the link involving financial leverage and firms' returns. Sample of 5 companies trading on Nigerian Stock Exchange for 6 years from 2007-2012 was used. They stated that companies always meet their investment needs through equity and debt. Their study showed that there exists a considerable connection between financial leverages and companies' returns. The research resolved that financial leverage is preferable than equity to companies in case of long-term projects financing. Nazir and Afza (2008) utilized debt proportion to estimate leverage and described it as the liability/asset ratio. Several researches across the world have reported on the link between monetary gearing and returns. In the process of analyzing the capital structure and growth of organizations in several developed countries such as United States, France, United Kingdom and Japan, Wald (2009) posited that, a direct link exist between size and performance, nonetheless, for firms in Germany there was a negative relationship. Further, Chen (2004) found an indirect link involving long-term debts and performances among Chinese companies.

## 1.2 Statement of the Problem

The financial performance of the agricultural corporations trading in Nairobi securities exchange has been declining overtime (NSE, Handbook, 2018). Agricultural sector is a key sector in Kenyan economy and its poor performance therefore, needs to be investigation. This poor performance of the agricultural companies was evident in above where average returns on asset of agricultural companies were way lower than that of manufacturing companies from the years 2009 to 2017. It also shows the declining trend from the years 2009 to 2017. The study sought to investigate the link between the declining performance of agricultural corporations and financial leverages

Gill, *et al.*, (2011) conducted a research on the impact of capital structures on performances by probing the effects of capital structures on performances of the American service and manufacturing firms. Other researchers like Frank and Goyal (2005), Booth *et al.* (2001),

Fama and French (2002) carried out researches on this topic in relation to developed world, these have been extensive, but in developing countries like Kenya it is still in its early stages. Some studies on the influence of financial structures on financial returns of trading companies were conducted, some of which focused on all the quoted firms in the NSE. The study focuses on the agricultural corporations trading at Nairobi Securities Exchange

Siro (2013) studied influence of financial leverages on financial returns of firms trading at the security markets in Kenya and observed that, because of the firms varying industry risks and asset's structures, replication could not be extended to all trading firms. Based on these facts and others, (Siro) recommended for a more specific study to be conducted. As recommended by (Siro), the study specifically focuses on the agricultural corporations trading at Nairobi Securities Exchange

There are six companies in agriculture sector that trade in the NSE namely; Eaagads ltd, Kakuzi plc, Kapchorua Tea Kenya plc, Limuru tea company plc, Sasini plc, Williamson tea Kenya plc. In light of this background, this study focused on effect of financial leverages on financial performances of agricultural companies trading at Nairobi Security market in Kenya.

### **1.3 Purpose of the Study**

The purpose of this study was to investigate the effect of financial leverages on financial performances of the agricultural companies trading at Nairobi Security Exchange market in Kenya

### **1.4 Objectives of the Study**

- i. To establish the effect of debts-equity finance on financial performances of Agricultural corporations trading at Nairobi security market in Kenya.
- ii. To determine the effect of long term debts on financial performances of agricultural corporations trading at Nairobi security market in Kenya.
- iii. To examine the effect of debts financing on financial performances of agricultural corporations trading at Nairobi security market in Kenya.
- iv. To determine the effect of short term debts on financial performances of agricultural corporations trading at Nairobi security market in Kenya.

## **2.1 Theoretical Review**

### **2.1.1 Modigliani and Miller Theory**

Financial leverage cannot be discussed fully without mentioning the MM (1958) proposition, which was the foundation of the modern financial structure theories; this states that in perfect markets, funding is not important. This first proposition state that capital composition would not affect the market values of the company because the market value is derived by capitalizing the firms expected returns; it assumes that cash flow is not affected by the capital composition. This theory argues that, capital market is frictionless, no bankruptcy costs, no taxes, absence of asymmetric information, and persons can lend and have a loan at risk free rate.

Although there was some form of capital structure financial managers use before, but (Modigliani and miller, 1958) theory of “Irrelevance theory of capital structures”, has helped a lot in setting the direction of future research studies on the theory of capital structures in business finance. It has set the benchmark for further studies as Merton Miller (1989) noted, “...showing what *doesn't* matter, can also show, by implications, what *does*.” Although MM (1958) argued that funding is not necessary, but in the real world, financing does matter and it indeed matter because of information gaps, agency expenses and tax obligations.

MM (1963) revised their initial argument on irrelevance of financing in boosting firms' returns. This was based on the view that a tax shield is offered by debts. Because debt interest is a tax-deductible cost, as it incurs more debt, the company definitely decreases its taxes. The higher the leverage, the higher the firms return. This argument could lead firms to choose all debt financial structure. Based on the revised thought of the MM theorists, they support the use of debt by organizations. The expectation was that organizations opt for more debt than equity in order to enjoy tax shield. As such, the higher the debts, the higher the firms' profits. The MM theory therefore supports the debt to equity variable in this study.

### **2.1.2 Trade –Offs Theory**

Myers (1984) observed that tradeoffs theory posits that the organization obtain credit up to the position where its marginal value of tax shield on additional debts equal to the rise in present value of costs of bankruptcy. The firm perceived as adjusting the interest tax value against monetary distress. The firm should use debt instead of equity up to the point where it maximizes its value. The total values of the levered entity is equivalent to the values of unlevered entity and the present values of interest tax shields less present values of financial distress costs. Financial distress is a state whereby a firm is in trouble meeting their debt obligations and it can also lead to bankruptcy.

Theory argues that there exist various gearing targets for various entities owing to entity's specific elements and also assumes that entities have already reached their targets (Myers, 2001). According to Luigi and Sorin (2009), trade-offs theory was as a result of the debates over the MM irrelevance theory, whereby corporate income tax was introduced and this created a tax benefits for debts in that it served to shield earnings from taxes suggesting 100 percent debt financing.

In regard to returns, the theory states that increasingly productive firms have more obligation serving limit accordingly a higher obligation proportion and vice versa (Luigi and Sorin, 2009). High gainfulness organizations with physical resources that are moderately protected will utilize more debts compared with those with intangible resources that are risky.

In the real world however, firms do not operate with a 100 percent credit financing due to financial distress, bankruptcy and agency costs hence the need to match the cost and benefit. Additionally, the target financial structures is not straightforwardly observable and that the tax code is much more complicated than that assumed hence different conclusions regarding the targets can be achieved depending on which characteristics of the tax code are included (Graham and Harvey, 2001). Moreover, while the theory estimates a direct impact of the tax rate and gearing due to allowable monetary costs against taxable income, it fails to define the effect of gearing and taxation (Karadeniz, Kandir, Balcilar and al, 2009).

The Trade-Offs Theory is important in this study since it advocates for firms to utilize more debt if they wish to maximize their returns. With higher debts, firms benefit from tax shield on debt interest and thus their returns increase. The theory supports the total debt to assets variable in this study.

### **2.1.3 Pecking Order Theory**

The pecking order theory developed by Myers and Majluf (1984), have reasoning that there is no financial structure target. Firms only follow a particular order of preference for resources to finance business ventures. Following firm and investors' information gap, the entity will go for retained earnings instead of debt capital, short term debts instead of long term debts and debt instead of equity. The model holds that there is high degree of information gap among insiders and outsiders as the management is more aware of its organization's expectations, uncertainties and investors wealth.

Internal financing is the most preferred financing alternative because there is no interest involved and it does not also dilute shareholding of the firm. When internal sources of the firm is depleted, the entity will opt for outside financing and in this, debt financing becomes the first choice because of lower information asymmetry (Chesang & Ayuma, 2016).

The moment an organization decides to issue equity, this is an indication that the firm's asset value are less than anticipated and according to this theory a firm can only issue equity as the last resort because of its adverse selection effects. Prospective investors will always think that firms can only issue shares on a discount, this will cause share prices to fall (Brealey, Myers and Allen 2011). Many researchers have found that profitability of an organization is the primary aspect in actual debts ratios. They advocate that profitable firms in any sector have low preference for borrowing. Wald (1999) studied different states including U.S.A, UK, France and Japan and observed that financial returns were the most determining factor in debt asset ratios.

The general understanding is that managers issue shares only when convinced that the firm's shares are overstated, this is to ensure protection of the investors' interests. Issuing understated stocks means transferring wealth of the firm from old to new investors. Since prospective investors are conversant with this, issuance of stocks by an entity signals bad information about an issuing firms or it will imply that the company's stocks are overpriced. It is against this background that the research examined the influence of this order on returns of listed firms in the agricultural sector. The pecking order theory was imperative in this study since it explained that firms should sought external financing once the internal sources are exhausted. The theory advocates for debt financing as an alternative financing source. The theory therefore supports both the short term debts and long term debt variables in this study.

## **2.2 Empirical Review**

Adenugba, Ige & Kesinro, (2016) established the link involving financial leverages and firms' returns. Sample of 5 companies trading on Nigerian Stock Exchange for a period of 6 years from 2007-2012 was used. Data was gathered from annual records of sampled organizations. The Ordinary Least Square statistical technique was employed to scrutinize raw data and also proposition testing. The study revealed that there was considerable

connection involving financial leverage and organizations' returns. The study determined that financial leverages is preferable than equity to companies in case of long-term projects financing. The present study specifically concentrated on agricultural firms trading in Kenya.

Mahfuzah and Yadav (2012) estimated the influence of financial structure on organization profitability. Panel approach was used focusing on 237 companies trading at the Malaysian stock market for the period 1995-2011. Profitability was estimated using Tobin's Q, EPS, ROA and ROE. On the other hand, short term debts, long term debts and growth were used as proxies for financial structure. The findings revealed that profitability had an inverse association with capital structure. The current study emphasized on financial leverages and performances of agricultural organizations quoted at NSE, Kenya.

Kinyua and Muriu (2017) conducted a research on determining factors of capital structure of agricultural firms in Kenya. The study used annual company data for the period 2010-2015 for listed agricultural firms. The information was gathered from financial reports of companies, Nairobi Securities market quarterly and annual reports and the KRA website. The company's profitability was evaluated by asset and equity yields. The research observed that there is an adverse correlation between long-term debts and profitability.

Khalaf Al-Taani (2013) studied the link involving capital structures and firm performances across a number of industries in Jordan. Annual financial statement of 45 manufacturing organizations trading at the Amman Stock Exchange was utilized for this research, this covered five-year period from year 2005-2009. Multiple regressions method was used to analyze data as a model. The study used returns on asset and profits margin as performances indicator and Short-term debt, Long term debts and debts-equity finance as a measure of financial leverages. The results revealed an indirect and insignificant association among Short-term debts and ROA and profits margin. The present study concentrated on Kenyan agricultural companies listed at NSE and investigated the connection between financial leverages and firm returns.

### **3.0 Research Methodology**

The research utilized panels data as obtained from secondary sources including yearly financial records of agricultural companies listed in the securities market at Capital Market Authority website, Nairobi Security Exchange handbooks for the periods of reference and library materials. This study employed explanatory and non-experimental research designs to analyze the relationship between financial performances and leverage for agricultural organizations trading at the security markets in Kenya. Various attributes of financial leverage were described using descriptive analysis. The study used panel regression method to examine data as a model. Both correlation and regression analysis were applied to establish the relationship between the independent and dependent variables.

## 4.0 Results and Discussions

### 4.1 Descriptive Statistics

**Table 1: Descriptive Results**

Variable	Obs	Mean	Std.Dev	Min	Max
ROA	54	0.069	0.108	-0.119	0.473
Debt-equity finance	54	0.466	0.416	0.001	1.813
Long term debts	54	0.218	0.176	0.040	0.961
Debt financing	54	0.294	0.242	0.001	1.000
short term debt finance	54	0.087	0.059	0.008	0.276

Source: Study Data, 2019

The Results in Table 1 show the summary of the descriptive statistics of Return on Asset (ROA), Debt-equity finance, Long term debts, Debt financing and short term debt finance. These figures are in ratio forms since the original actual raw data was in ratios. The mean of ROA of agricultural companies trading at Nairobi Security Exchange market in Kenya for the period from 2009 to 2017 was 0.069, with a standard deviation of 0.108 indicating a small variability in return on asset overtime. The minimum ROA was -0.119 while the maximum ROA was 0.473. The mean of 0.069 is an indication that agricultural companies trading at NSE have not been performing well. The ROA value is small and this implies inability of the companies to convert assets into profit.

The results also showed that the mean of debt equity finance of agricultural companies trading at Nairobi Security Exchange market in Kenya for the period from 2009 to 2017 was 0.466, with a standard deviation of 0.416. The minimum debt equity finance was 0.001 while the maximum debt equity finance was 1.813. The debt-equity ratio of 46.6% implies that agricultural companies have been relying on both debt and equity. The value of debt and equity is more or less the same.

The results further showed that the mean of long-term debts of agricultural companies trading at Nairobi Security Exchange market in Kenya for the period from 2009 to 2017 was 0.218, with a standard deviation of 0.176. The minimum long-term debt was 0.040 while the maximum long-term debt was 0.961. There was high variability in long-term debt as evidenced by the fact that the minimum observed long-term debt was 0.040 while the maximum was 0.961. This implies that some companies were able to increase their access to credit facilities overtime. The results imply that agricultural companies listed at NSE have been relying on long term debt but not to a large extent.

The findings further indicated that the mean of debt financing of agricultural companies trading at Nairobi Security Exchange market in Kenya for the period from 2009 to 2017 was 0.294, with a standard deviation of 0.242. The minimum debt financing was 0.001 while the maximum debt financing was 1.000. There was high variability in debt financing as evidenced by the fact that the minimum observed debt financing was 0.001 while the maximum was 1.000. This means that some companies were able to increase their debt financing overtime. The results imply that agricultural companies have been relying on debt financing for investment and growth.

In addition, results showed that the mean of short-term debt finance of Agricultural companies trading at Nairobi Security Exchange market in Kenya for the period from 2009 to 2017 was 0.087, with a standard deviation of 0.059 indicating small variability in short-term debt finance. The minimum short-term debt finance was 0.008 while the maximum short-term debt finance was 0.276. The findings imply that agricultural companies have been relying on short term debt to a small extent.

#### 4.2 Correlation Analysis

Table 2 present results on the correlation between the study variables with ROA as the dependent variable.

**Table 2: Correlation Results**

	ROA	Debt-equity finance	Long term debts	Debt financing	short term debt finance
ROA	1.000				
Debt-equity finance	0.654	1.000			
	0.000				
Long term debts	-0.133	0.619	1.000		
	0.338	0.000			
Debt financing	0.398	0.794	0.777	1.000	
	0.003	0.000	0.000		
short term debt finance	-0.077	0.349	0.040	0.257	1.000
	0.578	0.010	0.773	0.061	

Source: Study Data, 2019

The results in Table 2 revealed that there was a strong positive and significant association between debt equity financing and return on asset ( $r=0.654$ ,  $p=0.000<0.05$ ). These findings agreed with Modigliani and Miller Theory which indicated that the higher the debts the higher the returns.

In addition, the results showed that there was a weak negative but insignificant relationship between long term debts and return on asset ( $r=-0.133$ ,  $p=0.338>0.05$ ). These findings disagreed with the findings of Mwangi, Makau and Kosimbei (2014) whose findings revealed that companies, which finance their projects using long term loans, experience high performance. The results further showed that there was a weak positive and significant relationship between debt financing and return on asset ( $r=0.398$ ,  $p=0.003<0.05$ ). These findings agreed with trade off theory that argued that firms ought to utilize more debt if they wish to maximize their returns.

The results further showed that there was a weak negative but insignificant relationship between short term debt and return on asset ( $r=-0.077$ ,  $p=0.578>0.05$ ). These findings disagreed with that of Khalaf Al-Taani (2013) whose findings revealed an indirect and insignificant association among Short-term debts and ROA.

### 4.3 Regression Analysis

**Table 3: Regression Results**

ROA	Coef.	Std.Err	z	P> z	[95% Conf.Interval	
Debt-equity finance	0.280	0.039	7.140	0.000	0.203	0.357
Long term debts	-0.316	0.091	-3.490	0.000	-0.494	-0.139
Debt financing	0.024	0.080	0.290	0.768	-0.133	0.181
short term debt finance	-0.522	0.188	-2.770	0.006	-0.891	-0.153
_cons	0.046	0.023	2.000	0.045	0.001	0.091
R squared=60.98%						
Wald Chi2(4)=81.13						
Prob>chi2=0.000						

Source: Study Data, 2019

Results in Table 3 revealed that debt equity financing had a positive and significant relationship with return on assets ( $\beta=0.280$ ,  $p=0.000$ ). These findings agreed with that of Masavi *et al* (2017) who indicated that debt-equity funding had a significant association with economic performance. The results further showed that long term debts had a negative and significant relationship with return on assets ( $\beta=-0.316$ ,  $p=0.000$ ). These findings agreed with that of Shibanda and Damianus (2015) who stated that returns on asset had significant relationship with long term debts.

In addition, results showed that debt financing had a positive albeit insignificant relationship with return on assets ( $\beta=0.024$ ,  $p=0.768$ ). The results further showed that short term debt finance had a negative and significant relationship with return on assets ( $\beta=-0.522$ ,  $p=0.006$ ). These findings disagreed with that of Khalaf Al-Taani (2013) whose findings revealed an indirect and insignificant association among Short-term debts and ROA

The overall model was significant ( $p=0.000<0.05$ ) implying that financial leverage had significant relationship with return on assets. In addition, the R squared was 60.98% implying that debt-equity finance, debt financing, long term debts and short-term debt finance contributes 60.98% to return on asset of the agricultural companies trading at Nairobi Security Exchange market in Kenya.

### 5.0 Conclusions

From the research findings, the study concluded that debt equity financing had a positive and significant effect on return on asset. The implication is that increase in debt equity financing makes it easy for companies to effectively manage their assets. The study also concluded that long term debt had a negative and significant effect on return on asset. The implication is that firms that employ minimal debt level are able to yield more return on assets. Further, the study concluded that short term debt had a negative and significant effect on return on asset. The implication is that the more a firm relies on short term debts the lower its return on assets and return on equity. This could be associated with the fact that instead of using its returns for reinvestment, it uses it to meet liabilities of the creditors.

## 6.0 Recommendations

Since debt equity financing had a positive and significant effect on return on asset, the study recommends that managers of agricultural companies should increase debt equity financing; this makes it easy for companies to effectively manage their assets. The study further found out that long term debt had a negative and significant effect on return on asset. This study therefore recommends that firms to employ minimal long term debt levels. In addition, the study recommends that firms should consider reinvesting their earnings back to the firm. This will increase the equity funding and reduce the risks associated with financial leverage. The study further recommends that firms should match their borrowing needs with the available assets to ensure effective and efficient utilization of the firms and reduce external borrowing. This will boost their financial performance.

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