THE EFFECT OF FINANCIAL LEVERAGE ON PROFITABILITY OF COMMERCIAL SERVICES FIRMS IN NAIROBI SECURITIES EXCHANGE

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DECLARATION

This research project is my original work and has never been presented to anyother University or Institution for an award of a degree.

Signed: Patrick Chombah Gakono **Date**:07th November2021

D61/12084/2018

This research project has been submitted for examinations with my approval as the university supervisor**.**

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DEDICATION

A special dedication to God Almighty, indeed, I can do all things through Christ who strengthens me. Special dedication also goes to my father and mother, Mr. and Mrs. Gakono and my siblings for the prayers. Be blessed.

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LIST OF ABBREVIATIONS AND ACRONYMS

CMA	Capital Markets Authority
NSE	Nairobi Securities Exchange
ROA	Return on Assets
ROE	Return on Equity
DR	Debt Ratio
SPSS	Statistical Package for Social Sciences
FS	Firm Size.
SMEs	Small and Medium Enterprises
RE	Retained Earnings

ABSTRACT

The objective of any company in business is to ensure it maximizes the wealth of its shareholders. With this aim in mind, the shareholders select and appoint a board of management that is tasked with overseeing the company's operations and ensuring that that the firms' capital structure financial components (debt and equity) are optimally utilized for growth of the company. Optimal capital structure decision should thus be made to maximize firm value, as outlined by Pandey (2005) who further stated that if the capital structure decision of a company could affect its value, then it would be imperative for the firm to have an equity and debt mix which maximized its market value. Debt can be loans, debentures, or leases while equity can be categorized as retained earnings, common or preferred stock. In maximization of shareholders' wealth, firms use more debt to maximize on the interest tax benefits offered by debt. Equity shareholders however don't have to share their profits with debt holders because the latter get a fixed return. However, taking up high debt capital increases the credit risk of the firm and makes it susceptible to bankruptcy. This research was done to examine the impact that a firm's financial leverage has on profitability of commercial and services firms that are quoted at the NSE. Anchoring theories of the research were the Pecking Order, Modigliani-Miller and the Trade-off theories. ROA was used to calculate the financial performance of the firms. Financial leverage was derived from the debt-to-equity ratio. The study used a census survey because of the small population size. All the 12 companies from the commercial and services firms sector listed in the NSE were studied. Collection of secondary data was from annual financial reports published and the data analyzed by using the XLSTAT and SPSS software through correlation, regression analysis and descriptive statistics method. The findings of the study found out that there was no significant relationship between ROA and the firms' financial leverage. The study also established that there was a positive link between firm size and ROA and a linear association between ROA and liquidity. The study recommends that firms should optimally strike a balance when choosing the capital structure strategies by maximizing on debt tax-shield benefits and reducing distress costs that are associated with heavy borrowing. Additionally, the study recommends that companies should maintain ample liquidity levels which will enable them to cover their operational expenses and meet their obligations as study findings depicts a positive association between firm liquidity and financial performance of the firms.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Firms use different strategies to maximize profits. Some of which includethe use of modern technologies such internet technology, automation, which increases process efficiency and smart outsourcing of non-core activities. Quoting Salman & Yazdanfar (2012), other ways in which firms optimize profitability is through ascertaining the optimal capital structure to incorporate in the firm. According to Sharma & Chadha (2015) capital structure is used by managers to make strategic financing decisions that choose the best mix of debt and equity and thus increase company market value. Capital structure is whereby a company uses both debt and equity to finance its operating activities. Weston & Brigham (1979) defines capital structure to be the process of financing the firm using preferred stock, retained earnings and debt. Referring to the study conducted by Baker & Samuel (1973), to analyze the effect of financial leverage level on profitability of the firm, it was concluded that a low degree of financial leverage consequently had high returns.

Hasan (2014) stated that one of the anchoring theories used to study the variables is the Modigliani and Miller's irrelevance theory. This theory argues that equity and debt is immaterial on the firm value. The theory assumes that in perfect market conditions firm value will be constantdespite the firm capital structure. Another anchoring theory of capital structure as provided in the study is the pecking-order theory as outlined by Myers & Majluf (1984), which states that firms will prefer retained earnings to external financing. These firms will strive to minimize information asymmetry by issuing safest

securities like debt first and will issue volatile securities like equity last. Conversely, the trade-off theory states that companies can attain an optimum leverage level, whereby tax shield benefits directly or indirectly minimize the risk or cost of financial distress.

The study investigated the commercial services sector in Kenya that are NSE-listed. Importance of capital structure in the sector is unknown, especially when it comes to its relation to profitability. The previous studies that had been conducted showed that profitability and financial leverage differed with different research context. The commercial and services study context therefore provided a basis for studying the relationship of the two variables in the commercial services sector.

1.1.1 Financial Leverage

Schindler (2008) stated that leverage is the capital that a firm borrows to fund its operations. Leverage is employed to reduce the level of equity financing of firms' asset. However, when a firm uses too much debt capital, it increases its bankruptcy risk due to high interest on debt repayments. Financial leverage is simply the ratio of debts of a company to the total assets of the company. Amalendu (2012) stated that financial leverage has a positive impact when the interest rates are lower than rate of return because this optimizes the profitability. Many firms prefer use of debt compared to issuing of more equity capital because the latter leads to the dilution of earning per share of the firm and the companies also don't enjoy the interest tax shield benefits which are allowable expenses in taxation of the firms. Agrawal (1990) also argued that financial leverage will increase profitability to those industries less sensitive to business cycles.

The decisions pertaining capital structure are undertaken by managers for the firm's value maximization. According to Berk & DeMarzo (2013), capital structure gets its definition from the leverage level of the company. Previous research done have varied results on the financial leverage and profitability relationship.

According to Abor J & Biekpe (2009), company's financial performance and debt that are short-term are positively related, and company's long-term debt and profitability are related negatively. Financial leverage is operationalized by the financial ratio of debt to equity: Total liabilities divided by Total shareholders' equity (Penman, 2013).

1.1.2 Firm Profitability

As stated by Horton (2019), profitability is the capacity of firm to have a positive return on an investment by efficiently using the resources at its disposal to create value and meet shareholders objective. According to Ali & Imdadul (2014), profitability is the yardstick of efficiency of a company in relation to another. Tulsian (2014) also stated that the word profitability could be divided in two parts i.e., profit and ability. He stated that profit is referred to how the company is currently performing in terms of efficiency whereas ability is the capacity of the business to make a profit which showed its operational efficiency. Profitability refers to how capable a firm can earn a profit now or in the future. We can compare profitability to efficiency in the utilization of limited resources in generating returns that lead to firm value maximization.

According to Maheshwari (2001), profitability is an economic success measurement of a firm in comparison to another. This success is known as the net profit of the company. In capitalist economies, achieving a return that is higher than the risk associated with capital is the main objective of the firm. The profitability of an organization is its lifeline and is also important for its going concern, and this therefore warrants a research study to show how it is affected by different determinants, one of them being financial leverage.

Profit is an important element for any business or company for its survival. A company that is profitable can meet its expenses and grow the business by securing financing and attracting investors who buy its shares. Profitability also signals to the market the efficiency and effectiveness of the managers steering the firm. Profitability is operationalized by the (ROA) which is derived by dividing Net Income with the Total firm assets.

1.1.3 The Relationship Between Financial Leverage and Firm Profitability

Previous studies conducted show how financial leverage influences the capital cost and the firm profitability. The studies that have been done state that the strategic decision to choose between debt and equity is highly pegged on the cost of debt and interest tax shield benefits (Gill & Mathur, 2011). The optimal debt level strikes a balances between the tax benefits and the leverage costs. However, if the target level of debt is exceeded, the costs outweigh the benefits. Therefore, the higher the debt level in a company the lower the taxes paid because interest paid on the debt can be deducted while filing for taxes and this increases profitability.

According to Margaritis & Psillaki (2010) the variables of debt and profitability are positively related. Conversely, Khan (2012) stated that debt and profitability were negatively related because the firms first exhausted the internal financing funds before issuing debt and lastly the riskiest, equity financing. It was also observed that firms will prefer equity financing to debt financing to be able to maintain a low leverage level. This therefore means that profitability and financial leverage has varied results and is dependent on the priorities of the firm.

Theories of finance on the influence of leverage give varied association between profitability and financial leverage. Empirical studies give various perspective on the association between the two variables. From studies done, leverage can either have a positive association, no relationship, or a negative relationship with the profitability of the company. A personal position taken is that of financial leverage having both advantages and disadvantages to the firm's financial performance. It can boost the financial performance of the company through tax savings or sink it to a debt crisis due to bankruptcy costs. A debt target should thus be established for optimal leverage.

1.1.4 Commercial and Services Firms Listed at the Nairobi Securities Exchange

The Commercial and Services sector is one of the segments under the NSE. This categorization comprises of companies that offer services and products and whose securities are listed in NSE. (Oluoch and Oyugi 2012). The firms listed under the commercial and services segment are: Express Kenya, Longhorn Kenya, Kenya Airways, NationMedia Group, WPP Scan Group, Standard Group, Tourism Promotion Services, East Africa (Serena), Uchumi Supermarkets and Atlas Development and SupportServices. According to (UNCTAD, 2008) the commercial and service industry plays a major economic role in growth and development of the Kenyan economy by creating jobs, foreign exchange earnings and boosting the gross domestic product (GDP) for the country.

According to NSE Handbook (2018), 7 firms out of the 12 in the commercial services sector recorded a profit gain in their financial statements. The other 5 experienced a decline in profitability. It is also evident that most of the companies in the commercial and services sector were levered. For instance, Eveready East Africa had a steady increase of its long- and short-term liabilities from 2013 to 2015.It then shed its debt liabilities and consequently recorded a spike in its profit after tax for the following year. This explains how the two variables of financial leverage and profitability affect each other.

1.2 Research Problem

In the Trade-off theory, when debt level is optimal, then the debt costs and benefits are balanced. The debt tax benefits will be experienced till a target debt ratio leading to a high return in equity. However, when the debt ratio is exceeded, the costs will out balance the benefits. Theories of finance show the different effects that leverage has on profitability and also empirical studies gives various perspectives on the variables relationship. From empirical studies done, leverage can have a no relationship, positive relationship or negative relationship with the company's profitability.

The previous research done analyzed determinants of profitability in the different industries across all economic sectors. My motivation for the study was to examine how the commercial and services firms are affected financially on the uptake of debt financing or otherwise. This investigated how financial leverage could catalyze financial performance and to what extent it could expose a firm to bankruptcy risk. Sivathaasan, Tharanika, & Hanitha (2013) demonstrated a significant impact of a company's capital structure on profitability. They also concluded that growth rate, firm size and working capital had no significant implication on profitability. The global studies indicate both positive, negative and no relationship between financial leverage and profitability.

According to Adongo (2012), the commercial and services sector had a drastic decline in profitability in the year 2017.These firms' recorded losses. An example of the firms is Kenya Airways which posted a loss in the 2017 financial year end of Sh10.2 billion. In 2016 it had made a loss of Sh26.1 billion. According to NSE Handbook (2018), only 7 firms out of the12 in the commercial services sector recorded a profit gain in their financial statement the five that recorded losses were: Atlas Development Services,

Deacons East Africa, Express Kenya Ltd, Standard Group and Uchumi Supermarket. For the economy of Kenya to grow and develop firms should efficiently utilize the limited resources to remain profitable. This consequently creates more employment opportunities for the citizens and thusimproves livelihoods.

In Kenya, the diverse studies that have been undertaken to show that there is a material effect on how leverage influences the profitability of a firm. The local empirical findings show the three effects as being: a positive relationship, negative relationship, and no/insignificant effect of leverage on profitability. In the research done by Adongo, (2012) to examine how leverage and risk affect profitability of firms in NSE, he concluded that the findings showed that returns and financial leverage had an insignificant relationship. This study tested the impact of financial leverage on the financial performance of the NSE-listed commercial and services firms separately as opposed to combining them withother industry sectors.

1.3 Research Objective

To determine the effect of financial leverage on the profitability of listed commercial service firms in the Nairobi Securities Exchange.

1.4 Value of the Study

The findings of the study benefits both listed and private commercial and services companies in Kenya. This is because it will help the management to know and develop sustainable capital structure policies that help mitigate insolvency risks of a firm. Additionally, there are few researchers on the topic of the impact of leverage on firms' profitability in Kenya even though many firms use financial leverage to meet their financing needs. These firms may not be aware how leverage affects their financial performance and shareholders returns. There is also the questionof the sustainable debt level that a firm should take up without going bankrupt.

The research is also valuable to future scholars and industry players since it will increase the knowledge base and offer a reference point when it comes to determination of optimal financing frameworks that enhance financial performance and maximizes shareholders' wealth. Scholars of finance can also build on the findings of this study and extend their scope to other sectors in the economy. This will broaden the knowledge on financial leverage on future studies to be conducted.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This section contains the theoretical framework, the profitability determinants, the empirical review, conceptual framework, and literature review summary.

2.2 Theoretical Framework

The segment contains the anchoring theories that aim to examine and explain the link between financial performance and financial leverage of companies in thecommercial and service segment in Kenya.

2.2.1 Modigliani-Miller Theorem

Modigliani & Miller (1958) stated that market value of a firm can be gotten from calculating the present value of the futurer returns of the company. The theory also states that with assumptions of perfect market conditions, even though the company borrows a loan or issues equity, this won't change its market value. The Modigliani-Miller theory is also called the irrelevance proposition theory.

According to Miller (1977), the firm value is derived from getting the present value of its future growth expectation and not its equity/debt financing decision. This means that acompany with high growth prospects has a higher market value and thus higher stock prices. The opposite is also true. Miller, (1977) also states that if an investor doesn't see promising growth in a firm, the market value of the company will not be important.

Since markets are ideally not perfect due a dynamic business market, Modigliani and Miller formulated proposition 2 theorem which expressed that the greater/higher the

costof equity the higher its debt-equity ratio. Vilaami (2000) also added that leverage did not have an impact on cost of capital of the company. MM's proposition II justifies the notion that a firm's cost of forgone alternative of capital remains constant with financial leverage due to the increase of equity cost which offsets the advantage of cheaper debt cost.

2.2.2 Pecking Order Theory

Donaldson (1961) first stated this theory, and a later modification of it was done by Myers & Majluf (1984). According to the theory, financing costs increases with the increase of distorted information. This is whereby one party has information which the other party in a transaction lack. In the Pecking order theory, we have different sources of financing for a firm. A company can use retained earnings,equity, or debt to finance its investments. The theory posits that a company will make a priority of retained earnings (Internal financing), then debt and the last resort is issuing of equity. The asymmetric information has a big influence on whether to choose internal or external financing which thus leads managers to adopt a hierarchical order to the financing of new projects.

The existence of asymmetric information makes debt preferable to equity, this is because the issue of debt signifies the confidence that the managers have when financing an investment project. This also means that the current stock price is undervalued. Conversely, the issue of equity signals that firm's management lacks confidence in selected projects and that the current stock prices is overvalued (Brealey, Myers, & Allen, 2008).

Allen (2008) also stated that financing costs are least in internal financing, followed by debt and lastly equity. This respective order of financing also signifies how safe the security is. Investors demand an equity premium to cover themselves for the high volatility risk that is common in equity. This therefore makes the firm management prefer internal financing to debt because debt financing poses an aspect of financial distress risk. Financing the company through retained earnings is also beneficial since RE doesn't dilute the ownership of the company and is also flexible in terms of how the retained earnings are invested. The cost of capital of RE is also low since it's the opportunity cost of leaving profits in the business. Ultimately, the pecking order theory is important because it signals the firms' financial position to the public. According to Harris & Raviv (2003) most firms finance themselves internally to signal financial strength to the public.

2.2.3 Trade-Off Theory

Kraus & Litzenberger (1973) stated that in this theory, a firm balanced the debt and equity financing by doing a cost benefit analysis of the two. These are the bankruptcy cost and tax shield benefits of debt financing. Modigliani and Miller debate on introduction of corporate taxes in their first proposition helped to inspire the trade-off theory. The introduction of the corporate taxes lead to interest tax shield benefits.

Kraus & Litzenberger (1973) also stated that an optimal leverage is achieved when a company effectively trades off the debt costs and benefits. On the other hand, Myers (1984) stated that using the trade-off theory, target debt ratio is an objective set by firms, which then diligently works to be within the target level. Modigliani and Miller's (1958) theory also explained how firms can increase their profitability by using debt to finance their investments since debt interest payments is tax deductible.

According to Brealey, Myers, & Allen (2008) when managers are making decisions on either to choose debt or equity financing, they weigh the cost and benefits of the two i.e., the interest tax shields benefits and financial distress costs due to high uptake of debt. He also stated that companies with a healthy financial position made up of a good asset book and a good liquidity level should have higher target ratios whereas companies with an unhealthy and risky financial position should solely rely on equity financing. Additionally, Myers and Brealey (2003) argued that all firms should strive to be within their target debt ratio if there were no costs of adjusting capital structure. As per the trade-off theory, an optimal debt ratio is that which will maximize the firm's value.

2.3 Determinants of Firm Profitability

Different factors determine how profitable a firm can be. Discussed below are some of the factors:

2.3.1 Financial Leverage Levels

Companies use leverage as a strategy to increase returns, assets or boost their cash flow. A firm acquires debt capital by borrowing money from a lender or issuing fixed income securities. Leverage refers to the total debt liability of a firm and it has both advantages and disadvantages. For instance, it can be beneficial to businesses since it provides capital for undertaking of investments or expansion. However, the flipside of a company being highly leveraged is that it increases its insolvency risk. According to Vural (2012), the firm leverage has a negative association with the firm profitability meaning that when firm's leverage increases the profitability reduces. Gachira et al. (2014) also noted that debt level negatively affected profitability of the firm. Additionally,Tufail (2012) also stated that when leverage increases, the profitability is negatively affected.

2.3.2 Firm Size

With the size of a firm being another determinant of financial performance, it is evident that large firms with more infrastructural resources have increased levels of production and lower cost thus enjoy a competitive advantage of economies of scale. Large firms also have less market information asymmetry hence the efficient allocation of financial resources. The also enjoy brand recognition and subsequently market leadership which allows them to set competitive prices to their customers. Through diversification, these firms develop multiple revenue streams that cushion them during economic downturns as stated by (Quain, 2018).

Past studies done to investigate impact of size of a firm on financial performance have given different results. This means that profitability and firm size can be related either positively or negatively. For instance, Tamizhselvan and Vijayakumar (2010) found a linear effect of firm size and profitability. Conversely, according to Lee (2009) the firm size and profitability relationship was non-linear that is to say that the larger the firm was, the lesser the profitability.

According to Abor & Biekpe (2009), the size of a given company is a crucial aspect in determining its ideal capital structure. The role of managers of small firms is to avoid dilution of ownership of the firms. They therefore prefer internal funds since lower the level of intrusion the lower the risk of the firm.

2.3.3 Liquidity

According to Padron, Apolinario & Santana (2005), a company that is liquid performs better because it can meet obligations when they fall due. Companies that have more current assets will perform better since they can sell the assets quickly his improving their cash flow position. According to Kayo & Kimura (2010) this liquidity increases agency cost since it incentivizes managers to not prudently use excess cash flow. Liquidity is also measuring how quickly managers can meet the commitments of their shareholders and creditors without liquidating their financial assets.

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2.3.4 Management Efficiency

This refers to the output a manager creates relative to the expenses they incur to produce the output. Management efficiency is measured in terms of firm's growth and earnings flow. According to Bhutta & Hasan (2013) firms will increase their profitability when their total assets increase. Additionally, a good earning flow improves working capital which consequently improves the profitability of the firm. We can use financial efficiency ratios to measure this determinant. Management efficiency is crucialbecause when a company is managed well it will generate maximum profitability to the shareholders.

2.4 Empirical Review

The section examines the empirical research studies done to establish the relationshipof financial leverage and profitability variables. Below are local and global studies that have been reviewed.

Abdussalam (2006) researched on how profitability and firm structure were related. The study investigated the following firm characteristics: firm ownership structure, age and size of the firm, and debt ratio of the 48 Jordanian firms that were quoted in the country's Amman Stock Exchange for the duration of 10years(1995 to 2004). The researcher used a model specification in hypothesis testing. The dependent variable which was profitability was operationalized by Return on Investment (ROI). The research findings were that firm structure significantly affects the profitability. The empirical findings also stated that profitability and firm size were positively related.

Yuan & Kazuyuki (2011) analyzed whether the total debt ratios had impact on fixed

investments on the Chinese companies listed companies between the period 2001 and 2006.The findings were that total debt ratio negatively impacted fixed investment of the companies. This means that the more a company takes up debt the higher it increases the insolvency risk due to very high debt repayments. These findings strongly suggest that pecking order and trade-off theories play a big role in guiding managers on which financing decisions to select to maximize profitability of the firm and reduce insolvency risk.

Pouraghajan (2012) examined how capital structure affected the financial performance Tehran Stock Exchange listed companies. The time frame was 5 years, from 2006 to 2010.The sample was 80 firms. The study used secondary data and analyzed it using Pearson correlation tested his hypothesis through multiple regression models. The findings stated that a significantly negative association existed between debt ratios and profitability of the Iranian firms and a material positive link between firm size, asset turnover and financial performance measures. This means debt determines financial health of the companies.

Adongo (2012) also researched on how leverage impacted on risk and profitability of firms that were NSE-listed. He used a casual research design for the population that consisted of 58 firms and a sample of 30 firms. The researcher analyzed the data using (SPSS). He concluded that there was no significant relationship between returns and profitability. This contradicted his hypothesis that postulated that there was a linear association between profitability of the firm, financial risk and leverage of firms listed in NSE.

Nduati (2010) studied how leverage affected profitability of NSE-listed companies. He used secondary data,interviews and also adopted a descriptive research design. He analyzed the data using SPSS. The relationship of the variables was further analyzed using cross-sectional time series, regression, and correlation analysis. He presented the findings in the form of pie charts, graphs, and tables. The conclusion was that there was an insignificant link between return of the companies and financial leverage. This means that leverage did not impact on the profitability of the NSE-listed firms. These results contrasted the study's hypothesis which had anticipated risk of listed firms, financial leverage, and profitability to be positively related.

Tale (2014) did a study to find out what effects capital has on the firms' performance .He used a descriptive study to conduct the research. The research targeted the entire 40 non-financial companies that were quoted in the NSE. Secondary data from the annual financial reports was used in collecting data which was then analyzed using regression analysis and ANOVA was used to measure the effectof financial leverage on Return on Equity. The study results identified a positive link between the variables whereby and increase debt ratio increases ROE and vice versa.

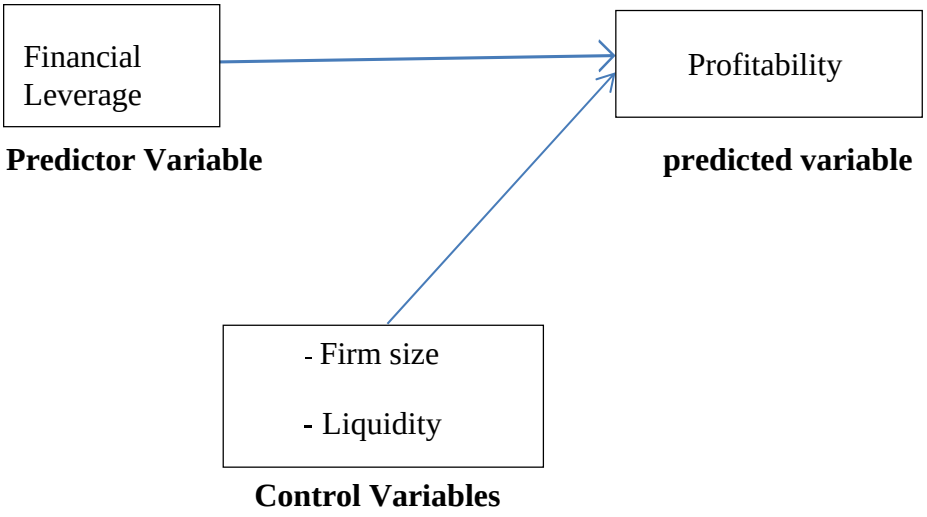
For the research done by Suhaila (2014), a descriptive research design for the 10State Corporations within the tourism industry was adopted. This was done to investigate the effect of leverage and liquidity on the firms' performance in the tourism sector. Period of the study was between 2008 and 2012 and secondary data from Balance Sheets, and various Income Statements was used for collection of data. Additionally, descriptive statistics was used for the data analysis and the findings were presented in graphical and chart form. The findings were that there existed a negative non-linear association between profitability and leverage. This is because the cost of debt surpassed the tax shield benefit level as illustrated by the trade-off theory.

Wainaina (2014) adopted a descriptive research design while conducting a study on the firms' financial performance and leverage relationship of 100 top SMEs in Kenya. The sample size was 30 SMEs, which were randomly selected from the study population. Time period was between 2008 and 2012. The study used the SPSS version 20, to analyze data and the conclusion was that financial significantly impacted financial performance. It was also noted that leverage and financial performance of the SMEs were positively related.

2.5 Conceptual Framework

The Figure 2.1 depicts the how profitability and financial leverage are related. The control variables are Firm size and liquidity.

Figure 2.1: Conceptual model



2.5.1 Summary of Literature Review

The chapter reviews theoretical literature that explain the relationship between profitability and leverage. It also reviews literature on the determinants of profitability which are: leverage levels, firm size, management efficiency and liquidity. Theories of finance and empirical studies give various perspective on how profitability and financial leverage are related. From past empirical studies done, financial leverage can have positive relation, no relationship and negative relationship with the firm profitability. This study will focus to seal the research gaps of how debt affects profitabilityof the commercial and services firms quoted in NSE.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter lists the various research methods that were used in data collection and how the different data analysis methods used to achieve the research objective. It begins with research design, population description, sample design, followed by data collection and finally analytical model.

3.2 Research Design

According to Bryman & Bell (2007), a research design provides or gives a roadmap that guides the researcher when he/she is collecting or analyzing data. The main purpose of the research design is to enable the researcher to apply the correct research methods that will help him /her answer the research questions. A descriptive research design was used in this study. This helps the researcher to understand the: who, what, where when and how much of the study variables. It also helps in describing the variable characteristics and the discovery of associations among the variables. The descriptive cross-sectional research design entailed data collection from the financial reports of the commercial services firms in NSE which was then examined to detect association patterns of variables.

3.3 Population and Sample

The study used the entire commercial service firms population that was listed in NSE. The population being small wasn't sampled and thus employed a census survey which considered a full set of observations in the population for the 12 firms in the commercial services sector in NSE from the years 2014 to 2019.

3.4 Data Collection

Secondary data was used in this study since it was readily available at the NSE. The data was quantitative in nature and was got from the NSE Handbook, annual reports of all the 12 commercial and services sector in NSE as per their accessibility and availability for the period of study. The secondary data obtained related to financial leverage, liquidity of the firm and profitability of 12 commercial service firms.

3.5 Data Analysis

Firstly, the collected data was edited then tabulated using Microsoft excel for descriptive analysis. The analysis of data incorporated the use of regression analysis and Pearson's correlation to describe how the variables were related. Financial leverage (predictor variable) was the first parameter that was analyzed. It was be operationalized by dividing the debt-to-equity ratio. Profitability was operationalized using: Return on Assets (ROA). The control variables were liquidity and firm size.

3.6 Diagnostic Test for Regression Model

Before regressing data for analysis purposes, data was checked in order not to violate the assumptions of panel regression model. According to Field (2000), the diagnostic tests that should be conducted are: homoscedasticity, types of variables, normality, autocorrelation tests and multicollinearity tests.

3.6.1 Analytical Model

An analytical regression model was used to describe the association between financial leverage and profitability NSE-listed commercial and services sector. The model is illustrated below:

$$Y=\alpha+ \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + €$$

Where:

Y = ROA (Net Income / Total assets), Financial performance

X_1 = Financial leverage; (Debt/Equity).

X_2 = Size of firm (natural logarithm of total assets)

X_3 = Firm Liquidity (current assets /current liabilities ratio)

α= gradient of the model

β= model coefficients

€ = residual error term.

3.6.2 Tests of Significance

F distribution test and T test were used to test the significance of the regression model at 5%. The F test tested the significance of the independence variable simultaneously while T test measured the individual significance of how independent variables affected the dependent variables.

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND INTERPRETATION

4.1 Introduction

The chapter highlights the study findings and how data was analyzed. It also discusses the study results interpretations. The section also explains the Diagnostic tests, correlation analysis, analysis of variance (ANOVA), descriptive statistics and regression analysis results.

4.2 Diagnostic Tests

The study assessed normal distribution by carrying out skewedness and kurtosis test. This was followed by heteroskedasticity test specifically the Breusch-Pagan test to test the assumption of constant error variance in regression analysis. Auto-correlation test, specifically Durbin Watson test was done to ensure the error terms were not correlated across different data observations.

4.2.1 Normality Tests

Normality test was carried out and the results illustrated below.

Table 4.1 Normality Test

	Count	Kurtosis	Skewness
ROA	66	3.182	-1.603
Financial Leverage	66	3.313	-0.390
Firm Size	66	-0.123	0.146
Liquidity	66	-0.989	0.328

Source: Research findings

Skewness explains the asymmetry of the data distribution whereas kurtosis explains the characteristics of the tails of the data distribution. From the table 4.1 above Return on

Assets had a skewness of -1.603 which means it had a longer left tail and a kurtosis of 3.182 which is mesokurtic and thus symmetrical. Financial leverage had a skewness of -0.390 which signified a moderate skew to the left and a kurtosis of 3.313 which was slightly leptokurtic since it was greater than 3. Firm size had a skewness of 0.146 which signified a slight positive skewness to the right, and a -0.123 kurtosis. Finally, liquidity had a 0.328 skewness and a subsequent -0.989.kurtosis. From skewness and kurtosis results above, the data collected was normally distributed.

4.2.2 Heteroskedasticity Test

The Breusch-Pagan test was done to check if the standard errors of the variables in the study monitored on a specific time interval were heteroskedastic i.e. not constant since this could violate the linear regression assumption.

Table 4.2 Heteroskedasticity Test

LM (Observed value)	LM (Critical value)	DF	p-value (Two-tailed)	alpha
7.696	7.815	3	0.054	0.05

Source: Research Findings

Since the calculated p-value is higher than the level of significance of 0.05 alpha, then the distribution is not heteroskedastic.

4.2.3 Multicollinearity Test

Multicollinearity was done and the VIF values and tolerance of the variables were used.

Table 4.3: Multicollinearity Test

Coefficients

Model	Collinearity statistics	
	Tolerance Values	**VIF**
Financial Leverage	0.889	1.125
Firm Size	0.828	1.207
Liquidity	0.921	1.086

From the results above, all variables had tolerance values of >0.2 and VIF values <10. This indicated that no multicollinearity existed amongst the independent variables of this study.

4.2.4 Autocorrelation test

Durbin Watson test was used to check whether there was a degree of correlation of the same variables between the original version and the lagged version of the value of the variable in a time series.

Table 4.4 Test for Autocorrelation

DW	rho	p-value (one-tailed)	alpha
1.840	0.028	0.056	0.050

The autocorrelation statistics computed above signified that the variables were not correlated serially because computed p-value (0.056) was greater than the significance level alpha=0.05.

4.3 Descriptive Statistics

The predictor and predicted variables that were analyzed were: ROA, financial leverage, liquidity, and firm size. The descriptive statistics were tabulated as below. The table presents (N), which refers to the number of observations, minimum values and maximum values, standard deviation and mean of the study variables.

Table 4.5 Summary Descriptive Statistics

Statistic	N	Min	Max	Mean	Standard deviation
ROA	66	-0.800	0.346	-0.068	0.205
Financial Leverage	66	-9.934	10.394	0.850	3.601
Firm Size	66	18.191	26.000	22.076	1.848
Liquidity	66	0.083	2.990	1.381	0.802

The results above shows that the average Return on Assets of the commercial and services firms was -0.068 with a maximum value of 0.346 and a minimum value of -0.800. Average Financial leverage of the commercial and services firms was 0.850 with a minimum value of -9.934 and maximum value of 10.394. Additionally, the mean size of the firms that were NSE-listed was 22.076 with a minimum value of 18.191 and maximum value of 26.00 . The average liquidity levels of the firms were 1.381 with a minimum value of 0.083 and maximum value of 2.990. The standard deviations of firm size, liquidity, financial leverage, and ROA is 1.848,0.802,3.601 and 0.205 respectively.

4.4 Correlation Analysis

The Pearson correlation coefficient or Pearson's r measured the strength of the association of the dependent and independent variables.

Table 4.6 Correlation matrix

Variables	ROA	FINANCIAL LEVERAGE	FIRM SIZE	LIQUIDITY
ROA	1	-0.126	0.189	0.416
FINANCIAL LEVERAGE	-0.126	1	-0.333	0.107
FIRM SIZE	0.189	-0.333	1	-0.280
LIQUIDITY	0.416	0.107	-0.280	1

Source: Research Findings

In the results shown above, the correlation matrix depicted that ROA and liquidity were positively related as explained by a correlation coefficient of 0.416. The was also a positive link between ROA and the firm size, signified by 0.189 correlation coefficient. Conversely, the matrix depicted a weak negative relationship between ROA and leverage, which was indicated by a negative correlation coefficient of -0.126.

4.5 Regression Analysis

The regression analysis section is comprised of the model summary which reports the relationship strength between the model and the dependent variable. This section also has the (ANOVA) and also the regression coefficients.

4.5.1 Model Summary

Regression analysis was also used to establish the association between the predictor and predicted variables.

Table 4.7 Model Summary

Model	R^2	Adjusted R^2	Standard Error estimate
1	0.280	0.245	0.0516

a) **Predictors: (Constant), Firm Size, liquidity, Financial Leverage)**

The results above show that R^2= 0.28 which indicates that 28% of the financial performance variations of the commercial and service firms is explained by the study variables which are firm size, liquidity and financial leverage while 72% of the variation is defined by other different factors not captured in this model.

4.5.2 Analysis of Variance

A variance analysis was conducted to determine the extent of the difference in the study variables across the firms. The ANOVA results illustrated below.

Table 4.8 ANOVA

Source	DF	Sum of squares	Mean squares	F	Pr > F
Model	3	0.766	0.255	8.043	**0.000**
Error	62	1.969	0.032		
Total	65	2.736			

a) Dependent Variable: ROA
b) Predictors: (Constant), Financial Leverage,Firm size, Lliquidity.

Table 4.8 indicates the significance value of p=0.000 which is less than p=0.05. This proves the statistical significance of the model.

4.5.3 Regression Coefficients.

The study examined the study variables at 95% confidence level to establish whether they were significant or not.

Table 4.9 Regression Coefficients

Source	Value	Standard error	t	Pr > |t|
Intercept	-0.994	0.305	-3.255	0.002
FINANCIAL LEVERAGE	-0.004	0.007	-0.687	0.495
FIRM SIZE	0.034	0.013	2.582	0.012
LIQUIDITY	0.131	0.029	4.548	<0.0001

The results from the regression coefficients shows that there was a statistically

insignificant negative relationship between Return on Assets and financial leverage, as shown by R=-0.004 with a significance level of 0495 where P>.05.Liquidity also was positively related with ROA with a coefficient of 0.131 with a level of significance p <.0001, which is less than 0.05.The results also showed that ROA and firm size were also positively related, with a coefficient of 0.034 and a level of significance of 0.012, which is less than 0.05(5%).Liquidity and firm size were statistically significant since their probability of their coefficients : <.0001 and 0.012 respectively were less than 0.05.

The research findings also help to explain that when all the variables are held constant, ROA would have a constant value of-0.994. When leverage increases by a unit, ROA would reduce by -0.004 whereas when liquidity increases by a unit, it would lead to an increase of ROA by 0.131 Additionally, when firm size increases by a unit, ROA increase by 0.034 units.

The regression model can be illustrated as below:

$Y=-0.994-0.004X1+0.034X2+0.131X3+\varepsilon$.

Where:

Y=Financial Performance of NSE-listed commercial and services firms.

X1=Financial Leverage.

X2=Firm Size (Natural Log of total assets)

X3= Liquidity.

ε=Error term

4.6 Discussion of the Research findings

This study aimed to determine how financial leverage impacted on the financial performance of the NSE-listed firms. The research questions were answered by the use of a descriptive research design and collection of data from 12 commercial and services firms from 2014 to 2019.A census survey was employed for data collection. Debt-to-equity ratio measured financial leverage whereas current ratio measured liquidity, firm size was measured by the log of total assets and finally the firm performance was measured by the ROA.

The Pearson correlation coefficients of the independent and dependent variables showed the existence of a positive association between financial performance and commercial and service firms' liquidity. The coefficient also showed that there existed a negative and insignificant link between leverage and financial performance of the firms. The firm size and the ROA had a positive and significant association. This showed how firm size impacted positively on financial performance of a company. This is made evident by economies of scale which are enjoyed by large-sized firms. This reduces the cost of collecting and processing of information and lowers the average unit cost of production due to increased production level (Mahaputeri & Yadnyana, 2014). This subsequently gives a company a comparative advantage over its competitors, which increases its financial performance. The correlation matrix also showed positive association between liquidity and ROA. This underpins the benefits of efficient liquidity management of a company. A company that can cover its short-term financial obligations has low liquidity risks and is able to secure loans and efficiently deal with financial challenges that befalls it. The going concern of the company is also ascertained by good liquidity levels.

Regression analysis results explained that 28% variability of financial performance was linked to the study variables as depicted by the R^2=0.28. This means 72% of other variables that were not part of the model accounted for the changes of financial performance. The findings also showed the fitness of model at a confidence level of 95% because the probability of the F value was less than 0.05. Therefore, the regression model was significant at 0.00 and hence could be used as predictor of the study variables' relationship.

This study is in tandem with the research by Enekwe, Agu and Eziedo (2014) who stated that there is a negative association between ROA and leverage ratio of Nigerian Pharmaceutical companies. According to Tangut (2012) returns from stocks were negatively affected by debt. According to Murikwa (2017), leverage negatively affected ROA. It however had a linear relationship with firm size of banks in Kenya.

The study differs with other studies done. For instance, Hareliman (2017) in his study found a very strong link between leverage levels and bank profitability. This means that firms which employed more debt to equity realized high profitability and thus maximized the shareholders' wealth.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

Outlined in this section is a synopsis of the findings, conclusions as per the research objectives and research questions outlined in the study. A comparative analysis for the findings and previous studies was also done.

5.2 Summary of Findings

The main purpose of the study was to explore the financial leverage effect on ROA of the NSE-listed commercial and services firms. The independent variables were firm size, liquidity and financial leverage. A cross-sectional descriptive research design was adopted in the study. The firms' annual financial statements obtained from the NSE portal were used to collate secondary data which was then analyzes using the XLSTAT and SPSS software. Annual financial data for the 12 firms for five years was used in the study.

From the correlation analysis results, a positively significant correlation exists between liquidity and ROA. There is also a negative and statistically insignificant association between financial leverage and ROA. The study also showcases a positive and significant link between firm size and ROA of the commercial and service firms listed at the NSE.

The coefficient of determination R^2 value was 0.28 which implied that independent variables used in this study explain 28% of the variation of ROA of the firms. This

therefore means that 72% of variation of ROA is caused by other variables that are not part of the model. Our model is also statistically significant because the significance value is 0.000 which is less than 0.05. This means that we can use the model to explain how the predictor variables affect the firms' ROA.

From the analysis of regression, -0.994 is the intercept value and this is the value of the ROA if the predictor variables are held constant. When financial leverage increased by a unit, it lead to a reduction of ROA by 0.004 whereas an increase in unit of liquidity lead to an increase of ROA by 0.131. Additionally, an increase in unit of firm size will make ROA increase by 0.034 units.

5.3 Conclusions

The conclusive remarks of this study are that financial performance of commercial and service firms listed at the NSE are positively affected by firm size and liquidity of the firm. However, leverage had a statistically insignificant negative relationship with the financial performance of the firms. This is to say that when leverage levels increased ROA decreased though not to a significant degree. Firm size had a positive association with ROA. Liquidity also had a positive and statistically relationship with ROA of commercial and Service firms listed at the NSE, which means that higher levels of liquidity boost the profitability of firms.

In conclusion liquidity, and the size of a firm have an effect on ROA of the firms. With financial leverage having no significant effect and liquidity and firm size having a significant effect on ROA. The three variables explain 28% of the changes in financial

performance of the firms as depicted by the R^2=0.28 in the ANOVA tables. The 72% are the other factors that lead to the variation of financial performance but haven't been examined in this model.

5.4 Recommendations

From this study, financial leverage had a statistically insignificant negative impact on the financial performance. The study recommends that whenever the company's management are formulating capital structure strategies, it would be imperative to strike a balance tax shield benefits offered by debt and bankruptcy costs that arise due to unsustainable borrowing by firms. An optimal target level should be maintained by the firm managers to maximize shareholders' wealth.

The findings of the study also showed an existence of positive link between the firms' liquidity position and their financial performance. This study therefore recommends that all firms should carry out a thorough assessment of their liquidity position to be able to determine whether they are able to cover their operational expenses. Liquidity management is also crucial since it helps the firms calculate their working capital, which is the lifeline of any company and thus can be used to determine its financial health.

The study also showed a positive link between the firms' financial performance and firm size of the commercial and services sector firms. This highlights the competitive advantage enjoyed by large firms due to economies of scale. This means that there is a significant reduction in average cost per unit due to the availability of mass scale production resources/capacity possessed by the larger firms. It is recommended that for

firms to gain from the benefits of economies of scale, they should lower their costs, increase production efficiency as is in large sized firms.

5.5Limitations of the Study

The research context only focused on the listed commercial and services firm in the NSE, whose financial reports were publicly available. The limiting factor was that the research only focused on these listed companies and no other privately-owned commercial and services firms, which don't have the company financial performance reports for public consumption.

The study period was from 2014 to 2019 and used the data got from the companies' annual reports. Current ratio analysis was also used to analyze some of the independent variables such as liquidity of the firms. This is however limiting because of the historical nature of ratio analysis. This makes financial statements susceptible to creative accounting from the company managers, which may present inaccurate financial position of a firm.

5.6 Suggestions for Further Research

Future scholars and researchers should consider examining the link between financial performance and financial leverage for privately-owned firms. This will close knowledge gaps that exist since private companies don't have their financial information on the public domain.

Future researchers may also extend the research period of the study. Since the research didn't exhaust the independent variables that affect financial performance of firms, this study recommends future studies to add other variables such as growth opportunities, management efficiency, firm age and industry practices among many other variables that are yet to be studied. Doing this will give industry players a wide variety of tools to choose from in the formulation of policies aimed at increasing financial performance of their firms.

Another recommendation is for use of different financial proxies that measure of financial leverage and financial performance to determine the existing relationship. This will provide a wider scope of analysis and interpretations which will enhance the quality of the research findings.

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APPENDICES

APPENDIX 1: COMMERCIAL SERVICES FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE.

1. Eveready.
2. Kenya Airways
3. Deacons (East Africa) PLC
4. WPP Scangroup
5. Nation Media Group
6. Standard Group
7. Express Kenya
8. Nairobi Ventures
9. Longhorn Publishers
10. Sameer Africa.
11. TPS Eastern Africa
12. Uchumi Supermarket

Source: NSE Handbook

APPENDIX 2:DATA

No	Y	X_1	X_2	X_3
1	0.053	1.073	22.658	0.574
2	- 0.543	7.524	22.564	0.343
3	- 0.567	-3.385	22.333	0.259
4	- 0.388	-2.278	22.188	0.083
5	- 0.191	3.257	20.651	1.287
6	- 0.051	0.875	21.136	0.870
7	- 0.191	1.225	20.803	0.454
8	0.346	0.406	20.465	2.695
9	- 0.203	0.311	20.168	2.532
10	- 0.800	1.259	19.331	1.502
11	- 0.023	4.266	25.725	0.465
12	- 0.141	-8.532	25.928	0.509
13	- 0.166	-5.442	25.788	0.404
14	- 0.069	10.394	25.718	0.196
15	- 0.055	-9.895	25.641	0.216
16	- 0.066	-9.934	26.000	0.378
17	0.031	0.390	21.397	2.898
18	0.046	0.644	21.634	2.902
19	- 0.121	0.946	21.548	1.644
20	- 0.542	3.705	21.163	0.800
21	0.047	0.555	23.310	2.280
22	0.038	0.449	23.246	2.756
23	0.034	0.531	23.325	2.378
24	0.035	0.535	23.345	2.282
25	0.042	0.699	23.392	2.070

26	0.038	0.780	23.273	2.000
27	0.206	0.362	23.204	2.365
28	0.018	0.418	23.265	2.095
29	0.139	0.399	23.223	2.073
30	0.116	0.386	23.150	2.018
31	0.100	0.421	23.139	1.954
32	0.071	0.551	23.216	1.934
33	0.079	0.858	22.135	1.219
34	- 0.066	1.320	22.195	0.954
35	0.045	1.122	22.206	1.169
36	- 0.046	1.163	22.241	0.847
37	0.056	1.393	22.266	0.912
38	- 0.115	1.952	22.157	0.597
39	- 0.162	1.652	19.985	0.593
40	- 0.136	2.679	19.907	1.126
41	- 0.255	9.375	19.755	0.852
42	- 0.251	- 6.359	19.701	0.597
43	- 0.217	- 3.345	19.587	0.619
44	- 0.046	8.872	19.972	1.497
45	0.098	3.212	18.191	1.977
46	0.025	1.461	18.532	1.809
47	0.028	2.118	18.862	2.735
48	- 0.229	2.194	18.783	2.990
49	0.127	0.721	20.432	1.209
50	0.104	0.812	20.351	1.500
51	0.056	0.970	21.348	1.646
52	0.072	0.965	21.343	1.370
53	0.077	1.316	21.602	1.209

54	0.078	1.123	21.575	1.189
55	- 0.017	0.521	22.073	2.524
56	- 0.004	0.505	22.045	2.205
57	- 0.198	0.793	21.914	1.580
58	0.004	0.616	21.812	1.549
59	- 0.205	1.291	21.674	0.904
60	- 0.694	9.151	21.149	0.866
61	0.017	0.531	23.492	0.804
62	- 0.018	0.633	23.484	1.040
63	0.007	0.775	23.555	1.635
64	0.007	0.908	23.585	1.079
65	0.010	0.926	23.591	0.434
66	0.010	0.955	23.613	0.665