FINANCIAL LEVERAGE AND PERFORMANCE OF AGRICULTURAL FIRMS LISTED AT NAIROBI SECURITIES EXCHANGE, KENYA

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DECLARATION

This research project is my original work and has not been presented for the award of a degree in any other University.

…… ……

Signature Date

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I confirm that the work in this project was done by the candidate under my supervision.

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DEDICATION

This work is dedicated to my husband Benson Wambugu and sons Marcus and Myles for their constant support and motivation during my studies and to my parents who raised me up and sacrificed many things in life for my education.

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I am grateful to my supervisor Dr Ambrose Jagongo for his direction, support and constructive criticism during the study which enabled me to complete this research project. I thank God for giving me an opportunity and resources to undertake this research project. To him I attribute my success. I would also like to give my sincere appreciation to my husband, family and friends for their understanding and continued support while undertaking the project.

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OPERATIONAL DEFINITION OF TERMS

Agricultural firms	these are companies that grow plants and raise animals for commercial purpose.
Debt Level	this is the ratio of total liabilities to total assets.
Debt to Equity Level	this ratio compares a company's total liabilities to its stockholders' equity.
Financial Leverage	refers to the proportion of debt to equity in the capital structure of a firm.
Performance	is the measurement of what has been attained by a firm over a specified period of time, expressed in terms of overall profits and losses.
Long-term Debt Level	this is a measure of a long-term total debt to total assets
Return on Assets	return on assets (ROA) as a ratio which seeks to measure the amount of profit generated from the entire assets of the firm.
Firm Size	this is the total assets of the firm
Profitability	this is a measure of economic success attained by a company in relation to capital invested
Capital Structure	this refers to the type of financing employed by a company

ABBREVIATION AND ACRONYMS

CMA	Capital Markets Authority
DEL	Debt-equity level
DPS	Dividend per Share
DLS	Debt level
GDP	Gross domestic product
MFIs	Micro Finance Institutions
MM	Modigliani and Miller
NOI	Net operating income
NSE	Nairobi Securities Exchange
NYSE	New York Stock Exchange
OLS	Ordinary Least Squares
ROA	Return on Assets
SACCO's	Savings and Credit Co-operative Societies
SASRA	Sacco Society Regulatory Authority
SMEs	Small & Medium Enterprises
TA	Total Assets

ABSTRACT

The financing decision of agricultural companies is important since it affects the value of the firm, hence an optimal capital structure should be used in order to maximize its value. Past studies have found mixed results which cannot be generalised regarding the relationship between leverage and performance. The main objective of this study was to investigate the effect of financial leverage on financial performance of the agricultural firms listed at the Nairobi Securities Exchange (NSE), Kenya for the periods 1 January 2011 to 31 December 2015. The descriptive and analytical design were adopted for the study. The target population was all the seven agricultural firms listed at the Nairobi securities Exchange. The data was extracted from secondary sources. The secondary data was collected from publications of Nairobi securities exchange and Capital Markets Authority and the annual financial reports of the agricultural firms and analysed with the ordinary least square multiple regression technique to investigate for the effects of financial leverage ratios on performance ratios. Models were formulated for each hypothesis and tested using the R square, adjusted R square and calculated f figures. The study found that debt level, long-term debt level and debt-equity level all had a positive insignificant effect on ROA. This was true even when the relationship was controlled for the size of the firm and the firm effects in the model. There was no evidence that higher leveraged agricultural firms performed better or worse than the lower leveraged agricultural firms. The study established that there was an insignificant positive relationship between financial leverage and financial performance of agricultural companies listed at the Nairobi Securities Exchange, Kenya. The study recommends that the management of agricultural firms in Kenya should employ the best mix of capital when financing in order to improve on its profitability.

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

According to the Strategic Plan for Agricultural and Rural Statistics 2015-2022 Kenya, Agricultural firms are important since agriculture is one of the largest contributors to the Kenyan economy. It is one of the main sectors in the country, contributing to about twenty-five per cent of the country's total GDP and a source of livelihood for the rural population. The agricultural sector is also important because it's a major source of employment accounting for more than eight per cent. It also contributes highly to the country's export market. Development of the national economy is therefore profoundly related to the development and improvement in agriculture.

Even though the farming companies are a key contributor to Kenya's economic growth and development, their growth is limited or curtailed due to lack of accessibility of enough financing needed for them to operate from the lending institutions (Global Financial Development Report, 2014). The unpredictable changes in climatic conditions are also a major factor contributing to poor yields thus poor performance of the agricultural firms (Dube, 2013). However, with limited and non-sustainable financial capital the agricultural firms will not realize their full growth potential. Firms need capital to finance their operations and can do this using internal funds, debt or equity.

Accessibility to capital funding is important for the agriculture sector to thrive in Kenya. Over the years, the issues of financial capital structure of agricultural firms have become important to the sector since people are now shifting from the traditional farming methods to more modern farming methods which are aided by new technology and mechanization.

This has led to farming being adopted more as a commercial business done in large scale than as a hobby done in small scale thus the need for external funding.

According to the International Finance Corporation(2013), in the third world countries where agriculture is the mainstay for most rural families, availability of capital funding through investments in the agricultural sector is lacking and wanting. Financiers are sceptical in lending and investing in the agricultural sector because of the high risks involved. This is due to the unpredictable and uncontrollable nature of the environment they operate in which mainly depends on nature such as dry spells, floods, attack by pests and diseases, availability of market. Even though the national governments are trying to create awareness and enlighten people to encourage them venture into this sector by offering incentives and subsidies, they have not been very successful. This has mainly been contributed to the lack of funding required to improve on the production, processing, transportation, storage and marketing of the products. It's important to have an optimal capital structure since in turn this influences the return on assets of the agricultural firms.

Lending from financial institutions and individual investors is the main source of debt financing. A high debt, debt equity and long term debt level exposes the firm to the risk of defaulting in the event that it's not able to meet the repayment obligation. There have been various studies conducted on the impact of debt financing on financial performance of firms and the results have been conflicting and inconclusive (Dube, 2013). A study conducted by Cecchetti (2011) on the real effect of debt on firms showed that high levels of borrowing could lead to slow growth of the firm while average levels of borrowing spurs the growth. Over reliance on borrowing could lead to indebtedness and insolvency of a company.

According to Rainhart and Rogoff (2009), high debt levels had a tendency to slow down the growth and the likelihood of a financial crisis arising due to over reliance on short term debt. High debt levels will compel the firm from undertaking projects that are probably going to be beneficial due to its inability to lend more from financial institutions. Stern Stewart and Company were also in concurrence that the likelihood of a company to face financial distress was higher with increased debt levels.

Research on capital structure has found that the best combination of debt which has a tax shield benefit and equity will lead to an ideal capital structure (Siro, 2013). One of the main goals of financial management is to maximize the investors wealth as an indicator of performance and this can be achieved through an optimal capital structuring of the firm. Therefore, this study sheds light on the impacts of leverage on profitability of agricultural firms that are quoted at the Nairobi Securities Exchange, Kenya (NSE). A high leverage proportion delineates that the reliance of the firm on obligation financing is high.

1.1.1 Financial Leverage of Agricultural Firms Listed at the NSE

Financial leverage refers to the degree to which an agricultural firm uses debt and equity to finance its operations. It shows the extent of equity and debt used to finance the firm's assets. The financing decision is an important one for the management because it affects the shareholders' value of the company. According to Pandey (2007), the proportion of debt to equity used affects the shareholders risk and returns on their investment in the firm.

According to the Nairobi Securities Exchange annual report 2016, the NSE has a critical role in the economic growth and development of our country, since it facilitates a wide range of economic activities such as investment, trading, speculation and hedging

opportunities for both the local and foreign investors. It also provides an alternative and important platform through which institutions and the government can mobilize capital for investment, assess growth and stability. Stocks in the agricultural sector are projected to continue lagging behind due to low trading at the NSE because potential investors prefer where there is a liquid market for ease of entry and exit at stable prices, whose operations are not affected by unmanageable factors such as climate. The financial returns of agricultural firms are affected by several factors such as currency fluctuations, availability of export market, costly farm inputs and limited financing which in turn affects the amount paid out as dividends to the shareholders. Statistics from the Nairobi bourse shows that the shares of the agricultural segment have been falling behind compared to the other segments of the market this year whose prices have been steadily increasing.

Burton (2007) defines leverage as the degree to which a business is employing debt to fund its activities. He adds that leverage can also be viewed as the ratio of debt to equity. Kuhlemeyer (2004) affirms that leverage is all about the use of debt for investment. A high debt to equity proportion depicts the reliance of the agricultural firm on debt financing is high. Leverage allows the potential for higher returns due to increased investment but the risk of failure is also high. Andy et al. (2002) argued that the national culture of a company affects its capital financing structure. Countries that are highly conservative had lower debt level compared to those that were not. Financial structure of an agricultural company will affect the level of financial risk in that company. Hashemi (2013) also indicated that a firm's profitability does influence the financing decision made and that they prefer the short term debt to the long term one. He also found out that there are other factors that affect a firm's leverage and they include size of the firm and its asset composition.

1.1.2 Financial Performance

A firm's financial performance is an estimation of what has been achieved by the firm over a given period of time in monetary terms. The importance of measuring a company's performance is to obtain vital information for the various investors and stakeholders on its liquidity, solvency, profitability and efficiency. According to Almajali et al, (2012), the main factors that influence financial performance of an entity include liquidity, leverage, size of the firm and management's ability i.e. highly competent managerial staff.

Profitability is important because it's the ability of a firm to yield a financial gain. It's an indicator to potential investors who are willing to invest in the company because it shows efficiency on the return of the investments and its ability to survive. An increase in the demand for shares leads to high share prices hence the firm's value will also increase. Generating profits enables a firm to withstand negative economic shocks and enhances stability of the firm. Profitability also maximizes the utility for shareholders through dividend and increased fir value and stakeholders' interest through corporate social responsibility (Bhutta and Hasan, 2013) and hence spill over effects and multiplier effects for individual, households and the economy in general. Also a firm's financial performance is important in any economy, as the corporate taxes that the government will earn will enable the implementation of infrastructure projects and social welfare programs. The profitable firms are also able to employ more people hence creating employment which ultimately lead poverty reduction.

There are various stakeholders who are interested in a company's performance due to leverage. These include the equity holders, who are owners of the firm and they carry the highest risk in the business since they are the last to be paid upon winding up of the firm

after all the debtholders claims are settled. They gain through the value of their shares appreciating and through pay out of dividends. The debt holders are also interested since they gain through repayment of their principal amount with some interest. Their debt is secured by the company's assets and are first to be paid in the event that the company winds up or is unable to pay its debtors (Harris and Raviv, 1991).

1.1.3 Financial Leverage and Financial Performance

Financial Leverage will have an effect on the degree and variability of the agricultural company's earnings after tax and this will in return affect the company's overall risks and returns. The study of leverage is significant since it allows a firm to maximize the earnings by owners as compared to earnings from equity operations. Firms that are able to manage debt by paying on time increase their chances of acquiring loans at lower interest rates. Most firms use financial leverage to earn increased returns on capital for their investments in a business. To generate maximum returns, a firm should treat financial leverage as a calculated risk and implement it under the right and desirable conditions. A company is at great risk of going under or bankrupt due to high interest payments if it's highly leveraged and its unable to manage its financial leverage to ensure they are within optimum levels.

There are different perspectives presented on reviewing of theoretical literatures to understand what the connection between money related use and gainfulness of companies. These theories predict mixed results on the same, some predicting relationship exist while others predict that there is no relationship. MM proposition I with taxes supports the theory, as the debt to equity ratio increases, so does the value of the firm also increase. As Myers (1984) explained, that firms prefer to use their internally generated finances to externally

acquired finances and if they have to acquire finances from sources outside the company they would prefer to use debt over equity.

The empirical findings also show conflicting results on the debt equity level affects a company's ability to generate profits. Financial leverage has shown negative relationship to profitability in Maina and Kondongo (2013) using all listed firms and Mwangi et al (2014) using all other companies trading at the Nairobi Security Exchange other than financial institutions. The results indicate that there is a negative relationship between leverage and profitability contrary to most theories, although they used different data set with financial sector firms likely to affect the results of the former, while low profitability and poor performance of some of the listed firms may affect the results of the later. Gweyi, Minoo and Luyali (2013) study on the forty SACCO's showed that when there was an increase in revenue for a highly levered firm that was positive but risky when there was a decrease of the revenue (Short, 1979).

1.1.4 Agricultural firms listed at NSE

The NSE has a critical role in the economic growth and development of our country, as it facilitates a range of economic activities including trading, investment and speculation and hedging opportunities to potential investors. It provides a platform through which firms and even the government can mobilize capital for growth, investment and stability.

The Agricultural Segment of the NSE consists of seven companies, Kakuzi, Sasini, Kapchorua Tea, Limuru Tea, Williamson Tea, Rea Vipingo Plantations and Eaagads (NSE Report, 2015). Data from the Nairobi Bourse shows that the shares of the seven listed agricultural companies in the main segment have been lagging behind the rest of the market

with most investors going after liquid counters whose business is not affected by uncontrollable factors like the weather.

1.2 Statement of the Problem

The shares of agricultural firms listed at the NSE have continued lagging behind other stocks being traded in the market (NSE report, 2015). Most agricultural companies in Kenya depend on the availability of financing to run their operations thus affecting profitability. Despite the financial support from government, the sector has continued to perform poorly leading to closure of some companies. Capital structure is one of the key and important areas that have been researched on by various scholars since it reflects on the health of the organization and ultimately its survival. Agricultural firms that carefully select an optimal proportion of equity to debt used for their financing tend to report higher returns as compared to those that do not have the appropriate levels of equity and debt.

Review on the relevant literatures regarding the effect of leverage on profitability have failed to concur if a relationship exists between debt to equity level and how a firm performed. For example, Mwangi et al (2014), Dogan (2013) and Maina and Kondongo (2013) pointed that a negative correlation exist between leverage and profits. Other studies by Khalid et al (2014), Fosu (2013) and Almajali et al (2012) showed a positive correlation between debt level in a firm and profits. Nduati (2010) in his study found out that there was a positive connection between use and money related execution. In a study done by Velnampy and Anojan (2014) the finding was that no major impact of leverage on profits. Ndirangu (1992) and Matibe (2005) show that there is a trend to avoid debt for companies without state interests. Adongo (2012) in his study discovered that there was no critical

connection between hazard balanced profits and money related use for firms listed at the Nairobi Securities Exchange.

The empirical literature on this shows lack of consensus whether a relation exist between debt level and corporate results. The outcome of how leverage affects how a company performs financially are rather mixed and inconclusive and are not specific to a particular sector/ industry. The agriculture sector in Kenya directly influences the overall economic performance through its contribution to the Gross Domestic Product (Kenya Economic Report, 2013). Periods when there is high economic growth rates have been synonymous with increased growth in the agriculture sector. Due to this there exists a knowledge gap on the relationship between leverage and financial performance in the Kenyan Agricultural sector. This study sought to analyse the impact of leverage on firms' profitability of the firms in the agriculture sector quoted at the NSE.

1.3 Objectives of the study

1.3.1 General Objective

The objective of the study was to investigate the effect of financial leverage on financial performance of companies in the agriculture sector quoted on the Nairobi Securities Exchange, Kenya.

1.3.2 Specific Objectives

i. To determine the effect of debt level on financial performance of agricultural companies quoted at the Nairobi Securities Exchange, Kenya.

ii. To establish if there is any effect of long term debt level on financial performance of agricultural companies quoted at the Nairobi Securities Exchange, Kenya.

iii. To determine the effect of debt-equity level on financial performance of agricultural companies quoted at the Nairobi Securities Exchange, Kenya.

iv. To determine the effect of firm size on financial performance of agricultural companies quoted at the Nairobi Securities Exchange, Kenya.

1.4 Research Hypotheses

The hypotheses for this study are stated in null forms as follows:

i. H1: Debt level does not significantly affect financial performance of companies in the agriculture sector quoted at the Nairobi Securities Exchange, Kenya

ii. H2: Long term debt does not have any significant effect on financial performance of companies in the agriculture sector quoted at the Nairobi Securities Exchange, Kenya

iii. H3: There is no significant relationship between debt equity level and the financial performance of companies in the agriculture sector quoted at the Nairobi Securities Exchange, Kenya

iv. H4: Financial leverage does not significantly affect the firm size of companies in the agriculture sector quoted at the Nairobi Securities Exchange, Kenya

1.5 Significance of the Study

Potential investors invest in a company in anticipation of returns in the form of dividends and a gain on reselling the shares. They claim the residual after the debt holders and preference stakeholders have been paid. In such a case the study will be of importance to

them in that it will help them to know whether their investments are safe at any time when debt is issued or when investments are threatened.

Shareholders will be better informed on the capital structure of the firm, the value of the firm, the returns expected and how they are interrelated and the effect they have on each other. This will aid the shareholders to make informed decisions when faced with capital restructuring and valuation of the firm.

The management of the Agricultural firms listed at the NSE will benefit from this study since they will get a better understanding of how financial leverage can affect the profitability and how much risk they are involved in at any time debt instruments are used as a source of financing.

The study will make significant contribution to financial researchers to advance or modify existing theories. The findings will provide a learning platform for finance academicians. The findings may also be used as a source of reference by other researchers. In addition, academic researchers may need to study findings to stimulate further research in this area.

1.6 Scope of the Study

This study focused on leverage and profitability of the agricultural companies listed at the Nairobi Securities Exchange, covering a five-year period from 2011 to 2015. This study focused on three variables, only that is; debt level, debt to equity level and long term debt level (Independent variables) and financial performance (dependent variable). Future researchers and academicians should carry out further research and test more variables.

1.7 Limitations of the Study

The study was limited to the agricultural firm's sector and therefore the findings and recommendations made on this study cannot be used to make generalization of other

industries in Kenya. Also the study focused on Return on Assets as the measure of performance while there are other measures of the independent variable. Future researchers should carry out further research and test more variables.

1.8 Organisation of the Study

This project is structured as follows: the preceding chapter one presents the framework of the study, the purpose of the research, importance of the study, scope of the research and the limitations experienced in the course of the study. The following chapter two provides the literature review on the effects of financial leverage on the financial performance of agricultural firms listed on the NSE, Kenya and the conceptual framework employed. Chapter three shows the methodology that was employed in the study while chapter four presents the analysis of data and its findings. The last chapter, five presents the conclusion and recommendations of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews both theoretical and empirical literature of the study on leverage and how it affects the financial performance of agricultural firms. It concludes with an overview of the literature and identifies the research gap.

2.2 Theoretical Review

This section covers theories that show the effect of leverage on financial performance of firms. These theories are namely: trade off theory, pecking order theory and the agency theory.

2.2.1 Trade-Off Theory

According to the static tradeoff theory, firms achieve an optimal capital structure when the tax advantage of interest on borrowings is balanced off to the costs of financial distress Kraus & Litzenberger (1973). This theory shows that debt is a significant source of financing. The debt and equity levels of a firm should be optimized so as to maximize the wealth of shareholders. Static trade-off theory prognosticate a negative relation between growth opportunity and financial leverage ratio in a firm because growing firms can sustain much higher financial distress costs and lower agency costs of free cash flow. Firms obtain their debt level such that the marginal advantage of more borrowings is outweighed by the bankruptcy costs. Interest payments are allowable expenses in taxation and thus more debt would lead to a higher tax shield benefit. This eventually leads to a trade-off between the benefit obtained from tax and the cost of high risk resulting from financial distress until an optimal proportion of equity to debt capital structure is reached.

Managers act as agents of shareholders and they have conflicting interests over business expansion, increase in salaries and payout policy of the free cash flow. Managers are given incentives to motivate them to increase the growth of the company through bonuses which in turn increases the share value. Jensen (1986) explains that there are agency costs incurred due to equity but this also motivates the managers to be efficient in their operations to enhance survival. More benefits are derived by financing a firm using borrowings than is acknowledged. Agency costs arise due to conflicting interests between the various stakeholders of the firm that is, shareholders and management, debtholders and shareholders as explained by Jensen and Meckling (1976). Thus including the agency costs in the static trade-off theory would mean that a firm determines its capital structure by ensuring there is a balance between the agency costs from borrowings against the agency cost from equity.

Interest payments are an allowable expense for tax purposes therefore a rise e in debt would lead to a higher tax shield benefit. MM proposition of 1963, states that in an imperfect market there are corporate taxes, bankruptcy and transactional costs which a firm has to incur and this in turn does affect borrowings. It recognizes the tax benefit accrued from the interest payments made on debt financing whereas dividend payout on equity does not have such a benefit. This shows that a company with a high proportion of debt is more valuable because of the tax shield benefit acquired. Titman 1984 also found that transaction costs do influence the capital structure decision.

According to this theory, one can achieve a balance between tax benefit of debt financing and the cost of financial distress and agency costs arising from equity. This implies that an

optimal level of leverage can be achieved by offsetting the benefit of interest tax shields against costs of agency, bankruptcy and financial distress. Trade-Off Theory shows that large sized companies tend to have a high debt ratio thus highly levered. (Gaud, Jani, Hoesli and Bender, 2005) found that company size is positively related to leverage while profitability was negatively related, this is because of the stability that large companies have and their ability to take advantage of economies of scale when. The bigger a firm is, the more data is relied upon to be accessible about it, which diminishes the level of data asymmetries in the market, making it conceivable to get money related assets from moneylenders. In view of data asymmetries, smaller firms are additionally prone to confront higher expenses for getting outside funds. However (Titman and Wessels, 1988) research found that short term debt ratios and firm size are negatively related. This was attributed to the high transaction costs that small companies incur when acquiring long term loans.

The Trade-Off Theory also suggests a positive relationship between asset tangibility and capital structure. Firms with a relatively large portion of tangible assets also have higher liquidation value, which in turn reduce bankruptcy costs. Myers and Majluf (1984) suggest that managers may reduce the cost of debt by issuing secured debt, therefore they expect that firms with assets that can be collaterized to use more debt. This theory is relevant to this study because an agricultural firm with a higher tax advantage will issue more debt for financing its operations so that the cost of financial distress will be offset by the tax shield benefit on interest payments. Also debt is used for signaling by firms since leverage increases the value of the firm.

2.2.2 Pecking Order Theory

According to the pecking order theory, firms prefer to finance themselves internally through retained earnings; when this source of financing is not available, the company issues debt and only in the last instance does it issue equity. Myers and Majluf (1984) argued that in a perfect market a firm will prefer using internal sources of finance such as retained earnings and reserves over external sources of finance and would prefer to use debt to issuance of new stock. Management has more information about a firm's performance and risks than outside investors thus leading to information asymmetry. There is low information asymmetry associated with internal sources and debt than equity which has a high information asymmetry. When the internal funds are inadequate to finance the firm's business operations, one may opt for debt financing and as a last resort issuing of shares so as to reduce the costs of asymmetric information.

The pecking order theory shows the significance of transaction costs in making the financing decision. This is because the transaction costs of acquiring funds from outside the company are higher than that of within the company. Retained earnings have no transaction costs while borrowings attract a low transaction costs as compared to issuing of equity. Financing through debt also benefits from lower tax on interest payments. Different types of financing sends different messages to the market. A company that finances itself internally shows that it has enough reserves to finance its activities. The issuance of debt signals to potential investors that the management is confident in their ability to honour the debt whereas equity indicates that the firms stock is overvalued thus leading to a decline in its share prices. The signaling is consistent with maximizing the shareholder's wealth. According to this theory, firms have a hierarchy of sources of funding to select from and internal financing is favoured to external financing while debt is favoured to equity.

Pecking Order Theory by Myers (1984) predict a negative relationship between profitability and debt on the basis that prosperous firms don't rely too much on external funding. Instead the firms, prefer to finance with internal funds accumulated from past earnings. The results of Gaud et al. (2005) supported the Pecking Order Theory that highly profitable firm's use internal funding, whereas those firms with low profit margins use more debt due to inadequate internal funds for financing. Donaldson (1961) proposed that firm choose their source of financing based on the cost of capital. Internal financing is preferred because it has no transaction and floatation costs which are associated with external financing. He also demonstrates that on external financing, companies prefer borrowings to equity due to the lower transaction cost associated with debt as compared to that of external equity. Munene (2006) in his study demonstrated that there a weak positive relationship between capital structure and profitability. Frank and Goyal (2003) in their study found that contrary to the pecking Order Theory, internal funds are not enough to cater to all the investment requirements thus opting for external financing especially debt which does not dilute the ownership.

The pecking order theory is applicable to this study because agricultural companies work in a competitive business environment therefore need for capital financing that maximizes the value of the firm. The firms would prefer internal to external funding and if there is need to use external financing then debt is preferred to equity to fund the agricultural firm's activities.

2.2.3 Agency Theory

According to Jensen and Meckling (1976), avoiding agency costs is inevitable in corporate finance. They showed that the management does not always run the company to maximize

the shareholders' value but to achieve their own personal interests. Agency costs arise when there is this distinction of ownership and control leading to conflict of interest between the stakeholders and management and between debt holders and shareholders. These costs arise due to the contractual arrangements between the agent and the principal. The agency costs incurred include the costs of oversight on the management, the bonding expenditures by the agent and the opportunity cost. The main concern by the shareholders is managers investing the free cash flow in unprofitable projects instead of paying out as dividends. The managers may be motivated by having performance based contracts and employee share ownership plans. This agency conflict between the principal (shareholders) and their agents (managers) could be solved through the choice of capital structure.

Through debt acquisition, the managers will be compelled to pay back the debt first before investing in other projects of the free cash flow. The regular payments for the loan tends to control the investment policies of the management. Debt is used by the shareholders to discipline the managers from luxurious spending and compel them to repay the loan out of the free cash flow instead of retaining it. The use of debt encourages management to undertake risky projects whose effect is an improvement in share value and a decline in the value of the firm. A firm may also underinvest due to the risky nature of debt therefore reducing the share value and increasing the company's value. Jensen (1986) showed that it was better to finance investments through debt than to pay out the free cash or repurchase shares. This is not significant to rapid growing firms with high cash flows but to those with slow growth and minimal cash flows. An optimal financial structure is attained when the agency costs are offset by the tax shield benefit on interest payments of the debt.

Agency costs presents one of the key challenges in corporate governance in both agricultural and nonagricultural firms. The distinction between the owners of the company and those who control and manage its day to day operations may lead to managers indulging in perquisites, exerting inadequate work effort, making decisions that satisfy their own needs and preferences, or even failing to maximize the company's net worth. Williamson (1988) and Jensen (1986) consider debt as a tool for disciplining managers to pay out dividends instead of building their own personal wealth. In the Jensen model, companies with high profitability and unutilized cash flow, or also tend to have high levels of debt. Therefore firms that are highly profitable will employ a larger debt and will implement high return projects.

Carson & Hart (1982) argued that managers of an equity financed capital structure don't have the inducement to increase the value of the firm because without debt then they don't face the risk of bankruptcy. This will lead to low share value. They made the assumption that the managers don't have shareholding interests in the firm. Thus even though the financing decision rests with them, whichever choice of financing used does not affect them. Myers (1977) contends that even with the tax benefit of borrowing, financing through debt decreases the net present value of the firm thus it's inversely related. Due to the risky nature of debt, mangers may sub optimize on the investments. Harris & Raviv (1990) argued that debt is used by the shareholders to discipline managers because information on default of repayment could compel the firm into liquidation. This would lead to job loss and ruin their professional reputation.

Barnea et al.(1980) explained that the agency problems associated with information asymmetry, managerial risk incentives and foregone growth opportunities can be resolved

by issuing short term borrowings thus limiting the management's risky investments. The maturity of the borrowing is associated directly to the size of the company thus long term borrowings are mainly issued to large sized companies. Ofek (1993) further argued highly levered firms after unsatisfactory performance are compelled to sell their assets to be able to settle their debt obligation. They may also negotiate with the lenders, restructure the loan, convert the loan to equity or even layoff some employees to try and mitigate the poor performance. Berger and Banaccorsi (2002) concurred with agency costs theory that a high leverage or a lower equity capital ratio is directly related to high profit efficiency. The study also found that profit efficiency is responsive to the ownership structure of the firm.

The theory is significant to this study because the managers of agricultural companies are expected by the stockholders to act in their best interest when making financing decisions on the proportion of debt and equity to fund its investments since this directly affects the value of the firm. They act as trustees of the shareholders and therefore they need to ensure that there is an optimal level of debt that maximizes the shareholders' value.

2.3 Empirical Review

This section discusses the various empirical studies conducted to show the interrelation between financial leverage and performance of the firm.

2.3.1 Financial leverage and financial performance

Obradovich and Gill (2013) examined the effect of corporate governance and financial leverage on the value firms in America. A random sample was selected from the firms quoted at the New York Stock Exchange. The purpose of the study was to elaborate on the effect of corporate governance and financial leverage on the value of companies in

America. The results of the study showed the audit committee, financial leverage, size of the firm, return on investment and shareholdings by employees and management increase the firm's value. The company size is positively correlated to the size of the board, CEO duality, audit committee and financial leverage therefore a large sized firm has a high proportion of borrowings to equity. Also the effect of financial leverage differed between the manufacturing and the service sector firms.

Hasanzadeh et al. (2013) explored on the relationship between leverage and the value of future stock of firms in the cement industry at the Tehran stock exchange. The researchers found that leverage does not affect the value of future stocks in the cement industry. The lack of correlation between the value of the firm and leverage concurs with the Miller and Modigliani Theory. It also supports the Net Operating Income theory where the value of a company is not dependent on the financing structure.

Akinmulegun Sunday Ojo (2012) examined the relationship between financial leverage and some indicators of profitability in Nigeria. The results showed that corporate performance is affected significantly by the debt to equity levels structure of firms in Nigeria. They also showed that there was also an indirect influence of leverage on the earning capacity of companies in Nigeria. He also found out that the theories were inadequate and should be developed to suit the developing countries.

Mwangi et al (2014) examined the correlation between financial structure and the profitability of non-financial firms quoted at the Nairobi Securities Exchange (NSE), Kenya. The findings showed that financial leverage had a significant negative correlation with the profitability of the firm. The increase in the proportion of debt to equity would

lead to a decrease in the Return of Equity of the firm. The results were conflicting to the agency theory which predicts that the agency problem can be solved through financial leverage. The researchers also established that short term borrowings were preferred to the long term borrowings in enhancing the company's performance due to the cost associated with non-current loans. They advised that management should curtail the use of long term borrowing for financing its projects to enhance performance.

Gweyi and Karanja (2014) investigated the correlation between financial leverage and firm's performance of deposit taking savings and credit co-operatives societies in Kenya. For this purpose, a sample of 40 Sacco's was taken from the Sacco Society Regulatory authority Kenya and their secondary data analysed. The findings revealed that there is a significant positive association between leverage and profitability of the Sacco's.

Maina and Kondongo (2013) analysed the relationship between financial structure and performance of all the companies quoted at the Nairobi Securities exchange, Kenya. All the quoted firms at the NSE during the period 2002 to 2011 were used as a representative. The results showed that there was a significant negative correlation between the financing structure and the various performance indicators used. The researchers also found out that the quoted firms at the NSE utilized the short-term borrowings more as compared to the long term borrowings.

Gweyi, Minoo and Luyali (2013) studied the factors that affect leverage on savings and credit co-operative societies in Kenya. The researchers examined the influence of size of the Sacco, rate of growth, liquidity, asset tangibility and financial gain on financial leverage. The results showed that for Sacco's, there were statistical significant association.

The results from the study revealed that the size of the firm has significant correlation with leverage, liquidity and tangibility while growth and profitability do not show a significant correlation with leverage. The results also describe the approach of financing by Sacco's.

Kaumbuthu (2011) examined the correlation between financial structure and return on net worth for industrial and allied segment companies quoted at the Nairobi Securities Exchange, Kenya during the period 2004 to 2008. The debt equity ratio indicated the capital structure while performance was measured by return on net worth. The study showed that financial leverage had a negative relationship with the return on equity of the firms. The results from this study could not be used to generalize to all the companies since it focused only on the industrial segment of the companies quoted at Nairobi Securities Exchange Kenya. The researcher also found that the firms prefer issuing of shares to issuing of debt to finance its operations thus conflicting with the pecking order theory.

Orua Emma (2009) analyzed the relationship between capital structure and financial performance in microfinance institutions in Kenya. Sample of the study comprised 36 MFIs based in Nairobi and registered by AMFI as at December 2008. Using ratios, descriptive statistics and multiple regression analyses, the secondary data for five years covering the period 2004-2008 was analysed in the study. Performance was used as the dependent variable and was measured in terms of outreach to customers and default rate on loan repayment. Short term debts, long term debts, firm size were used as independent while risk level and firm age were used as control variables. The findings showed that companies financed through internal sources performed better than those financed externally, this was due to the high cost of debt i.e. interest repayments on the principal. The study established there is a positive correlation between debt and equity level and financial performance of

the microfinance institutions. Highly levered microfinance institutions were able to attract more customers thus taking advantage of the economies of scale in mitigating the risk associated with debt financing.

Opanga (2011) conducted a study to determine the relationship between capital structure and value of the firm for company's quoted at the Nairobi Securities Exchange for the period 2005-2010. The study revealed a high correlation between value of the firm and Earning per share (EPS) while the value of the firm as measured by share price was inversely related to sales growth.

2.4 Summary of Literature Review

There are various theories that explain the relationship between a company's profitability and the company's financial leverage. Trade-off theory states that a firm can balance out the financial distress costs and tax shield benefits of debt by choosing the optimal source of financing that will achieve this. The pecking order theory predicts that there is a hierarchy of preference which managers use when deciding on the financing source to use and it's not till the highest ranked source is exhausted that they can use the others i.e. sources within the firm are preferred to the source outside the firm while debt is preferred compared to equity. The agency theory suggests that the agency problems can be resolved by use of debt financing which could be used to discipline the managers on how to use the free cash flows. Also the most recent market timing hypothesis suggests that the source of financing used depends on how cheap it is irrespective of the firm's current levels of the capital structure.

This chapter concisely discussed the relevant literature in relation to the objectives of this study. The literature revealed that there were mixed outcomes on the various studies conducted. Some studies show a positive relation while in others there was a negative relation between an entity's leverage and its performance. In some other studies it was revealed that an entity's capital financing structure may not directly have an effect on its financial performance because of information asymmetry and the arising agency conflicts. However, the choice of financing and capital structure has an effect on the value of the entity due to the signals it sends. In developing countries like Kenya, few studies have been conducted to determine the relationship between leverage and entity performance, especially in the agricultural sector which has been the backbone of the economy. The conflicting findings creates a gap for further exploration by using additional variables in prospective studies. This study hence seeks to fill in this void by establishing if there is a relationship between financial leverage and a firm's performance in the agricultural sector using the listed firms in the agricultural segment of the Nairobi Securities Exchange, Kenya.

The tabulation below (Table 2.1) shows a summary of the research gaps in the research study.

Table 2.1: Summary of Research gaps

Author and Objective of study	**Variables Used**	**Methodology and Findings**	**Research gaps**	**How the study addressed gaps**
Impact of corporate governance and financial leverage on the value of American entities Obradovich and Gill (2013)	CEO duality Audit Committee Financial leverage entity size entity value Insider holdings Board Size ROA	Regression Analysis Larger board size negatively impacts the value of American firms while Financial leverage has a positive impact	It's limited to American manufacturing and service entities. Thus the findings of this study could only be generalized to similar firms in developing country.	This study focused on Agricultural sector.
Effects of Financial Leverage on Future Stock Value at the	Financial leverage Market to book value	Correlation study Leverage has no effect on future stock value of the entity	It's limited to the cement industry companies. Thus the findings of this study could	This study focused on Agricultural sector.

Tehran Stock Exchange Hasanzadeh et al. (2013)			not be generalized to other industries.	
Effect of Financial Leverage on Corporate Performance of Some Selected Companies in Nigeria Akinmulegun Sunday Ojo (2012)	Debt-equity ratio Earnings per Share Net Earnings per Share	VAR model Leverage therefore significantly affect corporate performance in Nigeria	It studied some selected companies only.	This study focused on Agricultural sector.
Relationship between capital structure and the performance of non-financial companies listed in the NSE, Kenya	ROA ROE Financial Leverage Total current liabilities to total assets ratio	Panel data model Financial leverage had statistically negative relationship with firm's	It focused on all non-financial companies listed on the NSE	This study focused on Agricultural segment.

Mwangi et al. (2014)	Total current assets to Total assets ratio	performance measured by ROE and ROA.		
Effect of financial leverage on firm performance of deposit taking savings and credit co-operative in Kenya Gweyi and Karanja (2014)	ROA ROE Profitability Income growth Debt-equity ratio	Descriptive and analytical designs Positive correlation between financial leverage and Return on Equity.	It focused on deposit taking SACCOs.	This study focused on Agricultural firms.
Effect of capital structure and the performance of firms listed at the Nairobi Securities exchange		Casual research design Significant negative relationship between capital structure and all	This study did not control for firm size.	This study used firm size as a control variable.

Maina and Kondongo (2013)		measures of performance.		
Determinants of leverage of Savings and Credit Cooperative Societies in Kenya Gweyi, Minoo and Luyali (2013)	Firm size Growth rate Liquidity Profitability Tangibility Leverage ratio	Regression model That firm size, liquidity and tangibility has significant relationship with Leverage.	This study did not assess the effect on performance.	This study found out the effect of leverage on performance.
Relationship between capital structure and return on equity for industrial and allied sectors in the Nairobi Securities Exchange Kaumbuthu (2011)	Debt-equity ratio ROE	Regression model There was a negative relationship between debt equity ratio and ROE.	The study focused on only one sector of the companies listed in the NSE and also focused on one aspect of financing decisions.	This study focused on a different sector i.e. the agricultural sector

Relationship between capital structure and financial performance in microfinance institutions in Kenya Orua Emma (2009)	Short term debts Long term debts Firm size Risk level Firm age Outreach Default rate	Regression model There was a positive relationship between leverage and financial performance.	The study examined MFIs only based in Nairobi for a period of time like 5 years	The study focused on agricultural firms listed at the NSE Kenya
Relationship between capital structure and value of the firm for firms listed at the NSE Opanga (2011)	Debt-equity ratio Share price Business risk Growth rate Liquidity Dividend payout ratio Profitability	Correlation analysis The value of the firm is highly correlated with DPS while the value of the firm as measured by share price was inversely related to sales growth.	It focused on value of firms	The study focused on financial performance

Source: Author, 2018

2.5 Conceptual Framework

The conceptual framework below outlines the presumed relationship between financial performance measured by Return on Equity, the dependent variable and the independent variables Debt level, Debt to Equity level and Long-term debt level. A control variable Firm size is used.

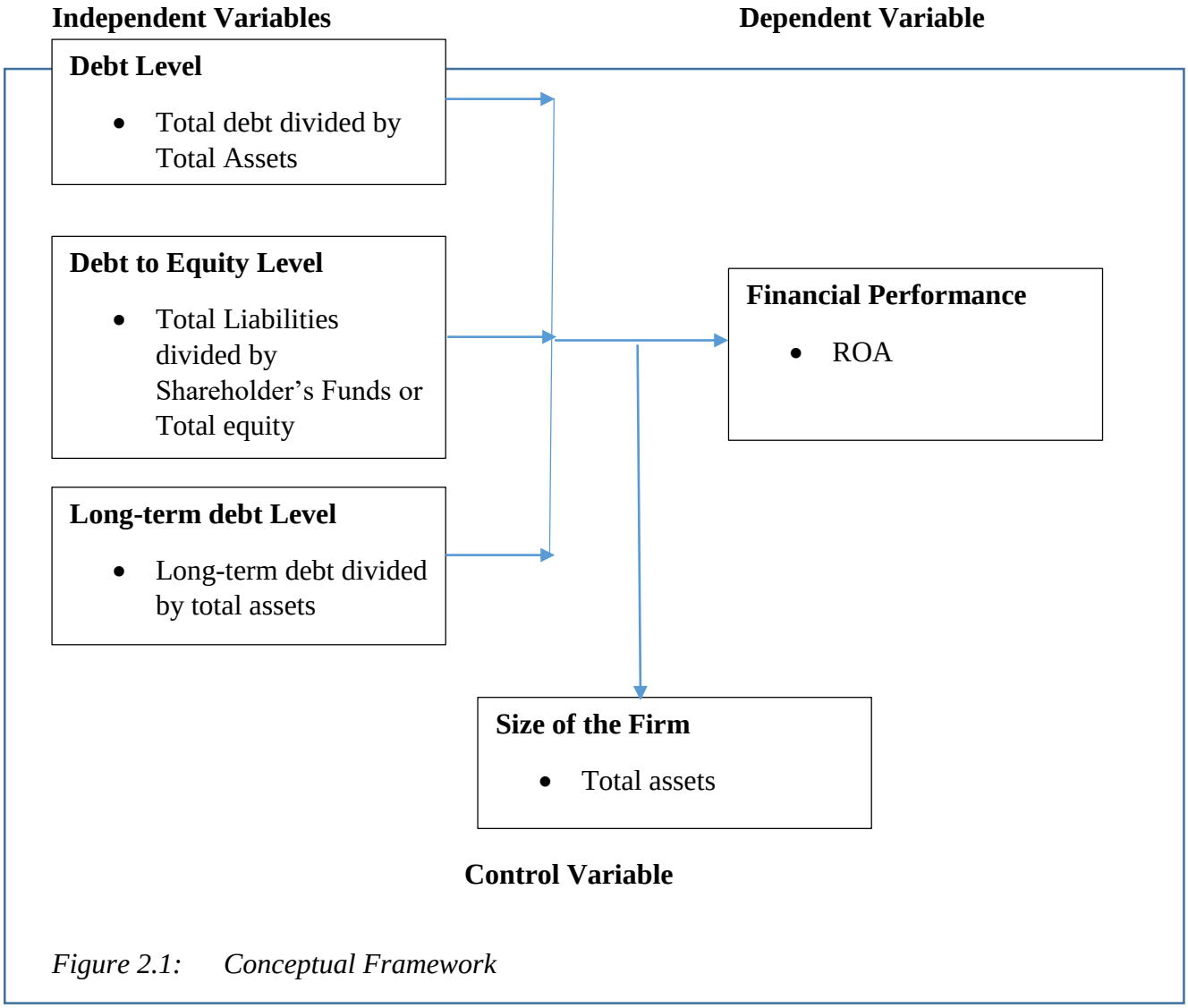

Figure 2.1: Conceptual Framework

Source: Author, 2018

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides a discussion of the research methodology used in this study. This chapter discusses the research design, the target population, the basis of sample selection, data collection methods, the techniques of data analysis used and the data analysis procedure.

3.2 Research Design

Kothari (2009) explains that a research design is a plan on how the investigations will be carried out to get answers to the research questions and to control variants. This provides a solid framework for the research study. This study will therefore employ both analytical and descriptive research design. The analytical design will be used to predict the data using regression on the substance and significance of the effect of financial leverage on agricultural firm's financial performance. The descriptive design will be used to describe the relevant aspects of financial leverage and provide detailed information about each relevant variable using graphics, ratios and summaries to show the relationship between financial leverage and agricultural entity's financial performance.

3.2.1 Empirical Model

A pooled OLS Regression model was used to determine the relationship between financial leverage and return on assets for the agricultural firms over the 5 years (2011 to 2015) in Stata version 12.0 software. The specific models were as follows;

$ROA = \alpha + \beta_1 DL + \beta_4 Size + \varepsilon$

$ROA = \alpha + \beta_2 DEL + \beta_4 Size + \varepsilon$

$ROA = \alpha + \beta_3 NCLTA + \beta_4 Size + \varepsilon$

Where the dependent variable is ROA which is Return on Assets;

Independent variables DL = Debt Level; DEL = Level of debt to equity; NCL/TA = Long term debt Level; Size = Size of the firm;

Constant term =α;

Coefficients for the independent variables = $\beta_1 - \beta_4$ and Error term = ε

3.2.2 Operationalization and Measurement of Variables

The table 3.1 below shows a summary of the variables used in the study and their measurements.

Table 3.1: Summary of variables and measurement

Concept	**Variables**	**Indicator**	**Measurements**
Leverage	Debt Level	Ratio of total liabilities to total assets.	Total debt divided by Total Assets
	Debt-Equity Level	Ratio of total liabilities to its stockholders' equity	Total Liabilities divided by Shareholder's Funds or Total equity
	Long Term Debt Level	Ratio of long-term debt to total assets	Long term debt divided by Total Assets
Financial Performance	Return on Assets	Ratio of profit generated from the total assets of the firm.	Profit after Tax divided by Total Assets
Size, $Size^2$	Firm Size	A measure of Total firms assets	Natural log of Total Assets

Source: Author, 2018

3.3 Target Population

A population is the total collection of measurements, items, or individuals that make up the total of all possible measurements within the scope of the study. The target population in the study consisted of the seven Agricultural entities quoted at the Nairobi Securities Exchange, Kenya as at December 2015 (appendix II). The agricultural entities included in the sample were drawn from the Main Investment Market segment in the agricultural sector of the NSE due to their accessibility to capital and liquidity thus enhancing significance of the research outcome. The study was conducted over a five-year period covering years 1 January 2011 to 31 December 2015. This period was chosen because data was most current and readily available from the NSE records. The study restricted itself to the listed agricultural firms because it's easier to obtain reliable data from public listed companies as compared to the private ones.

3.4 Sampling Design

Due to the small population size, the study conducted a census survey where all the seven listed agricultural firms at the NSE as at 31 December 2015 were used. In a census survey the entire units of the population are selected for the study. It comprised of all the agricultural companies that were continuously quoted at the Nairobi Securities Exchange for the period starting 1 January 2011 to 31 December 2015. They include Limuru Tea, Eaagads Limited, Kapchorua Tea Company, Kakuzi, Sasini, Rea Vipingo Plantations, and Williamson Tea Kenya Limited.

3.5 Data Collection Procedure

The study relied on secondary data to achieve the research objectives. On acquiring the research permit (Appendix IV), the secondary data was collected from the NSE, Kenya

database for annual audited financial statements of the respective agricultural companies using a data collection schedule.

3.6 Data Collection Instrument

The data collection schedule was prepared as per Appendix I and used to collect the raw data. The financial reports for the five years were analysed for the purpose of meeting the research objective.

3.7 Data Validity

Validity enhances the quality of data collected for research (Creswell and Clark, 2007). To enhance data validity the data was collected from well-known and respected organisations such as the NSE and CMA. Also to enhance data validity, the data was directly collected from the institutions audited financial statements thus enhancing both internal and external validity.

3.8 Data Analysis and Presentation

The data gathered from the annual audited financial statements was analysed using descriptive statistics. The raw data was used to get the mean, median and standard deviation to be able to interpret the data which is important in achieving the research objectives. The Regression analysis was employed to find out if there was a relationship between leverage and Return on Equity. Correlation analysis was also employed to find out to what degree the variables vary to each other. Stata version 12 software was used to analyse the collected data to help in solving the research problem.

3.8.1 Tests of Significance

The F-test statistics and Analysis of Variance (ANOVA) was used to determine the statistical significance of the regression model. ANOVA provides a statistical test of whether or not the means of several groups are equal.

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND INTERPRETATION

4.1 Introduction

This chapter presents the results of the study. The chapter is organised into three sections. The next section presents the summary descriptive results of the study where results are shown in both tables and charts. The last section presents the correlation and regression results based on the three objectives of the study. This is presented in tables and the results interpreted.

4.2 Descriptive Analysis

The study used descriptive analysis to determine the effect of leverage on financial performance i.e. mean, median and standard deviation. Table 4.1 below shows the summary descriptive statistics for the dependent and independent variables used in the study. There were a total of seven firms from which data ranging from the year 2011 to 2015 was collected as shown in Appendix III and IV. This gives rise to 35 observations. This was a balanced panel data of 35 observations.

Table 4.1: Summary descriptive statistics for variables in the study

Variable	Obs	Mean	Std. Dev.	Min	Max
Debt	35	1143568	1098070	41532	4458075
Assets	35	4157374	4114963	191242	16000000
Equity	35	3070619	3186996	149710	13200000
Non CL	35	639337	703933	0	2273769
EBIT	35	417677	527213	-298560	2117386
PAT	35	293406	385317	-227640	1466681

Debt Level	35	0.2790	0.1404	0.1320	1.0000
D/E Level	35	0.3879	0.2043	0.1521	1.3206
NCL/TA	35	0.1624	0.0596	0.0000	0.2237
ROA	35	0.0820	0.0967	-0.1185	0.3182

The average debt level was 0.279 while the average debt-equity level was 0.3879. The results also show that the average long-term debt to total assets (NCL/TA) was 0.1624 while the average ROA was 0.0820. The average debt was 1143568 while the average assets was 4157374. Also the results show that the average Equity was 3070619 while the non-current liabilities had the average of 639337. The results also showed that the average EBIT was of 417677 and the average PAT was 293406.

The Figure 4.1 below depicts a graphical representation of the trend of financial performance for all the seven listed agricultural firms over the period of study. This is in reference to the data in Appendix III. The results show that for the companies, there has been a general decline in the performance with some of them dipping into net losses annually. Thus, the performance of these companies in general has been on the downward trend.

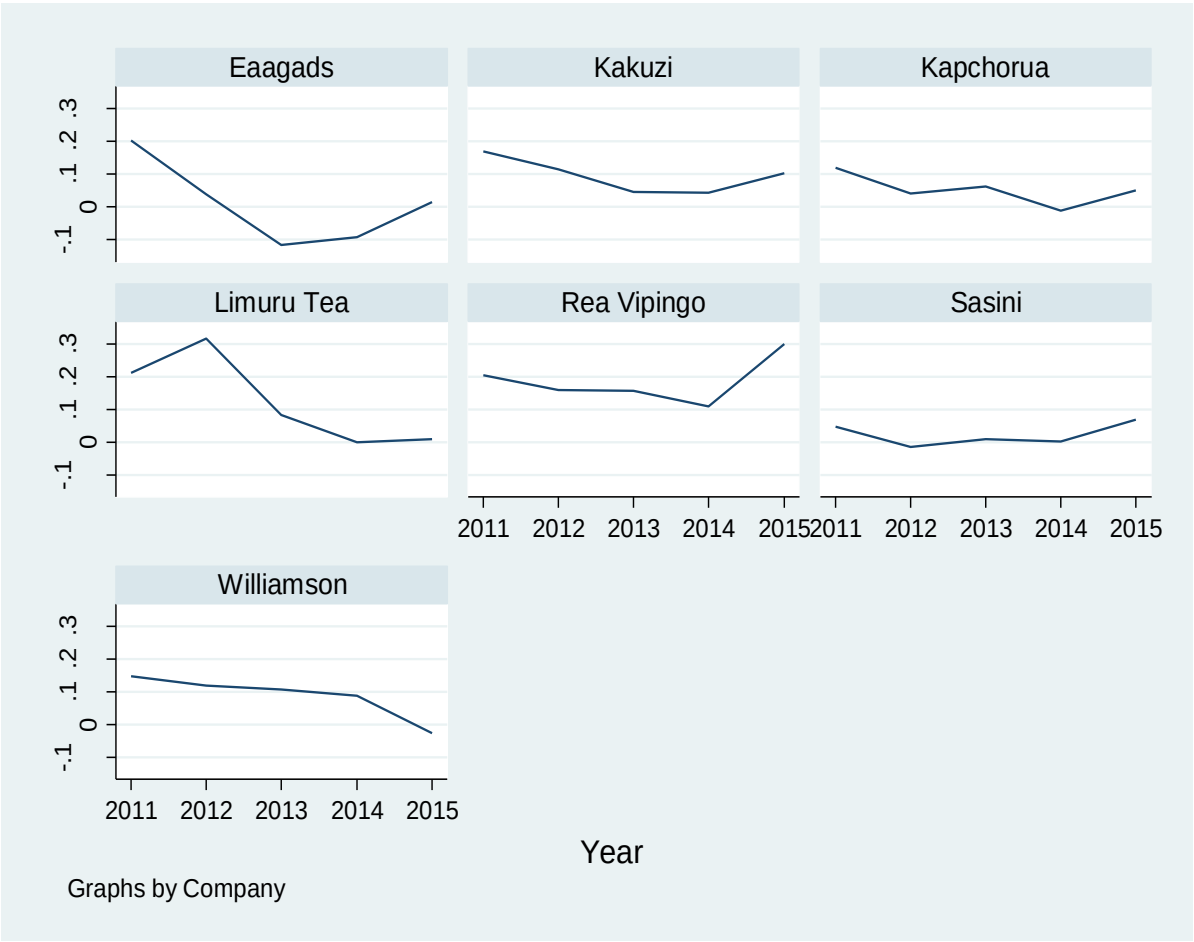

Figure 4.1: The trend of financial performance of listed agricultural firms in Kenya 2011-2015

4.3 Correlation Analysis

Correlation analysis was conducted to show whether there were any serial correlations among the independent variables i.e. the degree to which the variables change or vary. Table 4.2 below presents the results of the analysis. As shown, there was a weak positive correlation between debt-equity level and ROA variables of 0.11 and between debt level and ROA of 0.11. The correlation between the long term debt and ROA is positive but insignificant at 0.04. The firm size has a negative insignificant correlation with ROA of -0.04. Also there was a very high correlation between debt-equity level and debt level (r = 0.98) while the rest of the correlations were very low.

The study recommends that an appropriate debt-equity mix should be adopted if the agricultural firms are to improve on their financial performance.

Table 4.2: Correlation matrix for the variables in the study

	ROA	Debt Level	Debt-Equity L	NCL/TA	LnAssets
ROA	1.00				
Debt Level	0.11	1.00			
Debt-Equity Level	0.11	0.98	1.00		
NCL/TA	0.04	0.11	0.13	1.00	
LnAssets	(0.04)	0.15	0.17	(0.14)	1.00

4.4 Regression Analysis

The OLS multiple regression was conducted to determine the relationship between each of the independent and dependent variables. Three separate leverage models were formulated to examine the effect of leverage on performance because it allowed for investigation of the collective influence of different leverage ratios on the performance indicator of the agricultural firms.

4.4.1 The Effect of Debt Level on Financial Performance

The regression model used to determine the relationship between debt level and financial performance was;

$ROA = \alpha + \beta_1 DL + \beta_4 Size + \varepsilon$

Table 4.3 shows the regression model summary results. The results show the values of R, R^2, adjusted R^2 and the standard error of estimate.

Table 4.3: Model Summary

R	R Square	Adj. R Square	Std. Error of Estimate
0.126	0.016	0.079	0.100

The results in Table 4.3 show that the independent variables had a low correlation with Return on Assets (R=0.126). The model accounted for 1.6% of the variance in Return of Assets of agricultural firms. The adjusted R square means that 7.9% of financial performance is influenced by debt level.

The results in Table 4.4 present the ANOVA analysis showing the significance of F-statistic

Table 4.4: ANOVA

	Sum of Squares	Df	Mean Square	F	Sig. F
Regression	0.005	3	0.002	0.165	0.919
Residual	0.313	31	0.010		
Total	**0.318**	**34**			

Table 4.4 shows that the F-static of 0.165 was not significant at 5% level of significance, p=0.919. This shows that the model was not fit to explain the relationship between performance and financial leverage.

Table 4.5 presents the regression results for the relationship between debt ratio and financial performance of agricultural firms listed at the NSE.

Table 4.5: Regression results for the effect of debt level on financial performance

ROA	Coef.	Std. Err.	Z	P>z	[95% Conf. Interval]	
Debt ratio	0.0418924	0.1169592	0.36	0.720	-0.1873434	0.2711281

Size		-1.282489	0.7536328	-1.7	0.089	-2.759582	0.1946042
$Size^2$		0.042059	0.0256578	1.64	0.101	-0.0082293	0.0923473
Company							
	2	0.272619	0.1738594	1.57	0.117	-0.0681391	0.6133772
	3	0.2060995	0.1314808	1.57	0.117	-0.0515982	0.4637972
	4	0.010857	0.0804059	0.14	0.893	-0.1467357	0.1684497
	5	0.3621808	0.1561369	2.32	0.020	0.0561581	0.6682035
	6	0.1636222	0.2402849	0.68	0.496	-0.3073276	0.6345721
	7	0.253472	0.213187	1.19	0.234	-0.1643669	0.671311
_cons		9.581708	5.506514	1.74	0.082	-1.210862	20.37428

Table 4.5 results show that the relationship is positive but insignificant ($\beta = 0.04$; $p = 0.72$) as the p value exceeds the threshold of 0.05 at 95% level of confidence. The hypothesis criterion was that the null hypothesis Ho should be rejected if $\beta \neq 0$ and p- values ≤ 0.01. The study fails to reject H1 since $p = 0.72$ and is ≥ 0.01 and conclude that financial performance is not significantly affected by debt level.

Both size and $size^2$ had an insignificant effect of performance. However, at 90% level of confidence, size of the firm seems to have a negative and significant effect on performance ($\beta = -1.28$; $p = 0.09$) suggesting that smaller agricultural firms have better performance. Company effects on performance were positive and significant for Rea Vipingo ($\beta = 0.36$; $p = 0.02$) at 95% level of confidence. The hypothesis criterion was that the null hypothesis H4 should be rejected if $\beta \neq 0$ and p- values ≤ 0.01. The study fails to rejects H4 since $p = 0.09$ and is ≥ 0.01 and conclude that financial performance is not significantly affected by firm size.

4.4.2 The Effect of Debt-Equity Level on Financial Performance

The regression model used to determine the relationship between Debt Equity ratio and financial performance was;

$ROA = \alpha + \beta_2 DEL + \beta_4 Size + \varepsilon$

Table 4.6 shows the regression model summary results. The results show the values of R, R^2, adjusted R^2 and the standard error of estimate.

Table 4.6: Model Summary

R	R Square	Adj. R Square	Std. Error of Estimate
0.126	0.016	0.079	0.100

The results in Table 4.6 show that the independent variables had a low correlation with Return on Assets (R=0.126). The model accounted for 1.6% of the variance in Return of Assets of agricultural firms. The adjusted R square means that 7.9% of financial performance is influenced by debt equity level.

The results in Table 4.7 present the ANOVA analysis showing the significance of F-statistic

Table 4.7: ANOVA

	Sum of Squares	Df	Mean Square	F	Sig. F
Regression	0.005	3	0.002	0.165	0.919
Residual	0.313	31	0.010		
Total	**0.318**	**34**			

Table 4.7 shows that the F-static of 0.165 was not significant at 5% level of significance, p=0.919. This shows that the model was not fit to explain the relationship between performance and financial leverage.

Table 4.8 shows the regression results for the relationship between debt-equity level and financial performance of agricultural firms listed at the NSE.

Table 4.8: Regression results for the effect of debt-equity level on financial performance

ROA		Coef.	Std. Err.	Z	P>z	[95% Conf.	Interval]
D/E level		0.0422571	0.0837494	0.50	0.614	-0.1218887	0.2064029
Size		-1.298107	0.7529768	-1.72	0.085	-2.773915	0.1777002
$Size^2$		0.0426992	0.0256539	1.66	0.096	-0.0075816	0.09298
Company							
	2	0.2638244	0.1751206	1.51	0.132	-0.0794056	0.6070545
	3	0.1967625	0.1337472	1.47	0.141	-0.0653773	0.4589022
	4	0.0097729	0.0802282	0.12	0.903	-0.1474715	0.1670173
	5	0.3554844	0.1568755	2.27	0.023	0.048014	0.6629548
	6	0.1517272	0.2419133	0.63	0.531	-0.3224141	0.6258685
	7	0.2426071	0.2148088	1.13	0.259	-0.1784103	0.6636246
_cons		9.674448	5.498569	1.76	0.079	-1.102549	20.45145

Table 4.8 results show that the debt-equity level had a positive but insignificant effect on financial performance of firms ($\beta = 0.04$; $p = 0.61$) since the p value was beyond the 0.05 threshold at 95% level of confidence. The hypothesis criterion was that the null hypothesis Ho should be rejected if $\beta \neq 0$ and p- values ≤ 0.01. The study fails to reject H1 since $p = 0.61$ and is ≥ 0.01 and conclude that financial performance is not significantly affected by Debt to equity level.

Both size and size^2 failed the significance test at 5% level. However, at 10% level of confidence, there is evidence that the relationship between size of the firm and its financial performance is U-shaped. For firm effects, the results show that at 5% level, the effects were significant for Rea Vipingo while at 10% level, the effects are significant for Williamson Tea Kenya Limited.

4.4.3 The Effect of Long Term Debt Level on Financial Performance

The regression model used to determine the relationship between Long Term Debt Level and financial performance was;

$ROA = \alpha + \beta_3 NCLTA + \beta_4 Size + \varepsilon$

Where ROA is the dependent variable which is Return on Assets;

Independent variables NCL/TA = Long term debt level; Size = Size of the firm;

Constant term =α; Coefficients for the independent variables = $\beta_1 - \beta_4$ and Error term = ε

Table 4.9 shows the regression model summary results. The results show the values of R, R^2, adjusted R^2 and the standard error of estimate.

Table 4.9: Model Summary

R	R Square	Adj. R Square	Std. Error of Estimate
0.080	0.006	0.090	0.100

The results in Table 4.9 show that the independent variables had a low correlation with Return on Assets (R=0.080). The model accounted for 0.6% of the variance in Return of Assets of agricultural firms. The adjusted R square means that 9.0% of financial performance is influenced by long term debt level.

The results in Table 4.10 present the ANOVA analysis showing the significance of F-statistic

Table 4.10: ANOVA

	Sum of Squares	Df	Mean Square	F	Sig. F
Regression	0.002	3	0.000	0.066	0.978
Residual	0.316	31	0.010		
Total	**0.318**	**34**			

Table 4.10 shows that the F-static of 0.066 was not significant at 5% level of significance, p=0.978. This shows that the model was not fit to explain the relationship between performance and financial leverage.

Table 4.11 shows the regression results for the relationship between long-term debt ratio and financial performance of agricultural firms listed at the NSE.

Table 4.5: Regression results for the effect of long-term debt level on firm performance

ROA	Coef.	Std. Err.	Z	P>z	[95% Conf. Interval]	
NCL/TA	-0.0999402	0.3385253	-0.30	0.768	-0.7634375	0.5635572
Size	-1.283627	0.7547585	-1.70	0.089	-2.762926	0.1956729
$Size^2$	0.0418665	0.0256628	1.63	0.103	-0.0084317	0.0921648
Company						
2	0.300113	0.1793212	1.67	0.094	-0.05135	0.651576
3	0.2296152	0.1394038	1.65	0.100	-0.0436111	0.5028416
4	0.0175704	0.0815802	0.22	0.829	-0.1423238	0.1774647
5	0.3815816	0.1620071	2.36	0.019	0.0640534	0.6991097

	6	0.1935199	0.2500239	0.77	0.439	-0.2965179	0.6835577
	7	0.2722492	0.2144696	1.27	0.204	-0.1481035	0.6926018
_cons		9.649735	5.525853	1.75	0.081	-1.180737	20.48021

The results show that the long term debt level has a positive but insignificant effect on the financial performance of firms ($\beta = 0.10$; $p = 0.77$) at 5% level of significance. The hypothesis criterion was that the null hypothesis Ho should be rejected if $\beta \neq 0$ and p- values ≤ 0.01. The study fails to reject H1 since $p = 0.77$ and is ≥ 0.01 and conclude that financial performance is not significantly affected by Long term debt level.

Both size and size^2 did not have a significant effect on the financial performance as the coefficients were insignificant at 5% level of significance. However, at 10% level of confidence, size of the firm seems to have a negative and significant effect on the financial performance of firms ($\beta = -1.3$; $p = 0.09$). For company effects, the results show that at 5% level of significance, Rea Vipingo was significant ($\beta = 0.38$; $p = 0.02$) while at 10% level, Kapchorua Tea was significant ($\beta = 0.30$; $p = 0.09$).

4.5 Discussion of Research Findings

From the research results, the findings obtained showed that there was a positive insignificant relationship between leverage and financial performance of agricultural firms listed at the Nairobi Securities Exchange, Kenya. The correlation statistics showed that there was a positive but insignificant relationship between debt-equity ratio, debt ratio and ROA. It also revealed that the size of the firm had a negative insignificant correlation to ROA.

The study also examined the effect of debt ratio on the financial performance of listed agricultural firms in Kenya. The results showed that the relationship is positive but insignificant ($\beta = 0.04$; $p = 0.72$) as the p value exceeds the threshold of 0.05 at 95% level of confidence. The study also examined the effect of debt-equity ratio on the financial performance of agricultural firms listed at the NSE. The results showed that the debt-equity ratio had a positive but insignificant effect on financial performance of firms ($\beta = 0.04$; $p = 0.61$) since the p value was beyond the 0.05 threshold at 95% level of confidence. The study further explored the relationship between long-term debt ratio and financial performance of agricultural firms listed at the NSE. The results showed that the long term debt ratio has a positive but insignificant effect on the financial performance of firms ($\beta = 0.10$; $p = 0.77$) at 5% level of significance. This results are in concurrence with Velnampy and Anojan (2014) who studied the impact of liquidity and capital structure on profitability of listed telecommunication companies at the Colombo Exchange, Srilanka. They found that both leverage and liquidity had an insignificant effect on profitability. Also in concurrence is Siahaan et al (2014) who examined the listed companies at the Indonesia Stock Exchange and found that there was a positive but insignificant relationship between leverage and the value of a firm for the large listed companies.

The results also revealed that at 90% level of confidence, size of the firm seems to have a negative and significant effect on performance ($\beta = -1.28$; $p = 0.09$) suggesting that smaller agricultural firms have better performance. This is consistent with Wainaina (2014) who studied the relationship between leverage and financial performance of top 100 SMEs in Kenya and found that there was a positive significant relationship between firm size and financial performance of SMEs.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of research findings in the next section where only the main findings are discussed. This is followed by an exposition of the conclusions of the study. The recommendations or policy and practice are then made. Finally, suggestions for further research are made.

5.2 Summary of Findings

The descriptive analysis results showed that average debt level was 0.279 while the average debt-equity level was 0.3879. Also it shows that the average long-term debt to total assets (NCL/TA) was 0.1624 while the average ROA was 0.0820. The average debt was 1143568 while the average assets was 4157374. Also the results show that the average Equity was 3070619 while the non-current liabilities had the average of 639337. The results also showed that the average EBIT was of 417677 and the average PAT was 293406.The results showed that there had been a general decline in the financial performance of the firms over the years.

The correlation analysis showed there was a weak positive correlation between debt-equity level and ROA variables of 0.11 and between debt level and ROA of 0.11. The correlation between the long term debt and ROA is positive but insignificant at 0.04. The firm size has a negative insignificant correlation with ROA of -0.04.

The regression analysis examined the effect of debt ratio on the financial performance of listed agricultural firms in Kenya, the results showed that the relationship is positive but

insignificant (β = 0.04; p = 0.72). It also examined the effect of debt-equity ratio on the financial performance of agricultural firms listed at the NSE. The results showed that the debt-equity ratio had a positive but insignificant effect on financial performance of firms (β = 0.04; p = 0.61). It also explored the relationship between long-term debt ratio and financial performance of agricultural firms listed at the NSE. The results showed that the long term debt ratio has a positive but insignificant effect on the financial performance of firms (β = 0.10; p = 0.77).

Since debt ratio, debt-equity ratio and the long term debt ratio are all measures of leverage, then the results showed that the relationship between leverage and financial performance is positive but insignificant. This is consistent with the Modigiliani and Miller proposition I which explains that the value of the firm is not dependent on the structure of its capital. The type of capital financing is not relevant to maximizing the firm's value.

5.3 Conclusion

The study has contributed to the continued debate on capital structure determinants by showing the effect of financial leverage on financial performance of agricultural firms in Kenya.

The study found that while debt ratio, long-term term ratio, and debt-equity ratio all had a positive effect on the financial performance of these firms but none of the relationships was significant at 5% level of significance. The study also established that size of the firm had a negative insignificant correlation to financial performance.

Thus, the study concludes that leverage does not affect the financial performance of agricultural companies listed at the Nairobi Securities Exchange, Kenya. This is in line with the studies by Obradovich and Gill (2013), Gweyi, Minoo and Luyali (2013), Akinmulegun Sunday Ojo (2012). This is true even when the relationship is controlled for the size of the

firm and the firm effects in the model. There is therefore no evidence that higher leveraged agricultural firms perform better or worse than the lower leveraged agricultural firms.

5.4 Recommendations

The study finds no evidence that leverage influences performance. Therefore, the agricultural firms in Kenya should be careful in leveraging their firms as there is no evidence that such decisions would impact on the overall performance of the firm. In fact, higher leveraging could be disastrous as the relationships tended to be positive. The management should maintain optimum debt to equity levels in order to maximise the shareholders' value.

Secondly, this study found some evidence that size of the firm may influence performance and that there is an optimal point at which the size-performance nexus is maximised (U-shaped relationship between size and performance). Firms, therefore, need to change on their asset growths and find at what point their sizes are significant in influencing their performance. Large firms, for instance, tended to show better performance that smaller firms.

Lastly, there was some evidence that the unique characteristics of firms may explain their performance. Thus, the study recommends that the management of agricultural firms should be cognisant of this uniqueness and harness it to enhance their performance. This uniqueness could be a source of competitive advantage in the market and could prove helpful in improving the company bottom-line.

5.5 Suggestions for Further Research

This study used a small pool of seven firms listed at the NSE. This small sample affects the reliability of results as far as concluding the results to a larger pool of firms in Kenya is concerned. Future studies could include more agricultural firms, mostly unlisted, and expand the coverage period to a period beyond five years.

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APPENDICES

Appendix I: Data Collection Schedule

Company Name…….

Date……

Year	2011	2012	2013	2014	2015
Debt					
Assets					
Equity					
Non CL					
PAT					
Debt Ratio					
D/E Ratio					
NCL/TA					
ROA					

Source (Author, 2018)

Appendix II: Listed Agricultural Firms on NSE as at Dec 2015

1. Eaagads Ltd
2. Kapchorua Tea Co. Ltd
3. Kakuzi
4. Limuru Tea Co. Ltd
5. Rea Vipingo Plantations Ltd
6. Sasini Ltd
7. Williamson Tea Kenya Ltd.

Source: NSE website www.nse.co.ke

Appendix III: Raw Data for Analysis

Company	Year	Debt	Assets	Equity	Non CL	PAT
Eaagads	2011	88,677	354,922	266,245	74,073	71,784
Eaagads	2012	91,907	573,356	481,449	87,377	21,805
Eaagads	2013	97,425	499,561	402,136	61,950	(59,215)
Eaagads	2014	85,341	445,793	360,452	47,403	(41,684)
Eaagads	2015	81,226	615,426	534,200	14,837	8,163
Kapchorua	2011	593,806	1,570,203	976,397	319,713	187,005
Kapchorua	2012	829,262	1,962,897	1,133,635	372,367	78,392
Kapchorua	2013	794,462	2,078,475	1,284,013	405,477	125,991
Kapchorua	2014	548,496	1,929,161	1,380,665	426,641	(22,785)
Kapchorua	2015	558,152	2,144,587	1,514,215	441,116	106,096
Kakuzi	2011	1,060,555	3,817,320	2,499,070	709,398	644,397
Kakuzi	2012	770,475	3,571,700	2,801,225	624,452	408,656
Kakuzi	2013	813,515	3,717,543	2,904,028	666,334	165,028
Kakuzi	2014	872,726	3,857,454	2,984,728	695,305	160,205
Kakuzi	2015	4,458,075	4,458,075	3,375,897	742,099	459,714
Limuru Tea	2011	41,532	191,242	149,710	36,045	40,484
Limuru Tea	2012	77,790	320,023	242,233	67,253	101,834
Limuru Tea	2013	82,661	343,007	260,346	74,440	28,513
Limuru Tea	2014	86,885	338,600	251,715	63,503	(331)
Limuru Tea	2015	83,900	313,768	229,868	55,713	2,547
Rea Vipingo	2011	819,880	2,288,740	1,468,860	394,644	467,196
Rea Vipingo	2012	654,473	2,376,618	1,722,145	396,489	380,433

Rea Vipingo	2013	712,349	2,834,011	2,121,662	491,686	444,811
Rea Vipingo	2014	719,158	3,203,131	2,483,973	521,107	351,055
Rea Vipingo	2015	1,076,224	4,881,218	3,804,994	731,552	1,466,681
Sasini	2011	2,699,855	9,462,027	6,573,054	2,116,420	450,347
Sasini	2012	2,496,178	8,922,980	6,294,116	1,910,550	(124,113)
Sasini	2013	2,671,455	9,054,366	6,283,033	1,940,206	91,689
Sasini	2014	2,808,609	14,929,577	11,879,213	2,273,769	45,421
Sasini	2015	2,486,022	16,044,527	13,168,402	2,018,310	1,101,212
Williamson	2011	1,761,515	6,032,743	4,271,228	145,125	884,385
Williamson	2012	2,298,171	7,243,227	4,945,056	159,859	854,740
Williamson	2013	2,357,720	8,023,830	5,662,120	-	855,660
Williamson	2014	2,182,890	8,549,410	6,366,520	1,636,320	740,720
Williamson	2015	2,163,500	8,558,560	6,395,060	1,655,258	(227,640)

Appendix IV: Ratios in the Data Analysis

Company	Year	Debt Ratio	D/E Ratio	NCL/TA	ROA
Eaagads	2011	0.25	0.33	0.21	0.20
Eaagads	2012	0.16	0.19	0.15	0.04
Eaagads	2013	0.20	0.24	0.12	(0.12)
Eaagads	2014	0.19	0.24	0.11	(0.09)
Eaagads	2015	0.13	0.15	0.02	0.01
Kapchorua	2011	0.38	0.61	0.20	0.12
Kapchorua	2012	0.42	0.73	0.19	0.04
Kapchorua	2013	0.38	0.62	0.20	0.06
Kapchorua	2014	0.28	0.40	0.22	(0.01)
Kapchorua	2015	0.26	0.37	0.21	0.05
Kakuzi	2011	0.28	0.42	0.19	0.17
Kakuzi	2012	0.22	0.28	0.17	0.11
Kakuzi	2013	0.22	0.28	0.18	0.04
Kakuzi	2014	0.23	0.29	0.18	0.04
Kakuzi	2015	1.00	1.32	0.17	0.10
Limuru Tea	2011	0.22	0.28	0.19	0.21
Limuru Tea	2012	0.24	0.32	0.21	0.32
Limuru Tea	2013	0.24	0.32	0.22	0.08
Limuru Tea	2014	0.26	0.35	0.19	(0.00)
Limuru Tea	2015	0.27	0.36	0.18	0.01
Rea Vipingo	2011	0.36	0.56	0.17	0.20
Rea Vipingo	2012	0.28	0.38	0.17	0.16

Rea Vipingo	2013	0.25	0.34	0.17	0.16
Rea Vipingo	2014	0.22	0.29	0.16	0.11
Rea Vipingo	2015	0.22	0.28	0.15	0.30
Sasini	2011	0.29	0.41	0.22	0.05
Sasini	2012	0.28	0.40	0.21	(0.01)
Sasini	2013	0.30	0.43	0.21	0.01
Sasini	2014	0.19	0.24	0.15	0.00
Sasini	2015	0.15	0.19	0.13	0.07
Williamson	2011	0.29	0.41	0.02	0.15
Williamson	2012	0.32	0.46	0.02	0.12
Williamson	2013	0.29	0.42	-	0.11
Williamson	2014	0.26	0.34	0.19	0.09
Williamson	2015	0.25	0.34	0.19	(0.03)

Appendix V: Research Permit

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

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NAIROBI-KENYA

Ref No: **NACOSTI/P/17/12055/20165** Date: **22nd November, 2017**

Judy Wanjiru Muturi
Kenyatta University
P.O Box 43844-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Financial leverage and financial performance of agricultural firms listed at Nairobi Securities Exchange, Kenya"*** I am pleased to inform you that you have been authorized to undertake research in **Nairobi County** for the period ending **20th November, 2018.**

You are advised to report to **the County Commissioner and the County Director of Education, Nairobi County** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit **a copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.

G.P. Kalerwa

GODFREY P. KALERWA MSc., MBA, MKIM
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Nairobi County.

The County Director of Education

THIS IS TO CERTIFY THAT:
MS. JUDY WANJIRU MUTURI
of KENYATTA UNIVERSITY, 54196-200
Nairobi,has been permitted to conduct
research in *Nairobi County*

on the topic: ***FINANCIAL LEVERAGE AND FINANCIAL PERFORMANCE OF AGRICULTURAL FIRMS LISTED AT NAIROBI SECURITIES EXCHANGE, KENYA***

for the period ending:
20th November,2018

.....
Applicant's Signature

Permit No : NACOSTI/P/17/12055/20165
Date Of Issue : 22nd November,2017
Fee Recieved :Ksh 1000

.....
Director General
National Commission for Science, Technology & Innovation