EFFECT OF FINANCIAL LEVERAGE ON PROFITABILITY OF LISTED AGRICULTURAL FIRMS AT THE NAIROBI SECURITIES EXCHANGE

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Abstract

The financial leverage decisions made by a firm are a vital one as the performance of a firm is directly affected by such decision; hence, managers should trade with concern when taking debt-equity mix decisions. The objective of the study was to examine the effect of financial leverage on profitability of agricultural firms listed at the Nairobi Securities Exchange. The specific objectives were to, determine the effect of debt to equity ratio on the profitability of listed agricultural firms at Nairobi Securities Exchange, the effect of long term debt to capital employed on Nairobi securities exchange, determine the effect of current ratio on the profitability of listed agricultural firms at Nairobi securities exchange and to establish the effect of firm size on the profitability of agricultural firms listed at the Nairobi securities exchange. The study was anchored on four theories i.e. pecking order Theory, Agency theory, Tradeoff theory and Net income theory. The study used a descriptive research design. The study targeted 66 listed firms at Nairobi securities exchange and a target population of all the seven agricultural firms listed at the Nairobi securities Exchange. The study used regression model to determine the effect of independent and dependent variables under study. The Time series secondary data was collected from the publications of Nairobi securities exchange and Capital Markets Authority, Statistical Bulletins, Economic and Financial Reviews, and Annual Reports and Statement of Accounts from the respective firms. The study established that debt to equity ratio and current

ratio have a statistically significant effect on the profitability of agricultural firms listed at the Nairobi Securities Exchange while long term debt to total capital employed, and firm size did not have a statistically significant effect on the profitability of agricultural firms listed at the Nairobi Securities Exchange. Following these the study recommended that agricultural firms consider finding out the best mix of capital structure that does not negatively affect profitability; devising strategies on how to reap best from the associated size benefits in the quest of making more profits; mobilizing resources for non-current assets / fixed assets so as to enhance their long term loan borrowing capacity; and ensuring that the current ratio is maintained at most minimum since for this can help boost the firms' profitability. The management of these firms, the government of Kenya can use these findings in guiding the review or development of appropriate financial policies and guidelines that enhance the efficacy of financial leverage in positively affecting profitability.

Keywords: Financial leverage, profitability, agricultural firms, Nairobi Securities Exchange, capital structure

INTRODUCTION

An increase in leverage result in increased return and risk, while decrease in leverage result in decreased return and risk. There are two types of leverage that is operating and financial leverage, financial leverage is the use of the fixed charges of resources, that is preference and debt capital along with the owners' equity in the capital structure while operating leverage is degree in which the firms uses much of fixed expenses, the higher the fixed expense the higher the operating leverage.

Studies worldwide demonstrate how important financial leverage is influencing profitability in companies. Most have found a significant relationship between the two but varying extent. Such studies include: in the Kingdom of Jordan (Al-Shamaileh & Khanfar, 2014), in Pakistan (Nawaz, Salmani & Shamsi, 2015) who found that financial leverage has a statistically significant inverse impact on profitability at 99% confidence interval; in China on the relationship between operational leverage and profitability (Chen, 2004); in Tehran, Iran on the relationship among financial leverage and profitability (Fengju, Fard, Maher and Akhteghan, 2013).Other examples include Banchuenvijit (2011) in Thailand and Srivastava (2014) in India who established a positive relationship amid financial leverage and profitability.

The association between the two types of leverage is also demonstrated in several studies in Africa such as: Enekwe, Agu and Eziedo (2014) in Nigeria, Boachie, Boachie, Ezidisi,

Nyanese and Gyabeng (2013) in Ghana and Joshau, (2007) in South Africa. In East Africa, there is the study by Ishuza (2015) who sought to the effect of financial leverage on commercial banks' profitability in Tanzania. In Kenya there are studies such as Gweyi and Karanja (2014) on the effect of financial leverage on financial performance of Deposit Taking Savings and Credit Co-operative in Kenya; and Kale (2014) on the impact of financial leverage on firm performance: the case of non-financial firms in Kenya; and Mule (2015) on the financial leverage and performance of listed firms in a frontier market: panel evidence from Kenya. All these studies revealed a significant relationship between financial leverage and profitability. However, these studies did not look relationship in Agricultural firms listed with the Nairobi Stock Exchange.

In Pakistan, Al-Taani, (2013) carried out a study on how financial leverage measures firms use of debt and equity to finance firm assets and its operations. A firm can fund its investments portfolio through debt and equity. A company can also employ preference capital as another form of capital. The company's rate of return on assets is fixed regardless of the rate of interest on debt. The financial leverage used by companies is meant to earn more funds on their fixed charges than operation cost. As debt increases, financial leverage increases (Al-Taani, 2013; Mohammed, 2010).The increased financial leverage means an increase in the company's capacity and thus, enhances its capacity of making much profits.

Financial leverage decision is important since the operation is precisely affected by such choice; hence, the choice of combination between equity and debt should be handled by financial managers with concern, since the seminar paper of Modigliani and Miller in 1958 the capital structure theory and interaction with firms' performance there has been conformity with current findings (Al-Taani, 2013; Mohammed, 2010; Ogebe. P, Ogebe & Alewi, 2013). Modigliani and Miller (1958) assert that worthlessness of equity to debt proportion for company worth. However, since they considered the assumptions of perfect markets with no taxes, and no bankruptcy transaction costs, the theory about the debt irrelevance is hardly realistic (Osman & Mohammed 2010, Ogebe, Ogebe & Alewi, 2013).Financial leverage, thus therefore has an effect on profitability. Since low debt results into limited ability to add more productive assets.

Myers and Majluf (2004) carried out a study on the impact of asymmetric information on firms choice for source of funds, the study used a descriptive one where 342 agribusiness firms in Canada were sampled, the study found that in the existence of asymmetric material, internal source of finance is mostly preferred by the firm other than other funds , but debt will be issued if internal finance is exhausted, the least alternative for the company is to issue new equity shares, profitable companies are likely to have more retained earnings. Donaldson, (2001) carried out a study on the relationship between leverage and past profitability in Canadian

consultancy firms where a sample of 235 firms were used. The study revealed that a negative relationship is anticipated between leverage and past profitability. The study therefore concluded that investors will prefer to invest in gainful companies. Since the more the profitable the firm is, the lower the likelihood of facing financial problems which leads to bankruptcy. Hence, a positive relationship is anticipated between institutional profitability and ownership. Hovakimian et al. (2004) carried a study to determine the effect of growth potential of dairy firms to investors in UK where 312 firms were involved, using exploratory research design he found that high growth dairy firms bring more capital gains to influential investors than lower growth ones, growing firms are more severe to agency hitches, in that they are more flexible in their choice of becoming company investments. So, it's anticipated that growth rate and long term leverage are negatively related.

Studies in various countries in the world have shown different associations between leverage and financial performance. While examining the capital structure and performance of firms in USA, UK, France and Japan, Wald (2009) found a positive association amongst size and financial performance. However, there was a negative association for firms in Germany. In China, Chen (2004) also established a negative association amongst long-term leverage and financial performance. This disparity in results necessitates a study in Kenya.

The role of financial leverage in increasing the return of the shareholders' is based on the belief that subject to change in funds such as the lending from financial institutions and other sources for example debentures should be obtained at a value less than the organization rate of return on total assets. Damouri, et al (2013) carried a study on firms in South Africa and defined using of equity as risk charge involved and can be measured by leverage ratio. They add that there are various measures known for measuring the capital structure and commonly used are, market value based measures, book value based measures and semi- market value based measures.

Financial leverage impacts earnings per share or profit after tax. The combination of two leverage has importance to the earnings attributable to ordinary shareholders (Pandey, 2010, Ogebe, Ogebe & Alewi, 2013). Al-Taani (2012) they posed that impact of financial performance on working capital management policy and financial leverage. From their studies showed that firm's working capital management policy, represented by financial leverage and firm size have significant relationship to firms' performance in respect to net income however found no significant impact on Return on equity and return on Assets.

The firm size has the potential to influence the firm's financial performance in form of the preference of capital structure mix. As big companies have advantageous position in raising external funds easily from the capital markets, also there is less reliance on internal funds.

Moreover, the probability of bankruptcy is lower in larger firms; therefore, they are likely to pay dividends (Osman *et al;* 2013). Small firms suffer from financial restrictions. Furthermore, the cash flow of these companies did not show any significant impact on investment. They indicated that the theory of pecking order and FCF theory do not have any effect on medium firms' investment. Size, capital, ownership structure and growth opportunities play important roles in the choice of performance measure.

Adekunle (2009) did a research to examine effect of capital structure on the performance of pharmaceuticals in Nigeria, he used debt ratio to stand on capital structure thoughreturn on equity and return on asset were used as measures of firm's performance. Ordinary Least Square method of estimation were used by the researcher. The result of the study indicated that debt ratio has an important negative effect on the company's financial actions of performance. However, the study did not consider other funding choices in the inquiry, including the intervening effect of internal cash flow available.

Kaumbuthu (2011) carried out a study to establish the association amongst capital structure and return on equity for allied and industrial segment in Nairobi Securities Exchange for the years between 2004 to 2008. Capital structure were proxy by debt to equity ratio while performance concentrated on return on equity. The research used regression analysis and found a negative association between equity to debt ratio and Return on equity. The research focused on only one segment of the companies listed in Nairobi Securities Exchange and concentrated only on one aspect of financing decisions. Agriculture remains the backbone of the Kenyan economy. Agriculture is considered be the most important sector in the economy, this sector is considered to contributing approximately 25% of the Gross Domestic Product, employing 75% of the state labour force (Republic of Kenya 2005) as cited by Alilaand Atieno(2006). More than 80% of the Kenyan populace live in the rural areas and derive their livelihoods, directly or indirectly from agriculture. In Kenya it is a significant for economic development growth as it gives 35% of the gross domestic product and gives 40% of the export income. Agriculture is a source of employment to the populace through farming, agriculture also improves the standard of living of individuals through business and research activities. Through agriculture a market for industrial products is created which leads to improvement of purchasing power of the population.

Profitability is the capacity of a business enterprise to make a profit after doing business. Profit is what remains of a business after paying all expenses rightly related to the generation of the revenue. The data available on the website of the listed agricultural firms shows few firms publish their financial statements and others post profits on decline from their previous profits.

According to Hassan, Khan and Wazir (2016) who did a study to determine the effect of debt on profitability of companies indication from non-financial sector of Pakistan showed a significant but negative association between long term debt, total debt, short term, and return on assets. His Results indicated a negative association between debt and profitability implying that increasing debt in the capital structure will decrease profitability. Thus, firms should choose internal financing or other sources of financing than debt financing accepting the key issues defining profitability supports managers in developing an effective profitability approach.

Nairobi securities exchange was founded in 1954 under the society's Act as a voluntary association for stock brokers and was not accessible to non-Europeans (Nairobi Stock Exchange, 2014).The Nairobi Securities Exchange was established as a charitable relationship of stock agents under the Society Act. Over the historical period, the securities exchange has seen many transformation, systematizing its trading operation as from September 2006 and in 2007 that enabled stockbrokers to do business of buying and selling shares in their offices unlike previous decades where one was supposed to be present at the trading floor (NSE, 2014).

Agricultural stocks are predictable to continue to reduce in financial performance at the NSE with most investors expected to continue going after liquid stands, in business which are not exaggerated by uncontainable influences for example the weather, environmental factors. External factors like variation of local currency against international currency, economic recessions in agricultural export markets, and high costs of inputs affect the incomes of agricultural firms in addition the dividends they pay out to the farmers. There are seven agricultural firms listed in NSE as at December 2013. The agricultural sector is one of the most significant segments in Kenyan economy. Apart from providing food for the Kenyan economy basket, the sector also offers a good proportion of our transfer market in international countries. Most of the companies in agricultural segment offer non-commercial facilities such as ethical investing, corporate social responsibility, community social investment and resource management. These firms are Kapchorua Tea Co,Limuru Tea CoLtd,Eaagads Ltd, Ltd, Rea Vipingo Plantations Ltd,Sasini Ltd, Williamson Tea Kenya Ltd and Kakuzi. There are 66 companies listed at the Nairobi Securities Exchange as indicated in Appendix V.

However, after independence the securities market activities slumped as a result of uncertainty on Kenya's future independence trend. The NSE has been denationalization since 1988 by the Kenyan government selling 20% of its holdings. The operation is through a Central Depository and Settlement Corporation (NSE, 2014). NSE has been operating currently with 66 listed firms. The companies listed in NSE are anticipated to be financially stable in order to build investors' confidence and contribute to economic growth. During listing period these firms

should meet the set criteria set by NSE. However, despite meeting the set listing requirements, firms are exposed to market dynamics which affect them either negatively or positively. These dynamics may be caused by the government policies, risk perceptions, management decisions and investment decisions taken (NSE, 2014).

Statement of the Problem

Firms' performance is greatly influenced by financial leverage as established by many studies. Such studies include Etyang', (2012), Koech, (2013) Arowoshegbe & Emeni, (2014), Chinaemerem & Anthony (2012),Ogebe *et al.,* (2013). However, most of this studies in Kenya were carried out on firms in different sectors most notably banking and manufacturing industries other than agricultural sector while agricultural sector is one of the pillar of Country's economy. It is important to note that, the success of agricultural firms in Kenya's ever-changing environment depends on how able firms can structure their capital so as to ensure profitability. The paradox often is that a particular combination of debt, common stock, and preferred stock used in financing the assets of a firm creates some level of financial risk that also affect profitability. Arguably, this risk affects a firm's capacity to make profits. However, there is scanty information regarding the effect of financial leverage on firms profitability of agricultural companies at the Nairobi Securities Exchange Kenya. These include a study by Maroa and Kioko (2016) who investigated the determinants of profitability of Agricultural Companies scheduled at the Nairobi Securities Exchange in Kenya; and Njagi (2013) who sought to determine the association among financial profitability and capital structure of agricultural firms listed at the NSE. Wandeto (2005) conducted a study on the relationship between cash flows, dividend changes and earnings and capital structure for the firms listed in the NSE, while Nyaboga (2008) looked at the relationship between capital structure and agency cost. However, the focus of these studies was not specifically on the dimensions of the financial leverage. This information inadequacy has left a glaring research gap. Therefore, the study sought to analyze the effect of financial leverage on profitability of agricultural firms listed in Nairobi securities exchange.

Objectives of the Study

The main objective of the study was to examine the effect of financial leverage on profitability of agricultural firms listed at the Nairobi securities exchange.

Specific objectives of the study were to;

i.   Determine the effect of debt to equity ratio on the profitability of agricultural firms listed at the Nairobi Securities Exchange

ii.   Establish the effect of long term debt to total capital employed on the profitability of agricultural firms listed at the Nairobi Securities exchange.

iii.   Determine the effect of current ratio on the profitability of agricultural firms listed at the Nairobi Securities Exchange

iv.   Establish the effect of firm size on the profitability of agricultural firms listed at the Nairobi Securities Exchange

Research Hypotheses

H_{O1}: Debt to equity ratio has no statistical significant effect on the profitability of agricultural firms listed at the Nairobi securities exchange

H_{O2}: Long term debt to capital employed has no statistical effect on the profitability of listed agricultural firms at the Nairobi securities exchange

H_{O3}: Current ratio has no statistical significant effect on the profitability of agricultural firms listed at Nairobi securities exchange

H_{O4}: Firm size has no statistical significant effects on the profitability of agricultural firms listed at the Nairobi securities exchange

Scope of the Study

The aim of the study was to establish the effect of financial leverage on profitability of agricultural firms listed at the Nairobi Securities Exchange. The companies selected were all agricultural firms listed at Nairobi securities exchange. The study also focused on accounting information since they were in a strategic position to provide primary data sought in the company. The confine of the study was on the effect of debt to equity ratio, long term debt to total capital employed, current ratio and firm size on profitability of agricultural firms. The study will cover the period of 5 years between 2010 to 2015.

Significance of the Study

The findings of this research would be of significance to the following groups specifically government, Board of directors, management of agricultural firms, Stakeholders and investors and finally to a theoretical critique. Last but not least the study contributes to knowledge in the field of finance and related studies. The study findings from this study may also be used as serve as reference materials by researchers and academicians in guiding future studies in respect to the effect of financial leverage on profitability of agricultural firms.

Limitations of the Study

The researcher collected data from Nairobi Securities Market and Capital Market Authority. The researcher found challenges in getting the relevant financial booklets, financial statements from Nairobi securities exchange and Capital Market Authority. To overcome this, the researcher sends emails, use official letters from Kisii University and book appointments in advance and honor them on time. The researcher sought clarification on data information at the data sources in both Capital Market Authority and Nairobi securities exchange and the company's website. Confidentiality of data provided was assured, as the researcher demonstrated on the use of data for research purposes only.

Assumptions of the Study

The researcher made several assumptions in line with the study. The study made assumption on the population; each firm has an equal chance of representation within the study. In addition, data was collected from firms with full information running from 2010-2015.

Operational Definition of Terms

Capital structure	It's a mix of debt and equity which a firm deems as appropriate to enhance its operations (Friend, 2008). Capital structure is therefore composition of long-term liabilities, specific short-term liabilities like bank notes, common equity, and preferred equity which make up the funds with which a business firm finances its operations and its growth.
Debt Ratio	Financial ratio that indicates the percentage of a company's total debt to its total assets.
Financial Leverage	Is the degree to which operating assets are financed with debt versus equity (Penman, 2001).
Financial performance	Is a measure of how well a firm can use its current assets from its primary mode of business and operations and generate revenues for the business (Baxter, 2007). Financial performance is an indication of the financial health over a given period of time for a firm, and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation to enable a business to make decision on how it can improve on the prevailing situation or sustain a desirable position (Berger, Oliver & Pua, 2007).

Liquidity	It's the ability of a firm to meet its financial obligations in a timely manner. In essence, the assets owned by a company are liquid if they can quickly and cheaply be converted to cash (Brealey, et al., 2001).
Profitability:	The state or condition of yielding a financial profit or gain. It is often measured by price to earnings ratio.
Return on assets	The percentage that shows how profitable a company's assets are used in Generating income.

LITERATURE REVIEW

Theoretical Framework

This section presents the theoretical review guiding this study. After the foundation study of corporate financing decisions in the 1950s by Modigliani and Miller (1958), research on capital structure has been done to identify optimal mixes for debt and equity. The purpose of the study is to find the desirable mix to maximize the value of equity shareholders; however, MM stated that financing choices do not affect the firm's value. The study is therefore, supported by the Pecking Order Theory, Agency theory, Trade -off theory and Net Income Theory.

Pecking Order Theory

Many theories have been advanced in line with the financial decisions process. Among these theories is the Pecking order theory by Myers & Najfuf (1984), a capital structure theory. This theory advocates that companies should use the cheapest form of finance to run their operations first. In most cases, businesses adhere to hierarchy of financing sources and mostly prefer internal sources first and debt is preferred over equity due to information asymmetry between the firm and outsiders. Internal sources may not be efficient to meet certain financial decisions therefore the firm may consider external borrowing. Too much external borrowing affects financial decision.

According to Frank & Goyal, (2003) Pecking order theory states that companies prefer internal funds, if available, and use debt or issue equity last. In line with Myers (1984), companies prefer internal sources to external finance due to asymmetric information. The utilization of external financing sources are signals to information that a firm is not profitable, which can decrease stock prices. When external financing sources are obligatory, firms choose debts to equity because of lower information costs relate with debt. Issuing new stock, instead of acquiring new debt, signals the news that directors think firms' stocks are overpriced. Frank & Goyal, (2003) posited that the management of a company usually knows more about its company's business and financial information than average outside investors do and the

company administration don't expect to issue new stock when they think the stock price is undervalued in the market. When the market is fairly priced or overpriced management tend to issue shares. Thus, outside investors may interpret the declaration of a stock issue as a negative signal for the current stock price (Tang & Jang, 2007).

This theory is relevant to this study since agricultural firms operate in a financial environment that fits the Pecking order. If the agricultural firms must use outside financing, preference capital is to be used in the subsequent command of funding sources: convertible securities, debt, preferred stock, and common stock. An appropriate debt to equity ratio and current ration needs to be maintained.

Agency theory

Agency theory was developed by Jensen & Meckling (1976). The theory relates to decisions made within a firm by managers and the shareholders. This is the principal agent relationship. The theory states that, with low monitoring level to the organization and low discipline in decision making, managers might decide to invest in projects with negative net present values. According to agency theory, higher level of debt increases shareholders' value because of its disciplinary effect on manager behavior. There are two types of inherent conflicts of interest in this theory: manager-to-shareholder conflict, and creditors-to-shareholder conflict. In the first case, when long debt increases, shareholders can bind managers to service the debt obligation. Thus, when the debt level is increased, a larger portion of unrestricted cash flow should be used to pay the debt obligations. In this case, shareholders or boards of directors effectively reduce the free cash flow in the company and prevent managers from financing in sub-optimal or excessive investments (Jang & Tang, 2009).

Managers would also lose their large investments if they fail to fulfill the obligation of debt, and this results in insolvency (Jensen & Meckling, 1976). Agency theory offers an additional end to clarify the high profitability and low debt ratio correlation. In a money-making form, it is the managers' advantage to keep debt ratio low, because: The debt payment is not committed to unrestricted cash flow and can be used for management's interests, and managers are then free from debt payment pressure. This leads to a loss in a shareholder's stock value, and it is agency cost. It is important to note that such managers are answerable to stakeholders and thus need to make sound financial leverage decisions that positively affect their financial performance.

This theory is relevant to this study in that managers of agricultural firms are bound by shareholders to act responsibly by making correct decisions on the level of debt ratio and

profitability. They are answerable to the shareholders or board of directors and thus need to ensure that higher level of debt increases shareholders' value.

Trade-off theory

This theory explains why a company will concentrate on trade off benefits by selecting how much equity and debt to use for its financing. Companies are taxed by government on their income, but interest is a tax-deductible expense. As per trade-off theory a chargeable company will increase its debt level to the point where additional debt is offset by the marginal value of tax shield the NPV of possible costs of financial distress (Myers, 2001). Because interest expense for debt is tax deductible, a higher leverage level would create a larger tax benefit for corporate income. However, as the level of debt increases, the company would have a high burden to service its debt obligations including a large amount of interest expense. Subsequently, the company would incur default risk, which would cause higher costs for debt financing and financial distress (Myers, 2001). Thus, an optimal proportion of equity to debt capital structure maybe reached through establishing equilibrium between the tax advantages and financial distress of debt.

This theory is relevant to this study given that agricultural firms that carefully select equity levels and debts used for their financing were better placed to make higher profits compared to those that were not keen with the levels of equity and debts. Those firms with higher debts were highly disadvantaged. Most firms strive to achieve an optimal proportion of equity to debt capital structure and this is argued to create tax advantages.

Net Income Theory

This theory exerts that there exists an optimal level of leverage, a point where the cost of capital will be at the minimum value possible and allowing the firm to maximize its return. The consequences of this is that low cost of capital, the value of the firm is maximized when the optimal level of debt capital is employed (Brealey and Myer, 1998). Their argument is that for firms with low debt ratio, increasing their financial leverage level will not increase the cost of debt and therefore can be used as a replacement of equity and preserves the firm's value. This therefore implies that whether the firm is large or small, with higher earnings or not there exist an optimal debt ratio that it must maintain for it to maximize its return. This negates the effect that firms earning may be having on its leverage. According to Brealey and Myers (1998), financial leverage will make the managers be aware of the increased risk that they have to shoulder for the firm to continue growing in the industry. This therefore calls for going for debt sparingly just to obtain that amount that the firm will be able to shoulder without suffering the

financial distress and may go into bankruptcy. This again showed that the size and earnings of the firm has a bearing on the financial leverage of the firm.

This theory is relevant to this study, since agricultural firms strive to strike an optimal level of leverage, a point where the cost of capital will be at the minimum value possible and allowing the firm to maximize its return. Therefore, the right mix of leverage in terms of current ratio, liquidity, and total assets needs to be put in perspective. Agricultural firms thus, need to ensure that the cost of capital is held at a minimum value possible, since the opposite has a negative effect on profitability.

Empirical Studies on Financial Leverage and Firms' Profitability

In a study carried out by Ebaid (2009) on the effect of capital structure on performance of firms in Egypt securities exchange, financial leverage did not appear to influence the firms' performance. Multiple regression technique was applied to determine the association between the leverage and performance. The result showed that financial leverage has no impact on company's performance.

Mwangi, Makau and Kosimbei (2014) examined the relationship among capital structure and firms' performance of 42 non-financial companies in the Nairobi Securities Exchange. The study used secondary panel data contained in the experimented financial statements of the listed companies, and employs panel data using random effects and feasible Generalized Least Square (FGLS) model. The findings were that financial leverage is negatively correlated to performance which is measured by return on assets.

Akhtar *et al.* (2012) studied the relationship among financial leverage and financial performance using Energy and fuel segment of Pakistan. The result found a positive association among financial performance and financial leverage of the firm thus confirming that the firms having higher profitability may increase their performance by possessing high levels of financial leverage. Additionally, the study give proof that the participants of the energy and fuel in Pakistan can increase their financial performance by employing the financial leverage and this can be arrived by making important decisions on the choice of capital structure which will lead to sustaining future growth of the company (Akhtar et al. (2012).

Onaolapo and Kajola (2010) studied the effect of capital structure on financial presentation of firms listed on the Nigerian Stock Exchange. study used 30 non-financial companies in 15 business segments for a period from 2001 to 2007.The results indicated that financial leverage had a significant negative relationship on financial performance, Return On Assets and Return On Equity of tested companies (Onaolapo and Kajola, 2010).

Chinaemerem and Anthony (2012) investigated the effect of capital structure portfolio on financial performance of Nigerian firms using 30 listed non-financial firms on the Nigerian Stock Exchange for a span of 7 years from 2004- 2010. Panel data for the chosen companies were examined using ordinary least squares method of approximation. The findings indicate that a company's capital structure represented by debt ratio has negative significantly association with the firm's financial performance surrogated by Return on Assets and Return on Equity (Chinaemerem and Anthony, 2012).

An analysis of the impact of capital structure on company performance of firms in Jordan securities exchange was conducted by Tian and Zeitun (2007). The analysis was done by using a panel data approach of 167 companies for a span of 15 years from 1989 to 2003. The study used Return On Equity, Return On Assets,Earnings Before Interest and Tax and tax plus depreciation to total assets, market value of ordinary equity to book value of equity, price/earnings ratio and market value of equity plus total liabilities divided by book value of equity as market performance measures. The results show that firms' performance and capital structure has negative relationship. The study also found that short term debt to total assets as a determinant of leverage has an association which is positive on the market performance proxy by Tobin's Q (Zeitun andIan, 2007).

Al-Taani (2013) investigated relationship between capital structure and firm's performance in 45 Jordanian manufacturing firms scheduled on Amman Stock Exchange for a period of 5 years from 2005 to 2009. Study variables were return on assets, profit margin,total debt to equity, total assets to short term debt ratios, and long term debt to total assets (Al-Taani (2013). Return on assets and Profit margin to represent the dependent variables were used as indicators for financial performance, independent variables were long term debt to short term debt to total assets represented for capital structure. Al Taani's studyfound that there is no important association among Short Term Debt to Total Assets and Return on Assets, Total Debt to Equity and Return on Assets, Short Term Debt to Total Assets and Profit Margin, long term debt to total assets and Profit Margin, and Total Debt to Equity and Profit Margin.

Nuri and Archer (2001) established debt ratios in the UK lodging industry were higher than the debt ratios in United Kingdom retail business. They indicate out that the theory of trade -off is more consistent with regard to pecking order theory in the lodging and retail industry the UK (Nuri and Archer (2001). They stated that profitability is the most significant factor for the retail industry, followed by tax shields of non-debt products as related factors to leverage level. Non-debt tax shields, contract management, and firm's profitability were the most significant factors for the UK hotel industry.

Dalbor and Upneja (2002) reports that long-term debt ratio positively relates to profitability of firms going into bankruptcy because of firm size among publicly traded U.S. restaurant firms. Dalbor and Upneja (2002) established that firm quality and growth opportunities were related negatively with long-term debt usage. According to the study, lower quality and larger firms tend to use more long-term debt and companies on growth opportunities stage use less long-term debt. They also found that Hotel and restaurant, companies with positive growth opportunities tend to use less long-term debt (Dalbor and Upneja (2002).Consistent with prior research, it was revealed profitability of hospitality firms were independent of debt level (Phillips & Sipahioglu, 2004) and that growth opportunities for companies have a link with debt level (Dalbor & Upneja, 2004; Tang & Jang, 2007).

Saeedi and Mahmoodi (2011) examined the association among capital structure and performance of scheduled companies in Tehran Stock Exchange. According to the study market measures of presentation are completely related to capital structure and while Return on assets is positively associated to capital structure of the firm, no significant association exists between Return on equity and capital structure. Saeedi and Mahmoodi (2011) findings shows that financial leverage may have impact on measures of performance in different ways.

Effects of Debt to Equity Ratio on firms Profitability

Nwude (2003) defines debt to equity ratio as a measure of the proportion of debt to shareholders' funds (i.e Net Worth) in the total financing of a business. Items such as accumulated losses and deferred expenditures are eliminated from the shareholders' funds before using it as the denominator. The ratio indicates how much naira was raised as debt for NI of equity. Enekwe (2012) continues that equity to debt ratio is indicating the relative proportion of debt to equity used to finance a company's assets which is a measure of leverage. The formula equals to total debt over shareholders' equity. When used to calculate a firm's financial leverage, the debt usually includes only the total debt. However, as specified the bigger the interests then theirs need to repay the principal on borrowed fund because it can outweigh the benefit, it is used to measure the net worth of the organization. DER equals to total liabilities over shareholders' funds or total equity.

Pouraghajan and Bagheri (2012) examined on the effect of capital structure on the financial performance of firms listed in the Tehran Stock Exchange. The study tested a sample of 40 firms among the listed firms in Stock Exchange of Tehran. The Results suggest that there is an important negative association among debt ratio and financial performance of companies, and an important positive association between asset tangibility, growth opportunities, asset turnover, firm size, and with financial performance actions.

In China, Yuan and Kazuyuki (2011) carried out a study on the impact of the debt ratio on firm investment. Using example of Chinese scheduled firms presented that total debt ratio had a negative impact on fixed investment. Equally additional if debt is employed in the capital structure of a firm, the business risk will also increase.

Nduati (2010) studied the association among leverage and financial performance of firms listed at the Nairobi Securities Exchange. In the collection of data the researcher used descriptive research design. Data was collected using secondary sources and interviews such as yearly financial reports and statements of the targeted firms. Statistical Package for Social Sciences SPSS was used in analyses of data, and findings were accessed in the form of graphs, tables and pie charts. The findings concluded that leverage did not contribute to financial performance of firms scheduled at the Nairobi stock Exchange.

Wainaina (2014) studied the association among leverage and financial performance of topmost 100 SMEs small and medium organization in Kenya. The research used cross sectional type of descriptive research design in his study. Objective population for the study was the top 100 SMEs (2013) in Kenya. It used an example of 30 Small Medium Enterprises unsystematically nominated based on the study population. This study compiled data for a period of five years (2008-2012). The study made use of SPSS version 20, to aid in the analysis. The study concluded that leverage had important effect on the financial performance, and that there was a positive association amid leverage debt equity ratio and financial performance of small and medium enterprises SMEs in Kenya.

A study by Gweji and Karanja (2014) examined the impact of financial leverage on companies' performance of credit, deposit taking and savings co-operative societies. Secondary data obtained from financial reports of 40 savings, credit co-operative societies considered in the study from 2000 - 2012. Descriptive and logical plans were both adopted. The findings show strong positive association between financial leverage represented by equity to debt ratio with ROE and net profit after tax at 99% confidence time, and a faint confident correlation between equity to debt ratio with return on assets and income growth.

The effect of Long term debts to capital employed on profitability

The financial leverage of the firm can be shown by a long term debt to capital employed ratio. This ratio is computed by dividing the long term debt with the total capital accessible by a firm. The total capital of the firm comprises the long term debt and the stock of the firm. The formula of calculating Long Term Debt to Capitalization Ratio is:

Long term debt / Common Stock +Preferred Stock+ Long term debt

A long term debt to capital employed ratio greater than 1.0 shows business has more debts than capital employed in essence is not a worthy practice to a business entity as it can indicate financial difficulties, particularly the firm running to bankrupt. A tall long term debt to capital employed ratio would show the financial limitation of the company and the debt would most likely increase the risk of the firm (Myers and Majluf, 2004).

Kaumbuthu (2011) made a study to determine the link between capital structure and return on equity for allied industrial sectors in the NSE between 2004 - 2008. The study used regression examination and found a negative association between debt to equity ratio and return on equity. The study centered to one sector of the firms listed in Nairobi Securities Exchange and concentrate on aspect of financing decisions. The results cannot not be generalized to the other sectors (Dalbor and Upneja (2002).

The information on the effect of debt on the performance of the company is still uncertain. The work of others researchers shows a positive effect of debt on the performance of the company (Myers and Majluf, 2004) and others that reason that the effect is negative. They felt that debt makes the companies chart dissimilar output and investing strategies, in that differs with regard to the make-up of the debt. Long term debts prompt the firm to pick higher output and financing heights beside higher expertise up progression payments. It therefore should have a positive effect on the performance of the company. Though, the short-term debts, which make the company conformist with reference to output and financing strategies, might have a harmful impact on the financial performance of the companies (Myers and Majluf, 2004). In Kenya, a study Maroko (2014) looked at the effect of the firm's capital structure on firms financial performance of companies scheduled in Nairobi Securities Exchange. Secondary data used was obtained from financial statements of listed firms, and used stratified random sampling technique. Multiple regression technique was used to explain the association between financial leverage, debt interest and cost of equity and companies performance. The findings presented that positive association exists among cost of equity, financial leverage, debt interest and organization financial performance.

Maina and Kondongo (2013) in their attempt to validate Miller and Modiglian (1963) theory in Kenya, examined the impact of debt to equity leverage ratio on the operation of companies listed at the NSE for the period 2002 to 2011. From their findings companies listed at Nairobi Securities Exchange depend mostly on short term debt of financing. The findings also disclose that statistically significant negative association exists between debt to equity ratio as a measure of performance. The results also provided support for MM theory that capital structure is significant in defining the performance of a company.

Innocent, Ikechukwu & Nnagbogu (2014) conducted a study on the impact of financial leverage on financial performance on scheduled pharmaceutical companies in Nigeria stock exchange for the period 2001 to 2012. Financial leverage represented by debt ratio, debt to equity ratio, ratio on interest coverage were used as independent variable while financial performance proxy by return on assets as dependent variable. The study employed secondary data information sourced from audited financial statements of 3 pharmaceutical firms listed on the Stock Exchange of Nigeria. Pearson correlation and descriptive statistics were utilized in order to establish the association amid financial leverage variables and performance degree adjustable identified in the research. The results showed that debt ratio and debt to equity ratio contain harmful association with Return on Assets, while interest coverage ratio has a positive relationship with ROA. The study also displayed that on whole financial leverage variables has no significant effect on financial performance of sampled companies (Innocent, Ikechukwu and Nnagbogu (2014).

Effects of Current Ratio On the firm Profitability

High current ratio shows a higher level of liquidity, a lower ratio shows a small amount of liquidity, involving a greater reliance on operating cash flow and outside financing to meet immediate requirement. Liquidity involves the firm's capacity to take on debt.

Almazari (2013) studied association among the working capital management and the company's profitability for the Saudi cement manufacturing companies. The example comprised of 8 Saudi cement manufacturing firms scheduled in Saudi Stock Exchange between 5 years from 2008-2012. Regression and Pearson bivariate examination were used. The study results showed that Saudi cement company current ratio is important liquidity estimate which effected profitability, therefore, the cement companies should put a trade-off between these two objectives found neither the liquidity nor profitability suffers. Almazari (2013) argued that if size of a company increases, profitability increases and vice versa. Besides, when the debt financing is improved, profitability is declined. Linear regression tests established a high degree of association among the profitability and working capital management.

According to Padron, Apolinario and Santana (2005), performance of companies with liquid assets are likely to be more and better as they are capable to get money at given period to meet up its requirement and are less open to the elements of liquidity risks. By not having sufficient cash or liquid assets, listed firms end up selling their securities at a substantial low price in order to settle debts quickly. Though, there are divergent views of investors with regard to liquidity and performance in relation to the agency theory cost.

A study by Kayo and Kimura (2010) observed that high liquidity could increase agency expenses incurred by the owners by providing administrators with inducements to misuse excess cash-flows by investing in projects with harmful net present prices and appealing in excessive privilege consumption. Liquidity measures the ability of managers to meet their immediate commitments to shareholders and other creditors without having to increase profit from investment activities and/or liquidate financial assets.

Eljelly (2004) looked at the relationship between profitability and liquidity measured by current ratio cash breach and cash conversion cycle on an example of joint stock firms in Saudi Arabia using method of correlation and regression examination. Eljelly (2004) established a harmful association amid profitability and liquidity signify, and it was established that Cash Conversion Cycle had a large effect over profitability than Current ratio factor affecting firm profitability. It was found out there was great difference among firms with respect to the assessment of liquidity Eljelly (2004)

Suhaila (2014) investigated the effect of liquidity and leverage on financial performance of commercial public companies in the tourism trade in Kenya. The study adopted descriptive research design where information was recovered from the financial statements and Notes of ten (10) Profitable State Companies in the travel industry in Kenya during the study period 2008-2012. A positive relationship was found to exist between tourism industry liquidity and profitability of Commercial State Corporations in the tourism sector in Kenya.

Effects of Firm Size on the firm Profitability

A study by Qureshi *et al.* (2012) observed that large sized companies are proficient of lessening transaction costs by allotting long-term debt at a favorable low interest and raise funds from creditors with ease (Moses, Edna and Newton, 2013). There exists a positive association among the company size and leverage (Nadeem and Zongjun, 2011), implying that the larger the agricultural firm is the more levered it is likely to be as compared to the smaller firms. On the other hand, large firms also due to their high level of operations they are likely to enjoy higher earnings which according to the pecking order theory they may use to finance their operations instead of debt financing, negating the value of debt in the capital structure. High earnings by the firm promote the use of debt and provide an incentive to firms to benefit from tax shields on interest payments (Nadeem & Zongjun, 2011). The pecking order theory therefore ascertains that firms prefer to use internally generated funds when adequately available over debt financing. This therefore depicts a negative relationship between earnings and the leverage of the firm.

Padron *et al.*, (2005) argued that profit interacted with size. The study noted that large companies are less vulnerable to insolvency since they tend to be more diversified than smaller companies. So, subordinate expected bankruptcy prices allow large companies to take on more obligations like debts.

Financial assets are more easily to be achieved in the market as the level of asymmetries information are reduced by large firms. Large firms are more likely to access debt as compared to small firms since they are more stable (Padron et al., 2005). If two companies have same profitability, larger company will get more external finance.

Capital structure is one of factors bigger firms benefit over small firms, and can be examined by comparing firm's performance in particular financial performance (Eljelly (2004). Larger firms obtain benefits from their size and diversification because they can borrow with lower costs and survive economic disasters with more resilience than smaller firms (Eljelly (2004).

Larger firms obtain benefits from their size and diversification because they can borrow with lower costs and survive economic disasters with more resilience than smaller firm's and thus generate more profit. Their diversification and low borrowing cost benefits are expected to support the profitability assumption. The size of a firm has the potential to influence the firm's financial performance in terms of the choice of capital structure mix. Larger firms had an advantageous position in capital markets to raise external funds, they are less dependent on internal funds. Moreover, the probability of bankruptcy is lower in larger firms; therefore, they are more likely to pay dividends (Osman & Mohammed 2010).

Kholdy and Sohrabian (2001) determined the FCF theory and pecking order hypothesis in small, medium and large firms. Their conclusion showed that smaller firms suffer from financial restrictions. Furthermore, the cash flow of these firms did not show any significant effect on investment. Kholdy and Sohrabian (2001) concluded that the pecking order theory and FCF theory do not have any effect on medium firms' investment.

When studying the relationship between firm growth, age and size, Evans (1987) found that age is an important determinant of a firm's success. Older firms are expected to have more historical information than younger ones and are thus expected to be more likely to survive than growing firms. In other words, older firms will be able to use their experience to avoid unexpected economic problems (Brooks *et al.*2009).

Bulan and Yan (2009) conducted a study to examine the central prediction of pecking order theory, taking into account the two phases of companies' lifecycle which they describe to be the first years of a company since its IPO, and maturity (Bulan and Yan (2009). They argued that mature firms are older, more stable and more highly profitable, with fewer development

opportunities and good credit accounts. Due to this distinctiveness (Bulan and Yan (2009) mature firms are able to borrow more easily at cost which is lower. Therefore, older firms are supposed to use debt before considering equity when they need to finance their projects. Hence, it is expected here that older firms are more powered than younger firms. That is, firms with higher poor selection costs are more likely to follow the pecking order theory (Bulan and Yan (2009).

According to Titman and Wessels (1988) larger firms are not faced with greater challenges of straight insolvency cost owing to their capability to spread their processes in order make money to allow the organisation offset the cost of debt. They argued that big firms are better off using debt financing to finance their projects, as there exist a positive relationship between the size and the leverage of the firm.

According to agency theory (Jensen and Meckling's, 1976) large firms go for debt financing as a way of trying to solve their agency cost. Therefore, the more the firm expands in size, the more debt financing it should go for.
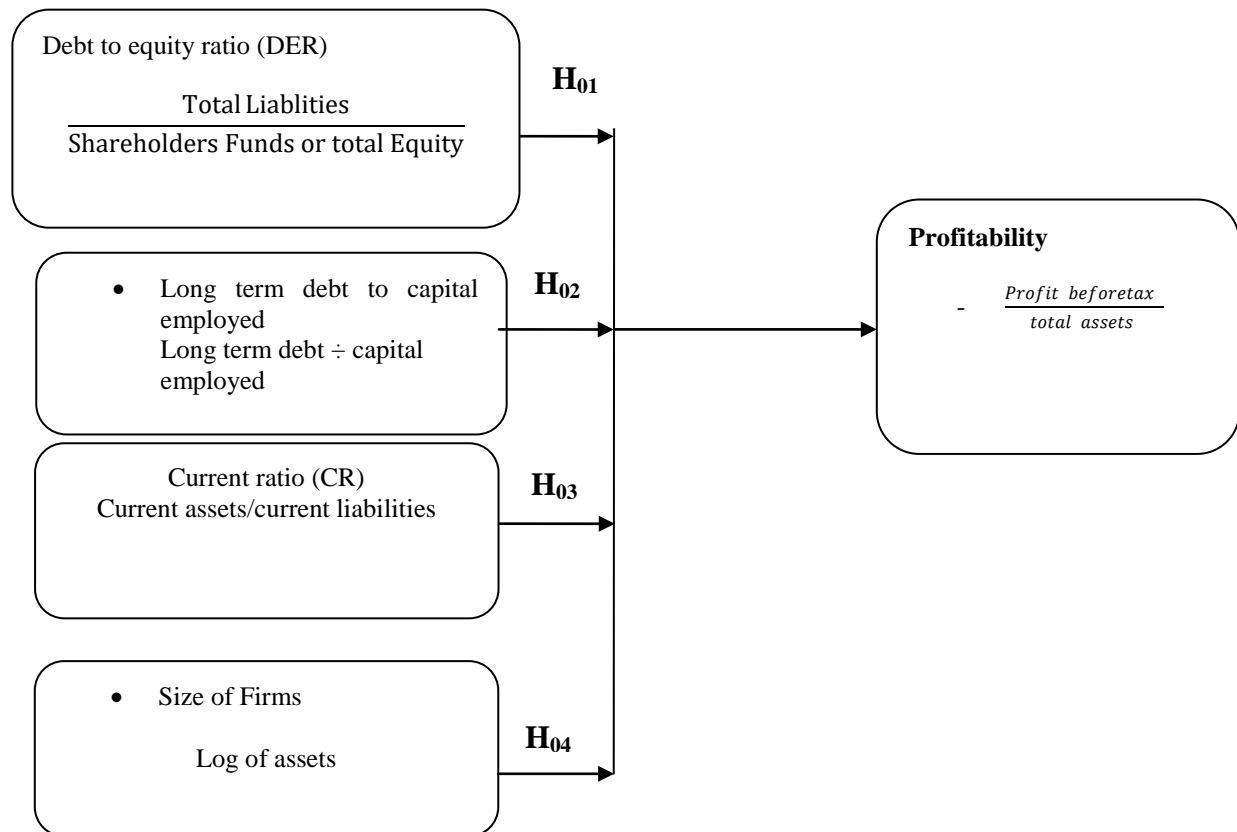
Research Gap

Most of the studies done on the effect of financial leverage on profitability have been done in the non-agricultural segment which the current study is focusing upon. Further, there are limited studies done in Kenya focusing on the effect of financial leverage on profitability and this study will address the same as it will enrich the current knowledge on the financial leverage on effect of Return on Assets / Profitability of listed agricultural firms at NSE. This study therefore comes in to fill the annulled by making whether there is an association between financial leverage and firm performance/profitability among listed agricultural firms' in Kenya.

Conceptual Framework

Fraenkel and Wallen (2000) articulated that greatest study information through the problem statement in perspective of a theoretical context or conceptual. An explanation of this context adds to a research information in at least two means as it identifies research study variables, and association among the study variables. This study tries to examine the effect of financial leverage on profitability of agricultural firms listed at the Nairobi securities exchange.

The conceptual framework of this study spells out the relationship between the profitability which is the dependent variable and debt to equity ratio DER, long term to total capital employed, current ratio CR and total firm sizes as the independent variables.

Figure 1: Conceptual framework

RESEARCH METHODOLOGY

Research Design

This study used a descriptive research design. Descriptive research design is most appropriate to test hypothesis. It determines the way things are reported. Mugenda &Mugenda (2003) describes descriptive research design as a systematic, empirical analytical which the examiner doesn't have a direct control of independent variable as their manifestation has already occurred because the inherently cannot be manipulated (Mugenda &Mugenda (2003). This design supports the use of research questionnaires in solicitation of data from respondents and secondary data collection approach, and therefore the researcher will use both methods of data collection. This research relied primarily on census as the study focus on all listed agricultural firms. Descriptive studies are concerned with the how, where and what of a phenomenon thus placed to build a profile on that phenomenon (Mugenda & Mugenda, 2003). Descriptive research design is important because the study seeks to build a profile about the effect of financial leverage on profitability of agricultural firms listed at the N.S.E. the specific variables were debt to equity ratio, long term debt to capital employed, current ratio and firm size.

Study Area

The study was conducted at the Nairobi Securities Exchange on listed agricultural companies. Considering the fact that, the study collected both primary and secondary data, there was need to visit the organizations physically at their head offices to carry out the survey. Most of these organizations are head quartered in Nairobi. The data was obtained from company's websites on individual companies' financial books of accounts.

Target Population

According to Ogula (2005), population is any group of people, institutions, objects that have at least one characteristic in common. The study targeted the seven listed agricultural firms at the NSE. These firms are Kapchorua Tea Co. Ltd, Eaagads Ltd, Rea Vipingo Plantations Ltd, Limuru Tea Co. Ltd, Sasini Ltd, Williamson Tea Kenya Ltd and Kakuzi. The accessible population for purposes of data collection was made up of 7 accounting officers or finance managers each from the seven agricultural firms. These are preferred in this study, for they are in a strategic position to provide information sough through this study.

Sample size and sampling procedures

Owing to the fact that the population is small, the census technique was employed, where all the seven respondents were used for the study. The researcher selected all the seven agricultural firms listed at the Nairobi securities exchange Kapchorua tea co, Limuru Tea co. ltd,Eaagads ltd, ltd, Rea vipingo Plantations ltd, sasini ltd, Williamson tea Kenya ltd and Kakuzi ltd. Purposing sampling was employed in the selection of the sample. This is because they type and class of respondents is already determined. In cases where we have two accounting officers, preference was made to the senior most or most relevant as guided by the organization. Data is anything given as a fact on which research inference was based. It is anything actual or assumed as a basis of reckoning. In this study the researcher applied for approval from C.M.A and N.S.E. With the approval the researcher collected the data using secondary data.

Data Collection procedures

The study collected both secondary and primary data. The Primary data was collected from the accounting officers using questionnaires. The accounting officers provided information covering all the study objectives. A questionnaire has the following advantages according to Kombo & Tromp (2006): Information can be collected from a large sample, confidentiality is upheld, saves on time and no opportunity for interview bias. The questionnaire comprised of closed ended questions subdivided thematically into sections. Secondary data can improve the clarity of the

problem and the circumstances surrounding the issues in data collection procedure. This research relied primarily on secondary data of all the seven listed agricultural firms. The Time series secondary data were collected from the publications of NSE and CMA. Statistical Bulletins, Economic and Financial Reviews, and Annual Reports and Statement of Accounts from the respective firms found on the company's website.

Pilot testing

Piloting was conducted using 2 Agricultural firms listed at the NSE (10% of the sample). Care was taken to ensure that piloted organizations do not form part of the sample in the actual data collection. The purpose of pilot test is to detect weaknesses in design and implementation and to provide proxy for data collection of a probability sample (Cooper & Schindler, 2006). These processes are important because they enhance the quality of information collected from the respondents for purposes of achieving the research objectives. The piloting was also used to establish validity and reliability of Instruments.

Validity of Instruments

Prior to use the questionnaires were subjected to validity checks. The validity of the research instruments should be confirmed prior to actual data collection (Drost, 2011). Establishing validity of research instruments means that the study delivers the intended results (Mugenda and Mugenda, 2003). This ensured that the instruments can be trusted and results referred to when forming opinions and conclusions. Content validity was established by judgement of experts who comprise supervisors. The experts provided guidance on the content of the instruments by ensuring that all the research objectives have been addressed in the instruments. The manner of construction of the questionnaires was also checked to ensure there is no ambiguity during pilot study. The findings from the pilot study were used to improve on the questionnaire, thus enhancing its validity.

Reliability of Instruments

Reliability refers to the stability or internal consistency of a questionnaire. Cronbach's alpha will be used to test the reliability of the measures in the questionnaire. According to Sekaran (2006), in this approach, a score obtained is correlated with scores obtained from other items in the instrument. Cronbach's Alpha is a general form of the Kunder-Richardson (K-R) 20. A value above 0.7 was accepted. If Cronbach's alpha coefficient is close to 1, the higher the internal consistency reliability (Sekaran, 2006), hence reliable for collecting data.

Data Analysis and Presentation

The study collected both quantitative and qualitative data. The study used SPSS statistical package for social science in data analysis. Regression model was used to determine the effect of explanatory between the independent and dependent variables. In statistical modeling, regression analysis is a statistical process for estimating the relationships among variables (Babbie, Wagner & Zaino, 2015). Therefore, was used to determine the relationship between the independent variables and the dependent variables. The statistical tool was preferred because of its efficiency and its powerful ability to display results in a very detailed and more advanced manner. The following regression model was used:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \acute{\varepsilon}$$

$$\text{Profitability} = \alpha_0 + \beta 1 \text{DER} + \beta 2 \text{CR} + \beta 3 \text{ld} + \beta 4 \text{lnFSIZE} + \varepsilon$$

Where;
DER = Ratio of debt to equity
CR = Current ratio
ld = Long term debt to total capital employed
FSIZE = Agricultural firms' sizes
ε = Error term
α = Constant Term;
$\beta_1, \beta_2, \beta_3, \beta_4$ = Beta Coefficients

ANALYSIS AND FINDINGS

Demographic Characteristics

Age of the Respondents

Table 1. Age of the Respondents

| Age of the Respondents	Frequency	Percentage
20-25 years	1	14.2
26-30 years	2	28.6
31-35 years	1	14.3
41-45 years	1	28.6
45 and above years	1	14.3
Total	7	100

The findings in Table 1 shows that 57.2% of the respondents indicated that they were aged above 31 years, while 42.8% were aged between 15 and 30 years. This implied that most persons interviewed were aged above 30 years. This therefore, means that the officers interviewed were above the youth age bracket.

According to the Kenya National Youth Policy Sessional Paper No. 3 of July 2007 defines a Kenyan Youth as one aged between 15 – 30 years. Therefore, less youths occupied accounting jobs in the agricultural firms.

Gender of the Respondents

The findings in respect to the gender of the respondents that provided information were as provided in Figure 2.

Figure 1: Gender of the Respondents
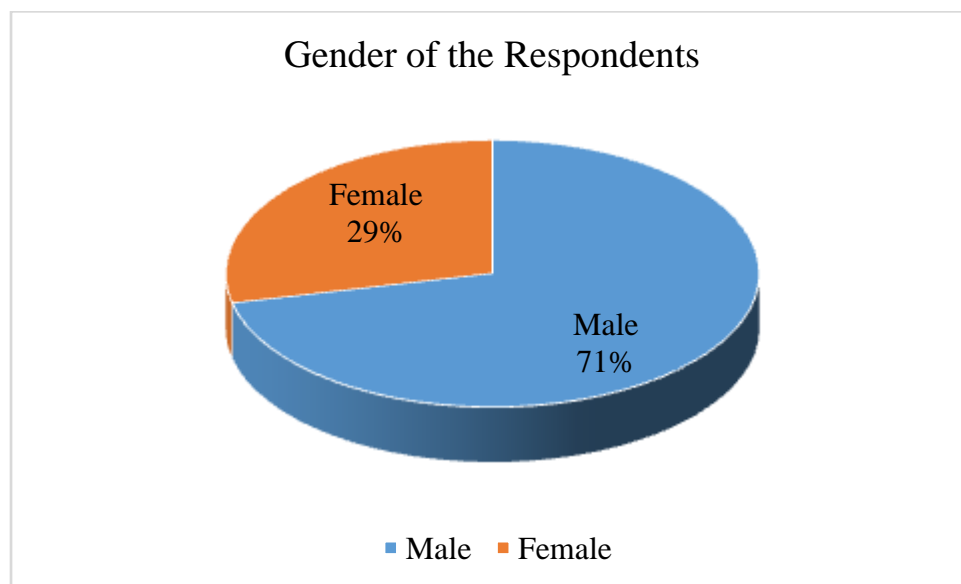
As provided in Figure 2, the study was able to reach 28.6% female and 71.4% male. This was due to the availability and willingness of males to participate in the study compared to females. It is also an indication that there are more male staff than female in the finance departments. However, the study was able to capture useful information from both gender.

Length of Working Experience in Current Company

The respondents were asked to indicate to how long they had been working in their current company and in the current position, and the response was as provided in Figure 3.

Figure 2: Length of Working Experience in Current Company
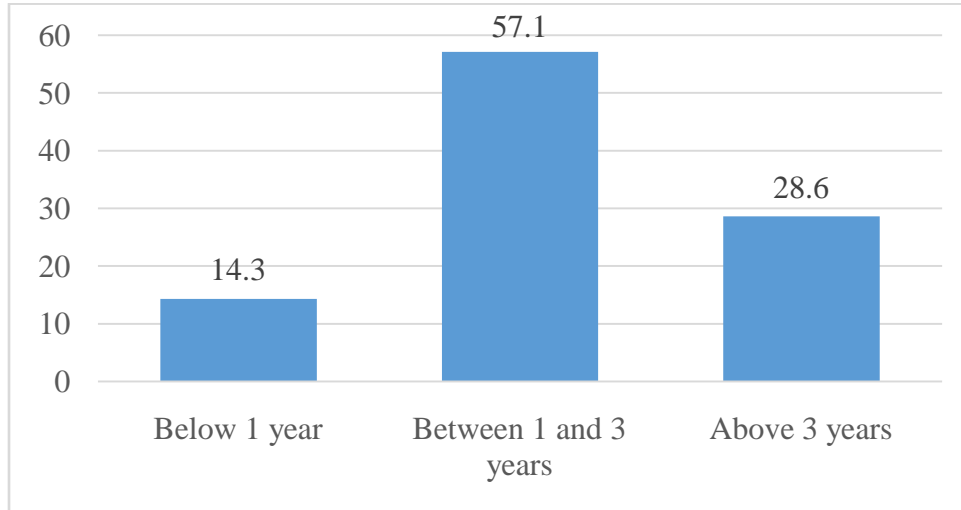
The findings in Figure 3 shows that 57.1% of the respondents indicated that they had worked in their current company for a period between 1 and 3 years, 28.6% indicated a period above 3years, while 14.3% had served for a period below 1 year. This implied that most of the respondents had been working in the organization for a period above 1 year and thus understood the operational dynamics of the organization. Therefore, the experienced gained by the respondents was good for the study.

Rating of the Effect of Financial Leverage on Profitability in Agricultural firms

The respondents were asked to rate the effect of financial leverage on profitability in Agricultural firms, was as shown in Table 2.

Table 1: Rating of the Effect of Financial Leverage on Profitability in Agricultural firms

Response	Frequency	Percentage
Very Low	1	14.3
Low	2	28.6
Moderate	3	42.9
High	1	14.3
Total	7	100

The findings show that 42.9% of the respondents rated the effect of financial leverage on profitability in their organization as moderate, 28.6% rated it as low, 14.3% rated it as very low,

while 14.3% rated it as high. This implied that according to most of the respondents the effect of financial leverage was high. High leverage positively affected the financial performance of agricultural firms. This finding was in agreement with a study by Gweji and Karanja (2014) which established that there was a strong correlation between financial leverage and financial performance of firms in Kenya.

The effect of debt to equity ratio on the profitability of agricultural firms
The respondents were asked to rate the extent to which proportions of select aspects of debt to equity ratio affected the profitability of their business, and the response was as provided in Table 3.

Table 2: The effect of debt to equity ratio on the profitability of agricultural firms

	N	Minimum	Maximum	Mean	Std. Deviation
Convertible debt	7	1.00	4.00	2.2857	.95119
Operating liabilities- accounts payable)	7	1.00	3.00	1.7143	.75593
Operating liabilities accrued liabilities	7	1.00	3.00	2.1429	1.06904
Leases	7	1.00	3.00	1.8571	1.06904
Preferred stock	7	2.00	5.00	3.2857	1.60357
Contractual obligations	7	3.00	4.00	3.4286	.53452
Deferred taxes	7	2.00	2.00	2.0000	.00000
Valid N (listwise)	7				

The findings in Table 3 show that select aspects of debt to equity ratio that affected the profitability of their business recorded the following mean scores. Convertible debt (M = 2.2857) Operating liabilities- accounts payable) (M = 1.7143), Operating liabilities - accrued liabilities (M = 2.1429), Leases (M = 1.8571), Preferred stock (M = 3.2857), Contractual obligations (M = 3.4286), and Deferred taxes (M = 2.0000). The findings show that according to most of the respondents, convertible debt, operating liabilities- accounts payable, operating liabilities - accrued liabilities, leases and deferred taxes, though important affected profitability to a small extent. This is because their mean score was less than the 2.5 mid mean score. On the hand most respondents agreed that preferred stock and contractual obligations affected the organizations' profitability to a large extent. Their scores tilted above the 2.5 mid mark, thus implying that they were critical aspects affecting profitability of agricultural firms.

A study by Bancel and Mittoo (2004) in Europe revealed that a majority of firms issue convertibles as 'delayed equity' and as 'debt sweetener' and that managers also use convertibles to avoid short-term equity dilution and to signal firm's future growth opportunities. Furthermore, they document a large cross-sectional variation across firms in rationales for issuing convertibles and find mixed support for most theoretical models. Therefore, debt to equity ratio had an effect on the profitability of agricultural firms.

Regression Analysis for Debt to equity ratio and Profitability

To test the study hypothesisH_{O1} which sought to determine whether Debt to equity ratio had no statistical significant effect on the profitability of agricultural firms listed at the Nairobi securities exchange, linear regression was computed, and the findings were as presented in this subsection. The section includes a model summary, ANOVA and resultant coefficients.

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.289[a]	.083	-.100	325.42209

a. Predictors: (Constant), Debt to Equity

The R Square value in the Model Summary table shows the amount of variance in the dependent variable that can be explained by the independent variable. In this case the independent variable of debt to equity ratio accounts for 28.9 per cent of the variability in profitability. The R value (0.289) indicates that as debt to equity ratio increases profitability also increases, and this is a positive correlation, with r = 0.289.

Analysis of Variances (ANOVA)

Table 5: Analysis of Variances (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	558295.416	1	558295.416	143.577	.000[b]
	Residual	19442.303	5	3888.461		
	Total	577737.719	6			

a. Dependent Variable: Profit before tax   b. Predictors: (Constant), Retained Earnings

The predictor is significant when Sig. (p value) $p < 0.05$. The findings in Table 4.4 show that Sig. (p value) = 0.000. As $p < 0.05$ our predictor is significantly better than would be expected by chance. The regression line predicted by the Retained Earnings, explains significant amount of the variance in the firms' profits before tax. This is reported as: $F(1,5) = 143.577$; $p < 0.05$, and therefore can conclude that the regression is statistically significant.

Table 6: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-105.074	39.769		-2.642	.046
Retained Earnings	.187	.016	.983	11.982	.000

a. Dependent Variable: Profit before tax   When P < 0.05 = you reject the null hypothesis

The findings presented in Table 6 show that the regression equation was: Profitability = -105.074 + 0.187 Retained Earnings. The influence of Retained Earnings was reported at beta or r = 0.983. This value was greater than the Sig. p value at 0.000, therefore significant. $p < 0.05$, and thus this factor is significant. The Unstandardized Coefficients B column, gives us the coefficients of the independent variables in the regression equation including all the predictor variables. We therefore reject the null hypothesis H_{o1} that implied that Debt to equity ratio had no statistical significant effect on the profitability of agricultural firms listed at the Nairobi securities exchange.This implies that a unit increase in Debt to equity ratio results to 11.982 increase to profitability of the company.These findings are agreement to a study by Enekwe (2012) who established that debt to equity ratio had a positive significant effect on the profitability of firms. A study by Almazari (2013) found that when the debt financing is improved, profitability is declined. In Almazari's study Linear regression tests established a high degree of relationship between the working capital management and profitability. Similarly, Pandey (2011) observed that higher retained earnings can increase long term earnings and dividends. A company's dividend policy may also be restricted by the availability of liquid funds. With limited cash, a high dividend policy is not possible.

Effect of Long Term Debt to Total Capital Employed on the Profitability
The Study Sought to establish the effect of long term debt to total capital employed on the profitability. Means were computed and the results were as provided in Table 7.

Table 7: Effect of Long Term Debt to Total Capital Employed on the Profitability

	N	Minimum	Maximum	Mean	Std. Deviation
Level of long term debt	7	1.00	4.00	2.2857	1.60357
Ability to pay long term debts	7	3.00	4.00	3.4286	.53452
Preferred stock / Equity	7	1.00	5.00	3.2857	1.60357
Common Stock / Equity	7	2.00	5.00	3.1429	1.06904
Valid N (listwise)	7				

The finding in Table 7 shows that aspects of debt to equity ratio recorded the following means. Level of long term debt (M = 2.2857), ability to pay long term debts (M = 3.4286), preferred stock / equity (M = 3.2857) and common stock / equity (M = 3.1429). This implied that ability to pay long term debts, preferred stock / equity, and common stock / equity were important aspects affecting the profitability of agricultural firms, and the effect was to a large extent.

Regression Analysis for Long Term Debt to Capital Employed and Profitability

To test the study hypothesis H_{O2} which sought to determine whether Long term debt to capital employed had no statistical significant effect on the profitability of agricultural firms listed at the Nairobi securities exchange, linear regression was computed, and the findings were as presented in this subsection. The section includes a model summary, ANOVA and resultant coefficients.

Table 8: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.200[a]	.040	-.152	333.02820

a. Predictors: (Constant), Long term debt to total capital employed

The R Square value in the Model Summary table shows the amount of variance in the dependent variable that can be explained by the independent variable. In this case the independent variable of Long term debt to capital employed accounts for 20 per cent of the variability in profitability.

The R value (0.200) indicates that as Long term debt to capital employed increases profitability also increases, and this is a positive correlation, with r = 0.200.

Analysis of Variances (ANOVA)

Table 9: Analysis of Variances (ANOVA)

Model	Sum of Squares	Df	Mean Square	F	Sig.
1　Regression	23198.820	1	23198.820	.209	.667[b]
Residual	554538.899	5	110907.780		
Total	577737.719	6			

a. Dependent Variable: Profit before tax

b. Predictors: (Constant), Long term debt to total capital employed

The predictor is significant when Sig. (p value) $p < 0.05$. The findings in Table 9 show that that Sig. (p value) = 0.667. As $p > 0.05$ our predictor is insignificantly better than would be expected by chance. The regression line predicted by the long term debt to total capital employed, explains an insignificant amount of the variance in the firms' profits before tax. This is reported as: $F_{(1,5)} = 209$; $p > 0.05$, and therefore can conclude that the regression is not statistically significant.

Table 10: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1　(Constant)	358.415	214.911		1.668	.156
Long term debt to total capital employed	-141.532	309.458	-.200	-.457	.667

　a.　Dependent Variable: Profit before tax

　b.　When $P < 0.05$ = you reject the null hypothesis

　c.　When $P > 0.05$ = you retain the null hypothesis

The findings presented in Table 10 show that the regression equation was: profitability = 358.415 - 0.141.532 long term debt to total capital employed. The influence of long term debt to total capital employed was reported at beta or r = 0.200. This value was less than the Sig. p value at 0.667, therefore not significant. $p > 0.05$, and thus this factor is insignificant. The t value for study time (t = -0.457, $p > .05$) shows that the regression is significant. We therefore accept

the null hypothesis H_{o2}, that implied that long term debt to total capital employed had no statistical significant effect on the profitability of agricultural firms listed at the Nairobi securities exchange.

This implies that a unit increase in long term debt to capital employed results to negative 2 units decrease on profitability. The findings were in contrary with a study by Greenwald, Stiglitz and Weirs (2004) who found a positive effect on debt on the performance of the company that was measured through factors that affects profitability.

Effect of Current Ratio on the Profitability of Agricultural Firms Listed at the Nairobi Securities Exchange

The study sought to establish the effect of Current Ratioon profitability. Various indicators were tested to determine the extent of the effect, means were computed, and the results were as provided in Table 11.

Table 11: Effect of Current Ratio on the Profitability

	N	Minimum	Maximum	Mean	Std. Deviation
Receivable days	7	1.00	4.00	2.7143	1.60357
Payable days	7	3.00	5.00	4.0000	.81650
Inventory days	7	1.00	4.00	2.5714	1.39728
Inventory turnover	7	1.00	4.00	2.8571	1.34519
Valid N (listwise)	7				

The findings in Table 11 shows that the indicators recorded the following mean scores. Receivable days (M = 2.7143), Payable days (M = 4.0000), Inventory days (M = 2.5714) and Inventory turnover (M = 2.8571). This implied that receivable days, payable days, inventory days and inventory turnover affected the firm's profitability to a large extent. The means were higher than the mid mean mark of 2.5 and thus were important factors affecting the profitability of agricultural companies. The findings show that payable days had an effect on the firm's profitability.

The study findings are in agreement with a study by Ikechukwu and Nwakaego (2015) who established that accounts payable ratio had negative and significant effect on profitability. The findings show that the working capital of the firms had an effect on the financial performance of agricultural firms. This is agreement with a study by Ali (2011) who explores the

association between working capital management and the profitability of textile firms in Pakistan. The study shows that inventory turnover moderately affected the profitability of the agricultural firms.

However, an earlier study by Luchinga (2014) found out that inventory turnover in days has negative relationship with Return on Assets from the regression model, which implies that companies 'financial performance can be increased by reducing inventory in days. Inventory days also affected the firms' profitability. A study by Aminu, *et al.* (2013) observed that optimum inventory levels depended on sales, so sales were forecasted before target inventories were established.

Moreover, because errors in setting inventory levels led to lost sales or excessive carrying costs, inventory management is quite important. A study by Ikechukwu and Nyakaego (2012) showed that accounts receivable had positive and significant effect on profitability. Therefore, these current ratio dimensions were important in determining the performance of the agricultural firms.

Regression Analysis for Current Ratio and Profitability

To test the study null hypothesisH_{O2} which sought to determine whether Current ratio had no statistical significant effect on the profitability of agricultural firms listed at the Nairobi securities exchange, linear regression was computed, and the findings were as presented in this subsection. The section includes a model summary, ANOVA and resultant coefficients.

Table 12: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.863[a]	.745	.694	171.51644

a. Predictors: (Constant), Current Ratio

The R Square value in the Model Summary table shows the amount of variance in the dependent variable that can be explained by the independent variable. In this case the independent variable of Current ratio accounts for 86.3 per cent of the variability in profitability. The R value (0.863) indicates that as Current ratio increases profitability also increases, and this is a positive correlation, with r = 0.863.

Analysis of Variances (ANOVA)

Table 13: Analysis of Variances (ANOVA)

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	430648.282	1	430648.282	14.639	.012[b]
Residual	147089.437	5	29417.887		
Total	577737.719	6			

a. Dependent Variable: Profit before tax   b. Predictors: (Constant), Current Ratio

In the study, the predictor is significant when Sig. (p value) p < 0.05. The findings in Table 4.10 show that that Sig. (p value) = 0.012. As p <0.05 our predictor is significantly better to profitability than would be expected by chance. The regression line predicted by the current ratio, explains a significant amount of the variance in the firms' profits before tax. This is reported as: $F_{(1,5)}$ = 14.639; p < 0.05, and therefore can conclude that the regression is statistically significant.

Table 14: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	761.586	141.873		5.368	.003
Current Ratio	-1408.279	368.072	-.863	-3.826	.012

a. Dependent Variable: Profit before tax
b. When p< 0.05 = you reject the null hypothesis
c. When p > 0.05 = you retain the null hypothesis

The findings presented in Table 14 show that the regression equation was: profitability = 761.586 - 1408.279 Current Ratio. The influence of Current Ratio employed was reported at beta or r = -0.863. This value was less than the Sig. p value at 0.012, therefore significant. p < 0.05, and thus this factor is significant in relation to profitability of the firm. The t value for current ratio (t = -3.826, p < .05) this shows that the regression is significant to firms profitability. We therefore reject the null hypothesis H_{03}that implied that Current Ratio had no statistical

significant effect on the profitability of agricultural firms listed at the Nairobi securities exchange this implies that a unit decrease in current ratio results to negative increase in profitability. These findings are in agreement with Eljelly (2004) who established a negative relationship between profitability and liquidity signify, and it was established that Cash Conversion Cycle had a large effect over profitability than Current ratio.

On the same note a study by Vural, *et al.* (2012) using regression analysis, revealed that there was a positive relationship between cash conversion cycle and firm value while there was a negative relationship between leverage and firm value. This means, extending the cash conversion cycle will increase the firm value and lower leverage will lead to increasing of the firm value.

Effect of Firm Size on the Profitability of Agricultural Firms

The study sought to establish the effect of firm size on the profitability of agricultural firms listed at the Nairobi Securities Exchange. Means were computed for the select indicators and the response was as provide in Table 15.

Table 15: Effect of Firm Size on the Profitability of Agricultural Firms

	N	Minimum	Maximum	Mean	Std. Deviation
Our company size has more market power that provides it with the possibility to earn higher profits	7	1.00	5.00	3.0000	1.63299
Charging higher prices and earn higher profits.	7	2.00	5.00	3.4286	1.13389
Due to our company size we are able to benefit from lower costs; size brings bargaining power over the suppliers	7	2.00	5.00	3.2857	1.25357
The size enables us to cope better with changes and have better chances to offset random losses, i.e. due to market uncertainties	7	1.00	5.00	3.1429	1.46385
Due to our company's size, the capital constraints are not severe as it grows larger	7	2.00	5.00	3.5714	.97590

The current ratio indicators the following mean scores. Our company size has more market power that provides it with the possibility to earn higher profits (M = 3.0000). This implied that most agriculture firms at Nairobi Securities exchange own capitalised on their size to earn higher profits by utilising market power advantages.

The study also established that there was a relationship between charging higher prices and earn higher profits (M = 3.4286); Due to their company size they are able to benefit from lower costs; size brings bargaining power over the suppliers (M = 3.2857); The size enables them to cope better with changes and have better chances to offset random losses, i.e. due to market uncertainties (M = 3.1429); Due to their company's size, the capital constraints are not severe as it grows larger (M = 3.5714). This implied that in most agriculture firms, large firm size was considered to have more market power that provided it with the possibility to earn higher profits, to charge higher prices and earn higher profits, to be able to benefit from lower costs, to have bargaining power over the suppliers, and to cope better with changes and have better chances to offset random losses. These statements scored means above the 2.5 mid mean mark. The findings also established that payable days affected profitability of Agricultural firms to a large extent.

Regression Analysis for Firm Size and Profitability

To test the study hypothesisH_{O1} which sought to determine whether firm size had no statistical significant effect on the profitability of agricultural firms listed at the Nairobi securities exchange, linear regression was computed, and the findings were as presented in this subsection. The section includes ANOVA and resultant coefficients.

Table 16: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.361[a]	.130	-.044	317.00677

a. Predictors: (Constant), Total Assets

The R Square value in the Model Summary table shows the amount of variance in the dependent variable that can be explained by the independent variable. In this case the independent variable of firm size accounts for 36.1 per cent of the variability in profitability. The R value (0.361) indicates that as firm size increases profitability also increases, and this is a positive correlation, with r = 0.361.

Analysis of Variances (ANOVA)

Table 17: Analysis of Variances (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	75271.258	1	75271.258	.749	.426[b]
	Residual	502466.461	5	100493.292		
	Total	577737.719	6			

a. Dependent Variable: Profit before tax   b. Predictors: (Constant), Total Assets

In the study, the predictor is significant when Sig. (p value) $p < 0.05$. The findings in Table 17 show that that Sig. (p value) = 0.426. As $p > 0.05$ our predictor is not significantly better than would be expected by chance. The regression line predicted by the Total Assets (firm size), does not explain a significant amount of the variance in the firms' profits before tax. This is reported as: $F(1,5) = 0.749$; $p > 0.05$, and therefore can conclude that the regression is not statistically significant.

Table 17: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	157.965	183.937		.859	.430
	Total Assets	.032	.037	.361	.865	.426

a. Dependent Variable: Profit before tax

b. When $p < 0.05$ = you reject the null hypothesis

c. When $p > 0.05$ = you retain the null hypothesis

Table 17 shows that the regression equation was: profitability = 157.965+ 0.032 firm size. The influence of firm size employed was reported at beta or r = 0.361. This value was less than the Sig. p value at 0.426, $p < 0.05$, and thus this factor is significant. The t value for total assets (t = 0.865, $p > 0.05$) shows that the regression is not significant. We therefore accept the null hypothesis H_{o4}, that implied that Total Assets (firm size) had no statistical significant effect on the profitability of agricultural firms listed at the Nairobi securities exchange. The findings were not in agreement with a study by Osman & Mohammed (2010) who reported that the probability

of bankruptcy is lower in larger firms; therefore, they are more likely to pay dividends, and that bankruptcy did affect the profitability of a business.

Rating of Financial Leverage Indicators affecting Profitability of Agricultural Firms

To come up with a clear rating of the Financial Leverage Indicators affecting Profitability of Agricultural Firms, multiple regression was computed. The indicators in this section includes descriptive statistics, ANOVA and resultant coefficients. Debt to Equity ratio, Long term debt to capital employed, Current ratio and Firm size.

Table 18: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.934[a]	.873	.619	191.44803

a. Predictors: (Constant), Debt to Equity, Current Ratio, Total Assets,
   Long term debt to total capital employed

The R Square value in the Model Summary table shows the amount of variance in the dependent variable that can be explained by the independent variable. In this case the independent variables of Debt to Equity, Current Ratio, Total Assets, Long term debt to total capital employed accounted for 93.4 per cent of the variability in profitability. The R value (0.934) indicates that as the four variables increases profitability also increases, and this is a positive correlation, with r = 0.934.

Analysis of Variances (ANOVA)

Table 19: Analysis of Variances (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	504433.025	4	126108.256	3.441	.238[b]
	Residual	73304.695	2	36652.347		
	Total	577737.719	6			

a. Dependent Variable: Profit before tax

b. Predictors: (Constant), Debt to Equity, Current Ratio, Total Assets, Long term debt to
   total capital employed

In the study, the predictor is significant when Sig. (p value) $p < 0.05$. The findings in Table 19 show that that Sig. (p value) = 0.238. As $p > 0.05$ our predictors are not significantly better than would be expected by chance. The regression line predicted by the dimensions of financial leverage does not explain a significant amount of the variance in the level of leverage ratings. This is reported as: $F_{(4,2)} = 3.441$; $p > .05$, and therefore can conclude that the regression is not statistically significant.

Table 20: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	602.224	212.525		2.834	.105
Total Assets	.060	.051	.674	1.160	.366
Current Ratio	-944.613	565.147	-.579	-1.671	.237
Long Term Debt to Total Capital Employed	-368.517	678.396	-.522	-.543	.641
Debt to Equity	-1.837	13.578	-.088	-.135	.905

a. Dependent Variable: Profit before tax

The following regression model used was:
$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \acute{\epsilon}$$

As provided in Table 20, the Unstandardized Coefficients B column, gives us the coefficients of the independent variables in the regression equation including all the predictor variables. So the regression equation is: Profitability = 602.224+ 0.060 Total Assets - 944.613 Current Ratio - 368.517 Long term debt to total capital employed - 1.837 Debt to Equity. 4

From the findings it emerges that the most influential determinant of capital structure was Total Assets ($r = 0.674$; $t = 1.160$), followed by Debt to Equity ($r = - 0.088$; $t = -0.135$), then Long term debt to total capital employed ($r = -0.522$; $t = 0.543$). Current Ratio was the least influential with a Beta (r) value of -0.579 ($t = 1.167$). In all cases $p > 0.05$, and thus the predictors were not statistically significant to the firms' profitability. The findings thus, shows that the debt to equity ratio, long term debt to total capital employed, current ratio and firm size did not have an effect on profitability of agricultural firms.

CONCLUSIONS

Even though most accounting officers believed that debt to equity ratio had some positive effect on the profitability of the firms, secondary data revealed otherwise. Secondary data analysis revealed that though there was some effect, it was statistically significant. The study therefore, concluded that debt to equity ratio did not significantly affect statistically the profitability of agricultural firms listed at the Nairobi Securities Exchange. Important indicators such as convertible debt, operating liabilities- accounts payable, operating liabilities - accrued liabilities, leases and deferred taxes that are reported to positively affect profitability were not found to work well in agricultural firms in Kenya. In most of the agricultural firms, debt to equity ratio had no statistical significant effect on the profitability of agricultural firms listed at the Nairobi securities exchange.

The findings show that even though most accounting officers indicated that long term debt to total capital employed affected the profitability of agricultural firms, the effect was statistically insignificant as shown by the regression analysis. The study therefore concluded that long term debt to total capital employed as measured through indicators such as ability to pay long term debts, preferred stock / equity, and common stock / equity, did not have a statistically significant effect on the profitability of agricultural firms listed at the Nairobi Securities exchange.

The study also concludes that current ratio did not have a statistically significant effect on the profitability of agricultural firms listed at the Nairobi Securities Exchange. According to most of the respondents' receivable days, payable days, inventory days and inventory turnover affected the firm's profitability to a large extent. This was the view held by most of the accounting officers; however, this view was not true as proven through data analyzed through secondary data. It can be concluded that much has not been done by the firms to come up with an effective ratio that contributes to profitability. It can therefore be concluded that Current Ratio had a statistical significant effect on the profitability of agricultural firms listed at the Nairobi Securities Exchange

The study also concluded that firm size was an important factor in the profitability of agricultural firms listed at the Nairobi Securities Exchange. According to most of the respondents' firm size had capacity advantages over small firms. However, despite this advantage was not utilized well by agricultural firms. The officers were aware of such benefits, however the effect according to the analysis revealed that firm size did not have a statistical significant effect on the profitability of agricultural firms listed at the Nairobi Securities Exchange in Kenya. It is concluded that Total Assets (firm size) had no statistical significant effect on the profitability of agricultural firms listed at the Nairobi Securities Exchange

RECOMMENDATIONS

Agricultural firms should consider investing in research to find out the best mix of capital structure that does not negatively affect profitability. The research can also focus on findings cheaper sources of debt finance as well as alternatives of debt finance.

Agricultural firms should consider where possible, using their internally generated funds to finance their projects and only go for debt financing when they have fully exhausted their internal funds.

Managers of listed Agricultural firms must ensure cash conversion cycles are reduced, bargain for better payment terms with suppliers and collect receivables as soon as possible from their clients in order to be more profitable.

Small agricultural firms need to consider mobilizing resources for firm expansion, while large firms need to devise strategies on how to reap best from the associated size benefits in the quest of making more profits.

The firms need to consider mobilizing resources for non-current assets / fixed assets so as to enhance their long term loan borrowing capacity. There is also the need to work on reduction of long term debt to total capital employed ratio, since this affects profit before tax and even earnings per share.

The management of agricultural firms needs to consider ensuring that the current ratio is maintained at most minimum since for this can help boost the firms' profitability. These can be ensured by closely monitoring the receivable days, payable days, inventory days and inventory turnover and periodically making appropriate adjustments.

SUGGESTIONS FOR FURTHER STUDIES

The study focused on agricultural firms listed at the Nairobi Stock Exchange that means unlisted agricultural firms were not studied. A similar study on the effect of financial leverage on profitability of unlisted agricultural firms needs to be carried out to compare if the results will show similar effects.

The study recommends that future researchers interested in this field of research might consider investigating all the firms and increase the period of study to ten years. The study was based on a period of six years, 2010 to 2015, which may not have been conclusive for a firm that started making low profits over the last three years.

A similar study needs to be carried out using different analytical tools to enable it find out whether the findings of this study will still hold or shed more light for the firms on the relationship that exist between leverage and profitability.

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APPENDICES

Appendix I: Secondary Data Collection Guide

Debt to equity

Variable 2009-2015	9/10	10/11	11/12	12/13	13/14	14/15
Total liabilities						
Total equity						
Debt to equity						

Long term debt to capital employed

Variable 2009-2015	09/10	10/11	11/12	12/13	13/14	14/15
Retained Earnings						
Debt capital						

Current ratio

Variable 2009-2015	09/10	10/11	11/12	12/13	13/14	14/15
Current assets						
Current liabilities						

Firm size

Variable 2009-2015	09/10	10/11	11/12	12/13	13/14	14/15
Turn over						
Total assets						

Profitability

Variable	09/10	10/11	11/12	12/13	13/14	14/15
Return on assets						
Return on equity						
Return on Total Assets						
EPS						

Appendix II: N.S.E listed companies

Agricultural Sector	Commercial and Services
1.Williamson Tea Kenya Limited	35.Express Kenya Limited
2. Sasini Tea And Coffee Limited	36.Kenya Airways Limited
3.Rea Vipingo Plantations Limited	37.Longhorn Kenya Limited
4. Limuru Tea Company Limited	38.Nation Media Group Limited
5. Kapchorua Tea Company Limited	39.Scangroup Limited
6. Kakuzi Limited	40.Standard Group Limited
7. Eaagads Limited	41.TPS Eastern Africa Limited (Serena Hotels)
Automobiles and Accessories	42.Atlas Development & Support Services
8. Car And General (Kenya) Limited	43.Hutchings Biemer Limited
9. CMC Holdings Limited	44.Uchumi Supermarket Limited
10. Marshalls (EA) Limited	**Construction and Allied Sector**
11.Sameer Africa Limited	45.ARM Cement Limited
Banking	46.Bamburi Cement Company Limited
12.Barclays Bank Of Kenya Limited	47.Crown Paints Kenya Limited
13.CFC Stanbic Bank	48.East African Cables Limited
14. Co-operative Bank Of Kenya	49.East African Portland Cement Company
15.Diamond Trust Bank (Kenya) Limited	**Investment**
16.Equity Bank Limited	50.Centum Investment Company (ICDCI) Limited
17.I & M holdings limited	51.Olympia Capital Holdings Limited
18.Housing Finance Company Limited	52.Transcentury Limited
19.Kenya Commercial Bank Limited	53.Kurwitu ventures limited
20.National Bank Of Kenya Limited	54.Flame tree group holdings ltd
21.NIC Bank Limited	55.Nairobi securities exchange
22.Standard Chartered Bank Kenya Ltd	56.Home Africa limited
Energy and Petroleum	57.A.Baumann & co. limited
23.Kenol Kobil Limited	**Manufacturing and Allied**
24.Kenya Electricity Generating 25.Company (KENGEN)Co.	58.Boc Kenya Limited
26.The Kenya Power & LightingLimited	59.British American Tobacco Kenya Limited
27.Total Kenya Limited	60.Carbacid Investments Limited

28.Umeme Limited	61.East African Breweries Limited
Insurance	62.Eveready East Africa Limited
29.Britam Limited	63.Mumias Sugar Company Limited
30.CIC Insurance Limited	64.Unga Group Limited
31.Jubilee Holdings Limited	**Telecommunication And Technology**
32.Kenya Reinsurance Corporation Limited	65.Accesskenya Group
33.Liberty Kenya Holdings Limited	66.Safaricom limited
34.Pan Africa Insurance Company Limited	

Source: www.nse.co.ke -Nairobi Securities Exchange (NSE) (2014)

Appendix III: Measurement

Variable	Formulae	Interpretation
Profitability-Return on Assets	Profit b4 tax /total Assets	Measures return on profit to shareholders
Debt to Equity Ratio	Total debt /total equity	measure how much debt is employed in relation to equity
Current Ratio	Current Assets/Current Liabilities	Measures liquidity position of the company
Total debt/Total Capital Employed ratio	Total long term Debts/Total Capital Employed	Measures how the firms employs long term debt in relation to total capital
Firm Size	Capitalization	Measures total capital

Appendix IV: Measurement

Variable	Formulae	Interpretation
Profitability-Return on Assets	Profit b4 tax /total Assets	Measures return on profit to shareholders
Debt to Equity Ratio	Total debt /total equity	measure how much debt is employed in relation to equity
Current Ratio	Current Assets/Current Liabilities	Measures liquidity position of the company
Total debt/Total Capital Employed ratio	Total long term Debts/Total Capital Employed	Measures how the firms employs long term debt in relation to total capital
Firm Size	Capitalization	Measures total capital

Appendix V: List of Abbreviations and Acronyms

CDSC	Central Depository and Settlement Corporation
CMA	Capital Market Authority
DER	Debt-Equity Ratio
EPS	Earning Per Share
ICR	Interest Coverage Ratio
LTDTA	Long Term Debt to Total Assets
MBVR	Market Value of Equity to Book Value of Equity
NSE	Nairobi Securities Market
ROA	Return on Assets
ROE	Return on Equity
ROI	Return on Investment
RONA	Return on Net Assets
STDTA	Short Term Debt to Total Assets
TDE	Total Debt Equity
CCC	Cash conversion cycle
C.E.O	Chief executive officer
N.P.V	Net present value
EBIT	Earnings before interest and tax
FGLS	Feasible generalized least square
NSE	Nigeria stock exchange