2020

Influence of capital structure adjustment in mergers and acquisitions on acquirers' financial performance in Kenya

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INFLUENCE OF CAPITAL STRUCTURE ADJUSTMENT IN MERGERS AND ACQUISITIONS ON ACQUIRERS' FINANCIAL PERFORMANCE IN KENYA.

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A Research Dissertation Submitted in partial fulfillment of the requirements for the Degree of Master of Science in Development Finance at Strathmore University.

Strathmore Business School

Strathmore University

Nairobi, Kenya

June, 2020

DECLARATION

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the dissertation contains no material previously published or written by another person except where due reference is made in the dissertation itself.

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Date…… 18th June 2020

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Approval

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Signature…… 

Date…… 10th June 2020

ACKNWODLEGEMENT

I am eternally grateful to the Almighty God, from whom all knowledge and blessings flow. I'm thankful for the gift of life, good health and strength to be able to pursue this program.

Special and sincere appreciation goes to my supervisor Dr. Mathuva for first; encouraging me to join this program and secondly, for patiently and diligently guiding me through this study. I am also thankful for the role Strathmore University has played in my academic and professional development.

Further acknowledgement goes to my friends, colleagues and classmates who encouraged me and helped me in one way or the other to accomplish this study. Special mention to my friends; Cornel Opondo, Jacob Amayi, Job Nettoh, Collins Kirowo. Further acknowledgement goes to Kevin Otieno for the insights he offered in the diagnostic tests of the models. Special mention to my friend and desk mate Susan Mwangi for constantly ensuring that I made progress throughout the research process.

Finally, I thank my parents; Mr. Thomas Odhiambo and Celestine Awino for the support they have given me throughout my education. Special appreciation also goes to my uncle Boniface Opondo and to my siblings, Sharon, Racheal and Beldwin for their support and also for being patient with me throughout this study.

ABSTRACT

Capital structure is an important aspect in corporate finance since the profitability and the long term existence of the firm is affected by such decisions. Capital structure is expected to change after corporate restructuring such as Mergers and Acquisitions. Existing corporate structure literature has linked capital structure decisions and financial performance of firms. The aim of the study was to find the effect of corporate structure adjustment as measured by Leverage change and adjustment in leverage deficit on the financial performance of acquirers' listed in Kenya. Financial performance is measured by Return on Equity, return on Asset and Tobin's Q. The use of Tobin's Q as an additional measure of financial performance adds to the different ways that previous studies have used to measure financial performance. Financial performance is expected to improve when the deficit between target leverage and Actual leverage is bridged. Similarly, an acquirer's debt capacity is expected to increase after a merger and this increase in debt capacity is expected to influence the financial performance after the merger. A two-stage panel least squares regression were performed to establish the relationship between capital structure adjustment and financial performance. The study focused on mergers and acquisitions that were completed between 2007 and 2013. Analysis was carried out in the pre-merger period and 5 years' post-merger period. The findings show that both Adjustment in Leverage Deficit (ALD) and Leverage Change (LC) have a significant influence on the three measures of financial performance: ROA, ROE and Tobin's Q. The study found that ALD had a positive significant influence on acquirers' financial performance. Similarly, LC had a positive significant influence on acquirers' financial performance. The study should be of interest to corporate finance managers because the findings show that managers who are intentional about their capital structure adjustment during mergers and acquisitions have their financial performance significantly improved. The study however, had a number of limitations; there are limited number of non-financial acquirers' listed in Kenya. Secondly, The Kenyan data on mergers and acquisition is also not readily available making it difficult to know some aspects of the deal characteristics such as cash payment or equity.

Key Words: Capital Structure Adjustment, Leverage Change, Adjustment in Leverage deficit, Mergers and Acquisitions, Financial performance.

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ABBREVIATIONS AND ACRONYMS

ALD	Adjustment in Leverage deficit
CAK	Competitions Authority of Kenya
EBIT	Earnings Before Interest and Tax
EBITD	Earnings Before Interest Tax and Depreciation
EPS	Earnings Per Share
LC	Leverage Change
LD	Leverage Deficit
M&A	Mergers and Acquisitions
MBR	Market to Book Ratio
NSE	Nairobi Securities Exchange
R&D	Research and Development
ROA	Return on Asset
ROE	Return on Equity
VIF	Variance Inflation Factor
VL	Value of the Levered Firm
VU	Value of the Unlevered firm

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DEFINITION OF TERMS

Adjustment in Leverage Deficit (ALD) is defined as the difference between the Pre-merger leverage deficit and the current leverage deficit (Gill et al., 2011).

Book Leverage (BL) This is a ratio of total debt to total assets of a company (Kodongo et al., 2015).

Leverage Change (LC) is defined as the difference between the Actual Leverage and the Pre - merger book leverage (Hovakimian et al., 2001).

Leverage Deficit (LD) is the difference between the Actual leverage ratio and the target leverage ratio (Bouraoui & Rennes, 2014).

NSE is a Kenyan based Exchange given the mandate of listing securities both debt and equity (Nairobi Securities Exchange [NSE], 2018).

Target Leverage (TL) is the estimated value of a regression model that represents a company's optimal debt level (Uysal, 2011).

CHAPTER ONE:

INTRODUCTION

1.1 Background of the Study

Existing Financial literature has linked capital structure decisions to Mergers and Acquisitions. Finance studies explains capital structure as the different combinations of long term sources of funding which are used to finance the assets of a corporate, for example equity, preferred stock and debt. Capital structure theories are built on the assumptions that firms have an optimal leverage level or target capital structure which they work towards achieving as explained by (Modigliani & Miller, 1963). Static theory for instance, hypothesizes that firms reach this target capital structure when they trade off the tax benefits of leverage against financial distress costs(Modigliani & Miller, 1963). Capital structure Adjustment refers to how firms revert or rebalance to their target capital structure. In the corporate world, capital structure adjustment can be achieved through means such as issue of new shares, share repurchasing, divestures and long term corporate restructures such as Mergers and Acquisitions (Bouraoui & Rennes, 2014).

Mergers and Acquisitions play a crucial role in corporate expansion, corporate restructuring and control which in turn facilitates firms' growth and capital markets discipline (Kuo, Piesse, & Lee, 2013). Although Mergers and Acquisitions have in most cases been used synonymously, it is essential to differentiate the two terms because of the economic implications they have. A merger is the union of two or more firms into one firm whereas an acquisition in the other hand is where a firm purchases another with the aim of maintaining control (Harrison, Hitt, Hoskisson, & Ireland, 2001). An acquisition can also be defined as an act of taking over another firm and is usually characterized by a change of control (Lee & Lieberman, 2010). The term acquisition is used in generic sense to refer to any form of a takeover. A key difference between the two terms-Mergers and Acquisition- is that for a Merger, a new legal entity is formed (Kuo et al., 2013). Corporate Financial Performance can be measured in a number of ways; Return on Asset, Return on Equity and Tobin's Q (Choi & Wang, 2009; Mcgahan & Porter, 1999).

Existing literature shows evidence of relationship between firm value/performance and changes in leverage levels. Studies such as (Aman, 2011; Masulis, 1983; Modigliani & Miller, 1963; Siddiqui & Shoaib, 2011) have reported positive relationships. Other studies however have shown negative

relationship between capital structure decisions and firm performance (Kodongo, Mokoaleli-Mokoteli, & Maina, 2015; Rao, Al-Yahyaee, & Syed, 2011). It is expected that after a merger or an acquisition, the acquirer's firm will adjust its capital structure accordingly in a manner that benefits the acquirer. Some of the potential benefits or justifications associated with financial leverage changes after a merger include; the increased debt capacity hypothesis and wealth appropriation from bondholders (Ghosh & Jain, 2000).

Capital structure choices are crucial for corporates because of the shareholders need to maximize their returns and because such decisions affects the firm's ability to deal with its competitive environment (Gill, Biger, & Mathur, 2011). In Kenya, changes in the operating and competitive environment have resulted in firms listed in the Nairobi Securities Exchange having to merge or acquire other firms in the industry. Given the documented evidence in developed economies that there exists a relationship between capital structure adjustment in M&A and financial performance of firms, there is a need to substantiate whether the evidence exhibited in developed economies is different from those in emerging markets such as Kenya. While local studies have concentrated on the effect of mergers and acquisitions on the financial performance of firms, it will be exciting to evaluate the influence the adjustment of capital structure -Leverage change and Adjustment in leverage deficit- have on the financial performance of companies listed in the Nairobi Securities Exchange.

1.1.1 Mergers and Acquisitions and Capital Structure Adjustment

The motives and justifications for Mergers and Acquisitions according to (Hilary, Kran, & Lovestma, 1992) can be summarized into three top motives; the promise of increased profitability, pursuing marketing power and Marketing Economies of scale. In practice, the justification put forward from the acquirers' perspective is usually that the takeover would result in greater corporate financial and operational efficiency which ultimately then increases the shareholders' wealth (Tuch & O'Sullivan, 2007). This justification of increased shareholder value from the acquirers' perspective has led to a number of empirical studies on this area. Corporates have a number of financial strategies that they can use to change their capital structure for example share repurchasing and paying back corporate debts.

Similarly, major corporate events such as M&A influence an acquirer's capital structure. Adjustments in capital structure during Mergers and Acquisitions creates an environment where the effect of capital structure adjustment on the financial performance can be studied. Capital structure adjustment in mergers and acquisitions is considered to maximize firm value and minimize financing costs. Minimizing the cost of financing is a long term and continuous process that must be monitored and therefore, a long term effect on the financial performance should be studied. This study focuses on how this adjustment on Capital Structure-Absolute leverage change and Adjustment in leverage deficit- affects the financial performance of the acquirers'.

1.1.2 Mergers and Acquisitions in Kenya.

The Institute of Mergers and Acquisitions records that more than 790,000 Mergers and acquisitions transactions have been announced worldwide since the year 2000. The estimated value of these transactions being over 57 trillion USD. The review also records that the total deal value had increased to 3.8 trillion USD in 2018 which represented a global 4% increase from the previous year. Africa has continued to attract Foreign Direct investment in key sectors such Telecommunications, Manufacturing and Financial services, and one of the entry modes used to access the African market by foreign investors has been Mergers and Acquisitions. Kenya in particular has recorded an increased number of Mergers and Acquisitions with an international dimension. In the year 2017/2018 Financial year, the Competition Authority of Kenya (CAK) recorded that 148 Mergers and Acquisitions were finalized mainly from the following sectors; Manufacturing, Real Estate, Investment services, Distribution, Agriculture and Advertisement. The total value of Mergers and Acquisitions considered and finalized contributed a total of KES 66,071,547,769 to the Kenyan economy of which 55.3% were Mergers and Acquisitions with international dimension. This was despite the prolonged electioneering period and adverse economic and political reality that contributed to Kenya's GDP growth target of 4.9%(IMF, 2018)

Kenya has continued to experience a robust increase in investment over the years which can be linked to Kenya's improvement in ease of doing business. Kenya's ease of doing business has steadily improved from position 113 in 2016 to position 61 globally in 2019, indicating that Kenya has continued to be an attractive investment destination in Africa (World Bank, 2019). Out of the 190 countries that were ranked, Kenya was ranked 3rd in Africa and 7th overall as the most

improved country in ease of doing business, which represented a 7.82% improvement in overall score from the previous year's 65.2 to 70.3.

1.1.3 The Nairobi Securities Exchange (NSE)

The Nairobi Securities Exchange (NSE) was founded in 1954 and is considered to be one of the leading securities exchange markets in Africa. According to the latest NSE reports, there are 70 listed companies ranging from 13 different sectors. Mergers and acquisitions in the NSE have been have increased the in the recent past. Examples of notable mergers and acquisitions reported over the years include; Dimensions data Holding acquiring access Kenya, Total Kenya acquiring Chevron, Trans century acquiring Rift Valley Railways among others. Capital structure adjustment is expected around such corporate activities as mergers and acquisitions and it would be important to study how these adjustments affect the financial performance of these companies.

1.2 Problem Statement

Since the operationalization of the Competitions Act 2011, Kenya has continued to witness an increased number of Mergers and Acquisitions, both with local and international dimensions (Competition Authority of Kenya, 2017). A search on the empirical studies on Mergers and Acquisitions shows a vast amount of literature. Despite the growing number of Mergers, the empirical evidence regarding their effects is still scanty and inconclusive. The existing micro-economic studies that have been done are majorly concerned with their profitability, and even so, the conclusions reached are often contradictory. Studies such as (Ghosh & Jain, 2000; Healy, Palepu, & Ruback, 1992; Heron & Lie, 2002; Ramaswany & Wagelein, 2003) reported significant positive performance. However, (King, Dalton, Daily, & Covin, 2004; Sun & Tang, 2000) reported negative significant performance. Empirical literature also shows that a greater percentage of M&A studies have been conducted in the developed markets and in particular the UK and the US markets (Moeller, Schlingemann, & Stulz, 2005).

Despite the number of existing literature on Mergers and Acquisitions showing negative post-merger performance, there appears to be no evidence to show that these past negative results have impacted the volume and value of the Mergers and Acquisitions reported (Tuch & O'Sullivan, 2007). The volume and value of Mergers and Acquisitions have continued to increase, and this has attracted more empirical studies on their impact on financial performance. However, various

studies of the effects on mergers and acquisitions do not give a clear evidence on their relationship to capital structure decisions (Shrieves & Pashley, 1984).

The existing studies on adjustment of capital structure and their impact on post-merger performance of acquirers performance have reported a positive relationship (Bouraoui & Rennes, 2014; Harford, Klasa, & Walcott, 2009; Uysal, 2011; Yang, 2011). However, these past research done on Adjustment of Capital structure on Mergers and Acquisitions have given concentration on the effects of Capital structure on profitability and general performance such as efficiency and ignored the assessment against the value created to shareholders. Focusing on performance by using only Accounting information to measure performance has a number of limitations.

Accounting information is susceptible to manipulation by management through Earnings per Share (EPS) and use of different accounting policies which makes comparability of Accounting information difficult (Stanton, 1987). The study focuses on adjustment of capital structure in M&A by observing both the effect of absolute leverage change and adjustment in leverage deficit on the acquirers' financial performance. Compared with the limited existing studies in this area which focuses on the optimal capital structure around M&A activities, this study links the changes expected in capital structure to the financial performance of the acquirers.

This study also takes into consideration different firm specific factors that are recognized to determine capital structure choice and separate their effect on financial performance from that of capital structure adjustment. Regionally, there are limited studies that focuses on the effects of Capital structure adjustment and Financial performance. The study therefore, sought to fill this knowledge gap by evaluating the influence of capital structure adjustment in Mergers and Acquisitions on Kenya's acquirers' Financial performance. The study also improved on the methodology previously used by assessing the long term effect of capital structure adjustment by taking individual company pre-merger data and not just the industry averages.

1.3 Research Objectives

1.3.1 General Objectives

The general objective of the study was to investigate the influence of capital structure adjustment in Mergers and Acquisition on acquirers' financial performance in Kenya.

1.3.2 Specific Objectives

The study sought to address the following specific objectives:

1. To establish the influence of absolute leverage change on acquirers' financial performance.
2. To establish the influence of adjustment in leverage deficit on acquirers' financial performance.

1.4 Research Questions

The study sought to answer the following research questions:

1. What is the influence of absolute leverage change on acquirers' financial performance?
2. What is the influence of adjustment in leverage deficit on acquirers' financial performance?

1.5 Scope of the Study

There are 70 listed firms in the Nairobi Securities Exchange as at December 2019. This study, however, is limited to 19 firms which have undergone Mergers and Acquisitions from January 2008 to December 2018. Financial statements for these companies was used in the study as well as market trading share prices data which the researcher used to obtain the financial data from the Nairobi Securities Exchange.

1.6 Significance of the Study

1.6.1 To investors:

The research highlights the relationship that exists between capital structure adjustment and the market returns of the listed firms in the NSE and thus investors are able to make better investment decisions. Investors will be able to judge the properly managed firms which the market has incorrectly priced, over/underpriced by observing their capital structure characteristics

1.6.2 To companies:

This information will help companies to align their working capital management (operational decisions) to their ultimate goal; shareholders' wealth maximization and in so doing determine the capital structure mix that is optimal.

1.6.3 To researchers and academicians:

The researcher also hopes to contribute to the already existing empirical studies on the area and advance towards capital structure theories in the area of corporate finance.

1.6.4 To policymakers:

The researcher also hopes that the research outcomes will guide management and policymakers in the market like the Capital Market Authority, in designing policies that non-financial listed firms at the NSE can adopt.

1.7 Organization of the Study

The study comprises of five chapters, with this chapter inclusive. Chapter two and three are planned in a way that they answer the research objectives already mentioned in chapter one. Chapter Two covers the literature review on the subject matter discussed by prior authors and hypothesis formulation. Chapter three covers the research methodology and methods that the researcher intends to use in the research. Chapter for presents the research findings and their interpretation. Chapter five covers, the discussions on the research findings, the conclusion and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter is divided into sub-sections. The first section deals with the role of capital structure adjustment in Mergers and Acquisitions. The second section deals with the theoretical framework on capital structure and the formulation of testable hypothesis. The third section discusses the independent variables and dummy variables and how they influence the dependent variable. This is followed by the development of a conceptual framework. The chapter thus attempts to answer the research questions highlighted in chapter one.

2.2 Capital structure adjustment in Mergers and Acquisitions.

Mergers and acquisitions are one of the entry modes of Foreign Direct Investment and has continued to attract interest in both theoretical and empirical studies. Mergers and Acquisitions play a crucial role in corporate expansion, corporate restructuring and control which in turn facilitates firms' growth and capital markets discipline (Kuo et al., 2013). Although Mergers and Acquisitions have in most cases been used synonymously, it is important to distinguish the two terms because of the economic implications they have (Singh, 1971).

A Merger is a combination of two or more firms in which only one firm survives (Hampton, 1989). A Merger occur when an acquiring company and a target company both agree to combine under legal procedures established in the countries in which the merger participants are incorporated (Halpern, 1983). The business dictionary also defines a merger as a *"voluntary amalgamation of two firms on roughly equal terms into one new legal entity*" An Acquisition in the other hand refers to an activity where the acquiring firm controls more than 50% of the equity of the target company (Singh, 1971). As indicated by (Halpern, 1983), the term acquisition is utilized in nonexclusive sense to allude to any type of a takeover. A key difference between the two terms-mergers and acquisition- is that for a Merger, a new legal entity is formed (Kuo et al., 2013). Another major difference between a merger and a takeover/acquisition is that in most cases, mergers require the express approval of those already in control, which in most jurisdictions is more than a simple majority vote (Manne, 1965).

It is expected that after a merger or an acquisition, the acquirer's firm will adjust its capital structure accordingly in a manner that benefits the firm. Some of the potential benefits or justifications associated with capital structure changes after a merger include; Increased debt capacity and improved wealth appropriation to bondholders. According to (Lewellen, 1971) , an increase in debt limit is a possible motive for a merger. Other studies such as (Stapleton, 1982) and (Brealey & Myers, 1991) alludes that firms can create value by making debt safer. These studies show that merged firms reduces their variability in earnings (when the earnings of the two firms are not perfectly positively correlated). This means that the variability of the merged firm's earnings is less than the weighted average variability of the earnings of the two firms. The implication of the reduced variability in earnings is a reduction in the expected bankruptcy costs. The net aftereffect of these diminished costs is an expansion in post-merger debt limit contrasted with the pre-merger debt capacity of the acquiring firm and the target firm. An acquiring firm can similarly increase its market value by expanding its debt value. This is a direct result of tax deductibility of the interest payments generated from additional debt (Ghosh & Jain, 2000).

Another justification for adjustment in capital structure after a merger or an acquisition is the advantage of wealth expropriation from bondholders. According to (Galai & Masulis, 1976) a merged firm is able to minimize risk as a result of co-insurance effect. This reduction in risk increases outstanding debt value and reduces the value of equity. Because equity is an option on the face value of outstanding debt, the value decreases with a decrease in variability (Galai & Masulis, 1976). The increase in debt value is offset by the decrease in equity value. This argument is also supported by (Shastri, 1990) who argues that equity holders can gain around mergers as a result of wealth expropriation from bondholders. By increasing financial leverage, equity holders of merged firms, can protect themselves from potential losses. With a large enough financial leverage, the value of equity could increase as a result of wealth appropriation from bondholders (Kim & McConnell, 1977). According to (Ghosh & Jain, 2000), although an increase in market value of a merged firm is likely to increase as a result of tax deductibility of interest from increased debt capacity, part of that increase in firm value can be attributable to the wealth appropriation of existing bond holders to equity holder.

Other Non-Financial leverage changes rationale for the acquirer or the predator firm is usually based on the promise of increased shareholders' wealth. Another justification for Merging would

be for reasons such as increased synergy values- Financial, Operational, Managerial and Sales synergy. Another firm level justification for a Merger and acquisition is based on the promise of improved economic performance and efficiency where the value of the merged company is expected to be higher than the sum of the individual companies. Taxation benefit is also a justification for a merger, where an acquirer takes over or merges with a target company with accumulated losses with the aim of using the losses to offset against any future profits in the short term. There are other motives and justifications for Mergers and Acquisitions which according to (Hilary et al., 1992) can be summarized into three top motives; the promise of increased profitability, pursuing marketing power and Marketing Economies of scale.

Capital structure adjustment refers to how firms revert or rebalance to their optimal capital structure. In corporate finance, capital structure adjustment can be achieved through means such as issue of new shares, share repurchasing, divestures and long term corporate restructures such as Mergers and Acquisitions (Bouraoui & Rennes, 2014). According to (Leland, 2007), adjusting capital structure serves as a vital financial justification behind M&A decisions. An acquiring firm may use M&A as a means of adjusting its capital structure (Gugler & Konrad, 2002). According to (Byoun, 2008b), adjustment in capital structure is important, especially when firms face either financial deficit or surplus.

According to (Leary & Roberts, 2005b), in order for firms to keep themselves within an optimal capital structure range, firms will actively rebalance their debt levels. The argument is that firms actually do consider readjustments and will take into consideration the costs involved. This argument is reinforced by (Faulkender, Flannery, Hankins, & Smith, 2010) who argues that it is generally not worthwhile to have an optimal leverage level and that corporates set an optimal range as opposed to a precise target capital structure. Adjustment in capital structure is measured using adjustment in leverage deficit (Baum, Caglayan, & Rashid, 2017; Bouraoui & Rennes, 2014; Harford et al., 2009; Uysal, 2011) or by using absolute change of financial leverage (Baum et al., 2017; Bouraoui & Rennes, 2014; Ghosh & Jain, 2000; Gill et al., 2011).

2.3 Theoretical Review.

This section discusses the different theories that can be adopted in explaining the influence of capital structure on the firm's value and market performance. There are several theories that have been used in the past in explaining the relationship between capital structure and financial performance of firms; Trade-off theory, Pecking order theory, Modigliani and Miller theories and Market timing theory. The researcher intends to use the Static Tradeoff theory and the Pecking order theory in this study due to their high frequency of usage by the past empirical studies on the capital structure decisions.

2.3.1 The Static Trade-off Theory

This theory as suggested by (Modigliani & Miller, 1963) states that corporates will always try to find the appropriate leverage level that balances off the tax advantage from interest tax shield and any possible financial distress costs such as bankruptcy and agency costs. In other words, a tax paying firm will prefer a moderate level of debt. The theory asserts that corporates will increase leverage up to the level where the tax savings from additional unit in debt financing is equal to the costs of the increased chance of financial distress. Under this theory, a firm is viewed to set an ideal debt level which then they gradually move towards, implying that a firm's optimal capital structure that maximizes the value of the firm do actually exist. The framework has a strong practical appeal to financial managers. It also confirms the observed relationship between tangibility of assets and capital structure. Studies have shown that companies with more safe tangible assets are likely to have more debt than firms with risky intangible assets. The tradeoff theory emphasizes on corporate taxes.

In many jurisdictions, interest payment on debt is tax deductible. The tradeoff theory asserts that because of interest tax benefits, companies that are likely to generate higher levels of operating profits should include high amounts of debt in their capital structure. Previous empirical studies on the relationship between leverage and corporate taxes have in the past produced mixed and inconclusive results. For example, studies by (Auerbach, 1985),(Bradley, Jarreli, & Kim, 1984) and (Titman & Wessels, 1988) all found no evidence to support the predictions that corporates debt levels are related to a company's non-debt tax shields. However, (Scholes, Wilson, &

Wolfson, 1990) found that a relationship exists between marginal tax rate and capital structure decisions for commercial banks. Typically, these studies use cross sectional analysis to investigate the relationship between a corporate's leverage and its corporate tax. Testing leverage levels using cross sectional tests have a number of limitations. For example, according to (Myers, 2001), implementing changes in a capital structure are costly. Therefore, the assertion is that the observed financial structure at a given point may differ from the optimal leverage level. The tradeoff theory suggests that firms will use leverage up to a certain level where the marginal interest tax shields on incremental debt is offset by the increase in present value of the financial distress costs. This then suggests that any value maximizing company will always take up the benefit of interest tax shield provided that the chance of financial distress is low. If this theory holds true, then we should be observing more profitable firms use more debt in their capital structure.

Yet many multinational corporations, many of which are relatively profitable and with strong credit ratings, have been operating at relatively low debt to equity ratios such as Microsoft (Parsons & Titman, 2008). This has been confirmed empirically by studies that confirm that most profitable corporations in a given sector, tend to use the least debt. Studies such as (Wald, 1999) and (Chen, 2004) have confirmed this. The tradeoff theory asserts that managers can take advantage of the interest tax shields, however, the observed empirical evidence is that highly profitable firms actually do use less debt compared to equity. The theory therefore is not able to account for the correlation between low leverage and profitability, since according to the theory, high profits would mean that a company has more earnings before tax to shield and also, they would be able to service their debt without facing any financial distress.

One of the consequences of the optimal capital structure is that it should maximize the value of the firm. The shareholders of the acquiring firms should therefore expect that their wealth will increase when the firms approach their target capital structure after Mergers and Acquisitions. The acquiring firms maximize their firms value through Mergers and Acquisitions when their leverage deficit is effectively reduced after the Mergers and Acquisitions (Sakade, 2009)

2.3.2 The Pecking Order Theory

An alternative to the tradeoff theory is the pecking order theory as explained by (Myers, 1984). The Theory is based on two major assumptions. The first assumption is that managers have more

information than outside investors on the firm's prospects. The second assumption is that managers act in the best interest of the owners of the firm. These conditions mean that a company will forgo undertaking investment projects with positive net present value, if accepting these projects will make the company to issue undervalued shares to new investors. This then provides the basis for corporates to value financial slack for instance, unused debt level and high amount of cash. The financial slack then allows the firm to accept projects that would have been rejected if the firm had to issue new equity to shareholders.

Most importantly, the theory asserts that firms actually do have a preferred order of sourcing for their funds. Firms will only issue equity as the last resort. Companies will prefer retained earnings followed by debt and hybrid securities (convertible securities) and lastly they can issue equity. This order of preference is based on the fact that generally, issue costs on equity are higher than issue costs on debt and that there are no costs associated with retained earnings. Also, because debt holders have a priority over ordinary shareholders, equity holders will want a premium on their investments. This makes equity capital costlier compared to debt capital.

In many jurisdictions, interest payments on debt instruments are tax deductible and such companies claim a tax relief on the interest that they pay on debt. This reason too, explains why debt financing is considered cheaper compared to equity financing and therefore according to the pecking order theory, debt financing will have a priority over equity financing. Whereas the Tradeoff theory emphasizes on taxes, the pecking order theory puts more emphasis on asymmetric information. Recent studies by (M. Barclay & Smith, 2005), (Frank & Goyal, 2003) and (Fama & French, 2002) showed that adverse selection costs are not the only costs that firms take into consideration when making capital structure decisions. Other studies such as (Leary & Roberts, 2005a) and (Strebulaev, 2007) have also shown that although firms have target debt ratio, they prefer internal financing to external financing.

In the pecking order theory, companies do not have a well-defined optimal capital structure. Unlike the trade-off theory, the benefit of interest tax shields and the potential financial distress costs associated with debt are assumed second order. According to the theory, any changes in the leverage levels are driven by external funds need and not an attempt to reach an optimal level. However, empirical studies have shown that the pecking order hypothesis can be rejected if a firm's financing follows the tradeoff theory (Myers & Sunder, 1994). How then does the acquiring

firm incline to move towards the target capital structure? The study will also seek to find whether the pecking order theory should be rejected when the tradeoff theory is accepted.

2.4 Empirical Literature Review

2.4.1 Leverage change and financial performance.

Leverage deficit is defined as the difference between Target leverage and Actual debt/assets ratio (Hovakimian, Opler, & Titman, 2001). Leverage deficit can also be defined as the Actual leverage minus predicted leverage (Harford et al., 2009; Uysal, 2011). Traditional capital structure theories assert that firms have target debt ratios which they determine by balancing the benefits and costs of financing. This assertion is consistent with (Graham & Harvey, 2001) report which indicated that 81% of Chief Financial Officers (CFO) do claim to have a target capital structure. In making capital structure decisions, managers take into consideration deviations from target capital structures into account when planning and restructuring acquisitions (Uysal, 2011).

Empirical study by (Harford et al., 2009) shows that acquirers' post-merger performance declines when firms move away from their target capital structure. Their argument is that a firm's aim of adjusting towards a target capital structure is to maximize the long run market value. (Yang, 2011) found that acquirers' financial performance is significantly improved when the deficit between target leverage and actual leverage is bridged. His regression model shows that generally, acquirers that are overleveraged have better performance than underleveraged acquirers.

2.4.2 Absolute change of financial leverage, and financial performance

Change in Financial leverage is defined as the difference between Merged firms' financial leverage and the pro-forma financial leverage of the target and acquiring firms before the merger (Ghosh & Jain, 2000; Gill et al., 2011). An acquirer's post-merger performance is expected to improve by changes in absolute financial leverage (Bouraoui & Rennes, 2014). (Ghosh & Jain, 2000) concludes that acquiring firms increase their financial leverage after merger which confirms the increase in debt capacity hypothesis. The increased debt capacity hypothesis by (Lewellen, 1971) suggest that merged firms are able to increase their financial leverage because of an increase in post-merger debt capacity.

Empirical studies show that an increase in absolute financial leverage indicates an increase in post-merger debt capacity which has a positive effect on acquirer's firms performance (Ghosh & Jain,

2000). Another study by (Maloney, Mccormick, & Mitchell, 1993) found that higher pre-merger leverage in an acquirer firm is likely to lead to a better performance around M&A announcements. Generally, there seems to a positive relationship between change in financial leverage and post-merger performance of acquirers. However, investors tend to worry about firm's long term financial performance because increasing financial ratio in M&A may lead to an increase in financial distress for acquirers (Bouraoui & Rennes, 2014).

2.4.3 Capital structure adjustment and firm financial performance

Return on Equity (ROE) and Return on Asset (ROA) are two financial performance measures that are commonly used to measure acquirers' post-merger financial performance. ROE is a core ratio of DuPont analysis and is considered to be one of the best accounting measures that reflect shareholders value (Bouraoui & Rennes, 2014) . The ratio is given by Earnings before interest and tax (EBIT) divided by equity for the firm (Bouraoui & Rennes, 2014). Return on Assets (ROA) on the other hand is defined as the ratio of EBIT to total assets (García-Teruel & Martínez-Solan, 2007).

Tobin's q ratio developed by (Tobin, 1969, 1978) is extensively used in finance as a proxy for firm's value. The ratio is defined as the market value of a firm divided by the replacement costs of the firm's assets. The estimated q value is assessed using the Roll's spread(Chung & Pruitt, 1994). A q greater than 1 implies that the firm's stock is more expensive than its replacement costs. The implication is that the shares are currently overvalued. A low q value between 0 to 1 means that the firm's asset replacement cost is greater than the market valuation of the firm. The implication is that the shares are undervalued.

In Africa, country specific studies have consistently reported negative relationship between firm value and capital structure. For example (Abor, 2005), while conducting a study on Ghana and (Onaolapo & Kajola, 2010) conducting a study for Nigeria found that capital structure and firm value are negatively correlated. Different result findings are observed by (Kodongo et al., 2015) for Kenya and (Ebaid, 2009) for Egypt that found that capital structure had no effect on firm's value.

2.5 Control Variables

Control variables are included in the conceptual framework to separate the effect of firm characteristics from the impact of capital structure adjustment on acquirers' post-merger performance. These control variables are; Firm size, Asset tangibility, Market to Book ratio and Profitability.

2.5.1 Firm Size

Many studies have reported a positive relationship between firm size and leverage. For example (Rajan & Zingales, 1995) and (Titman & Wessels, 1988). The basic explanation given by these studies is that re-financing costs are proportionately costlier for smaller firms compared to big firms. This implies that smaller firms do tend to require larger deviations from their target to refinance as compared to larger firms (Parsons & Titman, 2008). Empirical study by (Rajan & Zingales, 1995) conducted on firms in G.7 countries reported that large firms tend to be more diversified and therefore tend to have lower probability of default.

These findings are consistent with what the Trade-off theory of Capital structure predicts; which is that large firms should borrow more because they are generally less prone to bankruptcy costs. Other empirical studies that have reported significant positive relationship between firm size and leverage include; (Bauer, 2004; Deesomsak, Paudyal, & Pescetto, 2004; Eriotis, Vasiliou, & Ventoura-Neokosmidi, 2007; Jong, Kabir, & Nguyen, 2008; Serrasqueiro & Roga˜o, 2009; Zou & Xiao, 2006). Many studies on Capital structure have measured the size of the firms as the natural logarithm of total assets (Kodongo et al., 2015)

2.5.2 Asset Tangibility

(Myers & Majluf, 1984) argues that firms may take advantage of selling secured debt because of information asymmetry between the management and the outside investors. Thus, firms that issue debt that is secured by assets that have known values, avoid such costs. This finding therefore suggests a positive relationship between leverage and asset tangibility. The tangibility of a firm's asset mix is measured as a ratio of tangible assets to the firm's total assets. Several empirical studies have shown that a positive relationship exists between asset tangibility and leverage (Friend & Lang, 1988; S. Huang & Song, 2006; Jong et al., 2008; Rajan & Zingales, 1995; Serrasqueiro & Roga˜o, 2009; Titman & Wessels, 1988)

The rationale presented by these studies is that tangible assets as opposed to intangible assets are able to preserve their value in the event of default which then increases the creditors recovery rates. Another reason why tangible assets are more likely to give better collateral is related to the prices the creditors are able to fetch in the event of a default. Intangible assets when sold are not likely to hold similar value for potential bidders (Parsons & Titman, 2008). Fixed assets are more easy to redeploy even in other industry compared to intangible assets (Shleifer & Vishny, 1992; Williamson, 1988).

2.5.3 Market to Book Ratio

Debt ratios are predicted to be negatively related to equity market value ratio to equity book value (M/B). This is one of the most reliable predictors of leverage regardless of whether market leverage or book leverage is used as the dependent variable (Parsons & Titman, 2008). This relationship has been extensively documented in empirical studies such as (M. J. Barclay, Smith, & Morellec, 2006; Frank & Goyal, 2003; Hovakimian, Hovakimian, & Tehranian, 2004; Rajan & Zingales, 1995)

Firms with high market values compared to their book values are more likely to exhibit better future prospects relative to the value of their assets. This is because the expected profits of future investment opportunities affect market values and not book values (Parsons & Titman, 2008) Another interpretation is that firms with high market value to book ratio tend to be overvalued and will have a higher incentive to use more equity financing because the price is favorable to the firm.

2.5.4 Profitability

According to the trade-off theory, profitability and leverage have a positive relationship. This is because high profits encourage the use of debts as firms can take advantage of the interest tax shield on payments of interest on those debts. The pecking order theory asserts that firms prefer retained earnings (internal funds), and will choose debt financing over equity financing when they need external finance. The theory therefore suggests that a negative relationship between profitability and leverage exists.

This positive relationship has been confirmed in a number of empirical studies such (S. Huang & Song, 2006; Jong et al., 2008; Rajan & Zingales, 1995; Serrasqueiro & Roga˜o, 2009; Titman & Wessels, 1988; Wald, 1999; Zou & Xiao, 2006). Profitable firms are likely to have debt ratios that

are lower than their targets, especially where firms use excess cash flows to repay debt and tend to finance any external financial need using debt as opposed to equity. This is particularly true when managers have better information about the firms values than the outside investors (Myers, 1984)

2.6 Summary of Literature Review and Research Gap

While studies around mergers and acquisitions and capital structure have been conducted extensively, most studies around mergers and acquisitions have concentrated on their effect to performance of the acquirers' and not the effect that the adjustment in capital structure would have on the post-merger financial performance. And even so, these studies on the general post-merger performances have reported contradicting results; Studies such as (Ghosh & Jain, 2000; Healy et al., 1992; Heron & Lie, 2002; Ramaswany & Wagelein, 2003) reported significant positive performance. While, (King et al., 2004; Sun & Tang, 2000) have reported negative significant performance.

A search of existing literature does not show studies that have been on effect the capital structure adjustment has on the financial performance of firms, particularly for developing economies. A summary of empirical studies (Harford et al., 2009; Yang, 2011) show that there's a positive relationship between adjustment towards target leverage and financial performance of acquirers' which is supported by the optimal capital structure theory. However, changes in absolute leverage levels have reported contradicting results. Empirical studies such as (Maloney et al., 1993)(Ghosh & Jain, 2000) show that an increase in leverage increases the acquirers' debt capacity which enable them to enjoy an increased leverage advantage and therefore increases the firm value (performance). On the other hand, empirical studies such as (Bouraoui & Rennes, 2014; J. Huang, Pierce, & Tsyplakov, 2011; Yang, 2011) have also shown an increase in post-merger performance by improving the financial flexibility and future investments.

This study therefore seeks to fill the gap in literature by evaluating the influence the adjustment in capital structure as measured by both adjustments in leverage deficit and absolute leverage change on the financial performance of acquirers' for firms listed in the NSE.

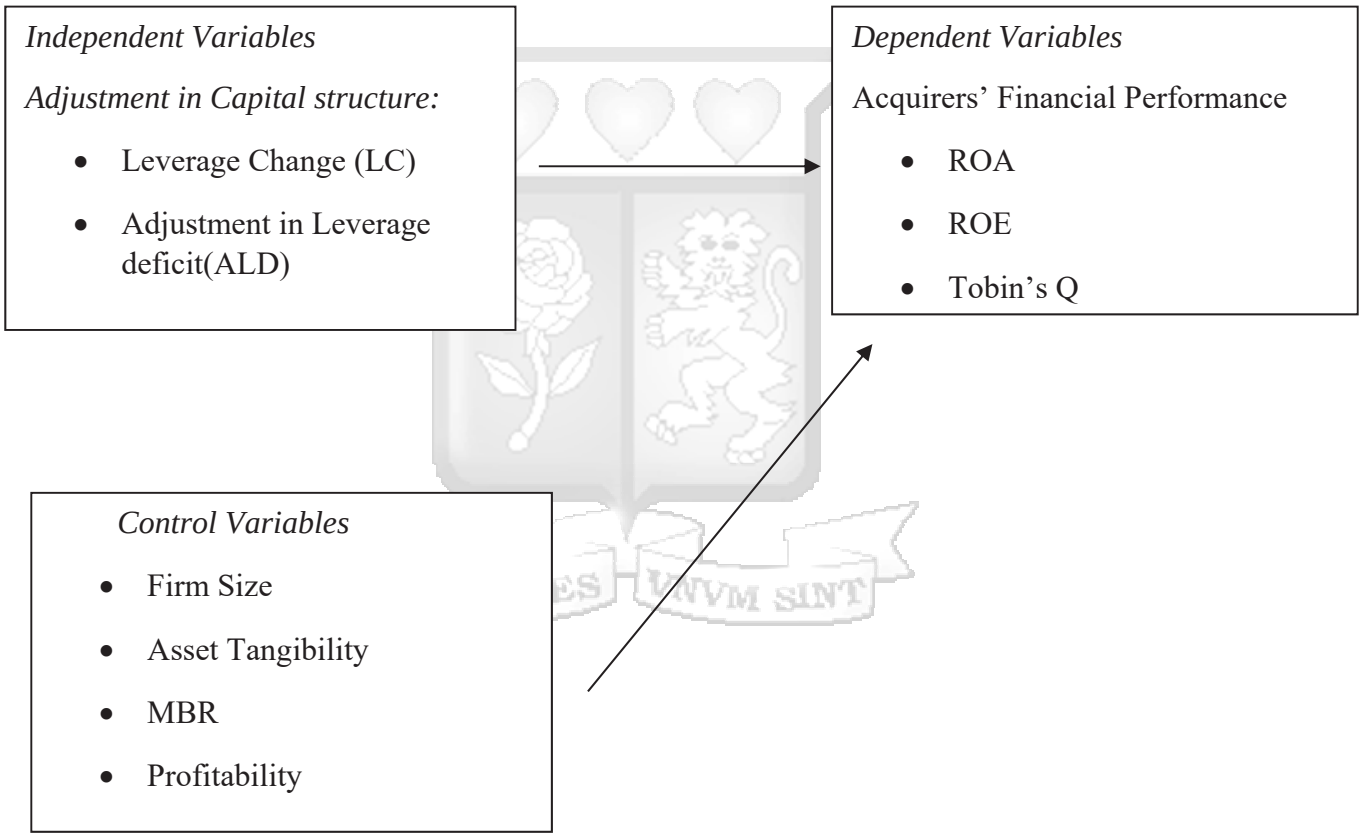
2.7 Conceptual Framework and Discussion of Variables

The dependent variable for the study is the acquirers' financial performance. The financial performance will be examined both internally and externally. Internal financial performance

measures will be Return on Asset (ROA) and Return on Equity (ROE). External performance/Market measures will be examined using Tobin's Q.

The independent variable is the adjustment in capital structure as measured by Adjustment in leverage deficit and Absolute leverage deficit. Other variables known to affect capital structure are included in the framework as control variables. These variables as discussed above are; Firm size, asset tangibility, market to book ratio and profitability.

Figure 2.1: Conceptual Framework



2.8 Operationalization of the variables

This section describes how the researcher measured both the independent variables (adjustment in capital structure; absolute leverage change and adjustment in leverage deficit) and the dependent variables (acquirers' financial performance; ROE, ROA and Tobin's Q). Adjustment in leverage

deficit is expected to improve the acquirers post-merger performance (Bouraoui & Rennes, 2014; Harford et al., 2009; Yang, 2011) Adjustment in absolute leverage on the other hand is expected to have an effect on the acquirers debt capacity after the merger (Bouraoui & Rennes, 2014).

The firm's value will be measured using the Tobin's Q statistics a ratio of market value of the firm to the replacement costs of its assets. This ratio has been used in past capital structure studies such as (De Miguel & Pindado, 2001; S. Huang & Song, 2006; Kodongo et al., 2015).

The researcher will also asses the effect the control variables have on the dependent variables discussed above. The firm size as a control variable will be measured. Many studies on Capital structure have measured the size of the firms as the natural logarithm of total assets (Kodongo et al., 2015). The study will also asses the effect of growth opportunities on the dependent variable. Firms holding future growth opportunities in the form of intangible assets are likely to borrow less than firms with more intangible assets because growth opportunities cannot be collateralized. Growth opportunities will be measured as a ratio Research and Development (R&D) to total sales (Eriotis et al., 2007; Parsons & Titman, 2008).

The effect of asset tangibility on the dependent variable will be assessed. Empirical studies discussed above suggests a positive relationship between leverage and asset tangibility. The tangibility of a firm's asset mix will be measured as a ratio of tangible assets to the firm's total assets. (Friend & Lang, 1988; S. Huang & Song, 2006; Jong et al., 2008; Rajan & Zingales, 1995; Serrasqueiro & Roga˜o, 2009; Titman & Wessels, 1988). Another control variable incorporated in the conceptual frame work is Market to book ratio. Firms with high market values compared to their book values are more likely to exhibit better future prospects relative to the value of their assets. Debt ratios are predicted to be negatively related to equity market value ratio to equity book value (M/B). Market to Book ratio will measured as the ratio of market value of equity to total assets (Bouraoui & Rennes, 2014; De Miguel & Pindado, 2001; Yang, 2011). Profitability as a control variable on the dependent variable will be assessed. High profits encourage the use of debts as firms can take advantage of the interest tax shield on payments of interest on those debts. A positive relationship is therefore expected between leverage and profitability. This will be measured as a ratio of Earnings Before Interest, Tax and Depreciation (EBITD) to total assets (De Miguel & Pindado, 2001; S. Huang & Song, 2006; Yang, 2011).

Table 2.1: Operationalization Table

Variable	Operational definition	Measurement scale	Citation
Leverage Change	The difference between the Actual Leverage and the Pre - merger book leverage	Ratio	(Hovakimian et al., 2001).
Adjustment in Leverage deficit	The difference between the Pre-merger leverage deficit and the current leverage deficit	Ratio	(Gill et al., 2011).
Financial Performance	Increase in post-merger performance as measured by ROA, ROE and Tobin's Q	Ratio	(Hovakimian et al., 2001).
Firm Size	The natural logarithm of total assets	Ratio	(Kodongo et al., 2015)
Asset Tangibility	The ratio of firm's tangible assets to total assets	Ratio	(Friend & Lang, 1988; S. Huang & Song, 2006; Jong et al., 2008)
Market to Book Ratio	A measure of market value of equity to total assets	Ratio	(Bouraoui & Rennes, 2014
Profitability	Improvement in post-merger performance as measured by EBDTA	Ratio	Miguel & Pindado, 2001; S. Huang & Song, 2006; Yang, 2011)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the research methodology that was used in the study. Research methodology is the plan that holds all the research elements together (Cooper & Schindler, 2011). Specifically this chapter defines the choice research design, research philosophy, population of the study, validity, and reliability of the research instrument data collection methods and analysis employed in the study. It also discusses the data collection methods that the researcher used in the study. The regression model is also emphasized as it was used in the analyses of the secondary data.

3.2 Research Philosophy

Research philosophy is the belief of the way the data should be analyzed and interpreted after collection. The research philosophy employed in the study is a positivist approach. A positivist approach aims at being consistently rational and logical in order to seek objectivity (Carson, Gilmore, Perry, & Gronhaug, 2001) . The study used this philosophy based on the fact that it employed secondary data to determine the relationship between variables. In a positivist approach, the researcher's role is constrained to information assortment and understanding in an objective way.

The study was based on measurable observations that lead to statistical analysis, and the findings were expected to be both observable and measurable. Further, in a positivist philosophy, the researcher is independent from the study and provisions for human interest within the study are limited (Saunders, Lewis, & Thornhill, 2009) . Consistent with prior studies, the research used the positivist approach as it aims at establishing the relationship between capital structure adjustment and the acquirers' financial performance (Bouraoui & Rennes, 2014; Harford et al., 2009; Yang, 2011).

3.3 Research Design

The study used a descriptive research design in determining the relationship between capital structure adjustment and the financial performance of acquirers' firms listed on the NSE. A descriptive research design aims to describe the way things are at a particular time. A descriptive approach is suitable when describing the features of a phenomenon in a specific situation (Kothari, 2008). The use of descriptive research design in capital structure studies has been supported by

past empirical studies (Abor, 2005; Bayrakdaroglu, Ege, & Yazici, 2013; Harford et al., 2009; SheridanTitman & Wessels Roberto, 2007; Wolmarans & Brümmer, 2013; Yang, 2011).

3.4 Population and Sampling

Population is the large pool of all subjects from where the sample is drawn (McMillan, H., & Schumacher, 2010). In this study, the target population was all listed firms in the NSE involved in Mergers and Acquisitions activities between the years 1998 to 2019 hence purposive sampling was used. Data was obtained from the subjects' financial statements. The target population of study was nineteen (19) firms listed at the NSE as at December 2018 that had undergone M&A activities. The final sample excluded listed firms that offer financial services which are categorized under banking, insurance, exchange-traded fund, investment, and investment services sectors as per the NSE listing category. These firms are excluded because financial leverage is a unique characteristic in the financial services sector (Byoun, 2008a).

Table 3.1: Companies in the final sample

Categories of firms	Number of firms	Number of firm year Observations
Listed companies engaged in M&A as at 31st Dec 2019	19	133
Less: Number of Financial and Insurance companies	12	84
Total number of companies in the Final Sample	7	49

Table 3.2: Categorization of firms under study

Sector	Number of companies	Percentage of firms under each categorization (%)	Number of firm year observations
Commercial and Services	3	42.86%	21
Energy and Petroleum	2	28.57%	14
Manufacturing and Allied	2	28.57%	14
Total	7	100%	49

3.5 Data Collection Methods

The study used secondary data which were mainly from the audited financial statements of the acquirers' firms listed in the Nairobi Securities Exchange.

3.6 Data Analysis and Methodology

According to (Saunders et al., 2009) , data analysis is the systematic application of the statistical tools to process raw data into meaningful output or result. The study used OLS regression analysis as previously used in these empirical studies (Bouraoui & Rennes, 2014; J. Huang et al., 2011; Yang, 2011)

The regression model adopted was as follow; After data collection from the annual financial statements, the firms' target capital structure is estimated, after which leverage deficit is calculated. A Tobit regression model as used by (Harford et al., 2009; Uysal, 2011) was adopted to measure the Target Leverage which is used to calculate Leverage deficit. The regression considers size, profitability, tangibility, and market to book ratio.

$$\boldsymbol{TL = B_1 Size + B_2 EBITDA + B_3 TANG + B_4 MBR + B_0} \quad (3.1)$$

Where: TL is target leverage change.

Leverage deficit is then estimated as follows;

Leverage deficit = Actual leverage Ratio-Target leverage Ratio

Adjustment in Leverage Deficit (ALD)= Pre-merger Leverage deficit- Current Leverage deficit

Leverage Change (LC)= Actual Book Leverage- Pre-merger Book Leverage

The following three generalized models based on the three dependent variables of the study was adopted:

Generalized model 1

$$\Delta ROA = B_1 LC + B_2 ADL + B_3 Size + B_4 EBITD + B_5 TANG + B_6 MBR + B_0 + \varepsilon \quad (3.2)$$

Generalized model 2

$$\Delta ROE = B_1 LC + B_2 ADL + B_3 Size + B_4 EBITD + B_5 TANG + +B_6 MBR + B_0 + \varepsilon \quad (3.3)$$

Where ΔROA and ΔROE will are given as follows;

ΔROA = ROA after Merger – premerger ROA

ΔROE = ROE after Merger – premerger ROE

Generalized model 3

$$\text{Tobin's Q} = B_1 LC + B_2 ADL + B_3 Size + B_4 EBITD + B_5 TANG + +B_6 MBR + B_0 + \varepsilon \quad (3.4)$$

Each of the above 3 generalized models are further analysed using the following two models;

Model 1

$$FINPFM = B_0 + B_1 LC + B_2 Size + B_3 EBITD + B_4 TANG + +B_5 MB + \varepsilon \quad (3.5)$$

Model 2

$$FINPFM = B_0 + B_1 ADL + B_2\, Size + B_3\, EBITD + B_4\, TANG + +B_5 MB + \varepsilon \quad (3.6)$$

Where, FINPFM represents ΔROA, ΔROE and Tobin's Q. Size is the relative size of the firm as measured by the natural logarithm of total assets, EBITD, is earnings before interest, tax and depreciation and MB represents market to book ratio

Table 3.3: Variable Definitions

Variable	Definition	Measurement	Source
Dependent Variable	**FINPFM**		
ROA	Return on Assets	Net Profit/Total Assets	Harford et al., 2009;
ROE	Return on Equity	Net Profits/Total Equity	(Yang, 2011)
ΔROE	Change in return on equity	(Actual ROE) – (pre-merger ROE)	(Bouraoui & Rennes, 2014)
ΔROA	Change in return on assets	(Actual ROA) – (pre-merger ROA)	Bouraoui & Rennes, 2014)
Tobin's Q	Firm's market value measure	Market Value of the firm to its book value	(Tobin, 1978)
Independent Variables			
LC	Leverage Changes	(Actual BL) – (pre-merger BL)	(Hovakimian et al., 2001)
ALD	Adjustment Leverage Deficit	|pre-merger leverage deficit|– |Current leverage deficit|	(Gill et al., 2011)
LD	Leverage deficit	Actual leverage ratio-Target leverage Ratio	(Bouraoui & Rennes, 2014)
BL	Book Leverage	Total Debt/Total Assets	(Kodongo et al., 2015)
TL	Target Leverage Ratio	Estimated fitted value of Tobit regression Model above	(Uysal, 2011)

Variable	Definition	Measurement	Source
Control Variables			
TAN	Tangible Assets	(Tangible assets)/(total assets)	Annual financial statements
EBITD	Earnings before Interest, Tax and Depreciation	Earnings before Interest, Tax and Depreciation/ Total Assets	Annual financial statements
MBR	Market to Book Ratio	Market value of equity to total assets	Annual financial statements
SIZE	Firm's relative size	the natural logarithm of total assets	Annual financial statements

3.7 Diagnostic test for the model

3.7.1 Multi-collinearity

This is a state of high inter-correlation amongst independent variables. Multi-collinearity exists where two or more predictor variables in a model are highly correlated. It is a type of problem that if present in data, the statistical influence about the data may not be reliable. Multiple regression equation used in this study requires that the independent variable; Leverage Change (LC) and Adjustment in Leverage Deficit (ALD) together with the control variables are not correlated in order to maintain the explanatory power of the model. A multiple regression equation was used to analyze the variability of the dependent variable (FINPFM) using the information from the independent variable LC and ALD. The study intends to use variance inflation factor (VIF) to assess the tolerance levels of multi-collinearity in the regression equation.

3.7.2 Autocorrelation

Autocorrelation is also identified as serial correlation. Autocorrelation exists when a set of data is correlated with itself. Which means that there exists a degree of similarity between a given time series and its lag over a given period of time. Autocorrelation value of zero indicates that there is no correlation between the variables; variables are independent of each other. The study used the Durbin-Watson test to test for serial correlation on the regression equations.

3.7.3 Heteroscedasticity

Heteroscedasticity is a condition that is illustrated by a systematic change of the error term. A major assumption of the linear regression analysis is that the error term is homogenous in nature. When this key assumption is violated, then heteroscedasticity has occurred in the data. The study used Breusch-Pagan test to test for the heteroscedasticity condition.

3.7.4 Endogeneity

Endogeneity occurs when the error term and the predictor variable (X) are correlated in a regression model. Situations where we may encounter endogenous variables include where; there are omitted variables, selection bias, simultaneity and measurement error. The study used the Haussmann specification test to detect endogenous regression in the multiple regression model.

3.7.5 Normality

Normality is a statistical concept derived from the normal distribution. Normality test in the study will be carried out using two tests; the Kurtosis and the Skewness tests. The Kurtosis will measure the distribution fatness and the Skewness the symmetrical about the mean.

3.7.6 Mean reversion test/ Stationarity test

Stationarity of a series (that is, a variable) infers that its mean, variance and covariance are constant over time which means they do not vary systematically over time and they are time invariant. The study employed the Augmented Dickey-Fuller unit root test to test for stationarity in the Target Leverage model (TL).

3.8 Ethical Issues in Research

Ethical considerations are an important area that has to be an integral part of the research. Research ethics is referred to as the appropriate behavior of research relative to the societal norms (Guillemin, 2004). The research process was planned, reviewed and commenced in a manner that ensures the integrity and quality of the research. The research took into account the research ethics in the following way; a cover letter from Strathmore University ensured that the secondary research data obtained is used for the sole purpose of the research.

CHAPTER FOUR

PRESENTATION OF RESEARCH FINDINGS

4.1 Introduction

The purpose of this study was to assess the influence of capital structure adjustment in Mergers and acquisitions on acquirers' financial performance for firms listed at the Nairobi Securities Exchange (NSE). Data analysis was performed out on 7 Non-financial companies listed at the Nairobi Securities Exchange that had engaged in Mergers and Acquisitions activities between 2007 and 2013. Since leverage is unique for Banking firms and Insurance companies because of regulations, they are excluded from the sample. Analysis was carried out in the pre-merger period and 5 years' post-merger period.

This section presents the findings of analysis done on data derived from annual financial reports. The section is organized into two parts. Section A: Describes how Leverage deficit and adjustment in leverage deficit variables were determined. Part B: Describes how the objectives of this research were achieved. Section A presents the diagnostic test for all the regression models in this research, regression model for Target leverage, Leverage deficit, and extraction of Leverage Change (LC) and Adjustment in Leverage Deficit (ALD). Section B presents the descriptive statistics, correlation matrix, Regression models for ROE, ROA and TOBIN's Q which will help answer the research questions.

4.2 Diagnostics tests

4.2. 1 Heteroscedasticity

is a problem that exists where the errors do not have a constant variance, that is, $var(u_t) = \sigma^2 < \infty$ (Brooks, 2019; Wooldridge, 2015). The Lagrange Multiplier is calculated by using R^2 from the auxiliary regression and multiplying it by the number of observations, that is, $TR2 \sim \chi2(m)$ where m is the number of regressors in the auxiliary regression (Brooks, 2019; Wooldridge, 2015). The null hypothesis was $H_0=0$, there is no heteroscedasticity. Table 4.1 shows how the Lagrange Multiplier (LM) was arrived at. According to these findings the calculated LM for model one shows presence of homogeneity of variance since $\chi^2 = 12.13$ was less than tabulated value 22.36. The other models had heteroscedasticity of error terms since the calculated chi square value was greater than tabulated value (5% critical value). A possible solution to heteroscedasticity is converting variables into logs (Satchell, 2003; Wooldrige, 2015).

Table 4.1: Lagrange Multiplier

Models	R^2	No. of observations	LM	Tabulated value (X^2)	Decision
Model 1	0.96	13	12.42	22.36	Fail to Reject Ho
Model 2	0.15	43	6.52	48.12	Reject Ho
Model 3	0.49	49	23.88	67.5	Reject Ho
Model 4	0.31	49	15.23	67.5	Reject Ho
Model 5	0.48	49	23.76	67.5	Reject Ho
Model 6	0.35	49	17.01	67.5	Reject Ho
Model 7	0.14	49	6.70	67.5	Reject Ho
Model 8	0.30	49	14.50	67.5	Reject Ho
Model 9	0.22	49	10.79	67.5	Reject Ho
Model 10	0.06	49	2.88	67.5	Reject Ho
Model 11	0.24	49	11.96	67.5	Reject Ho

4.2.2 Test for Normality

The study used histogram and Q-Q plot to test for normality. If the points in the plot lie on the straight line, then the data is normal. If the histogram is well covered by the probability density curve, it infers that data is normal. The chart below shows that the histogram is well curved with the density curve but we have spikes which raises doubt of normality.

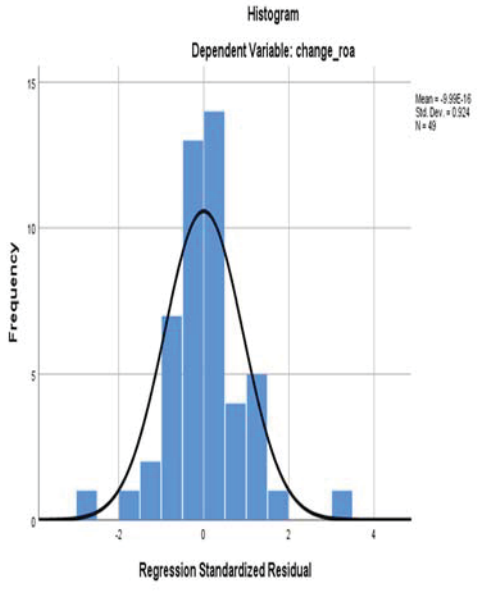


Figure: 4.1

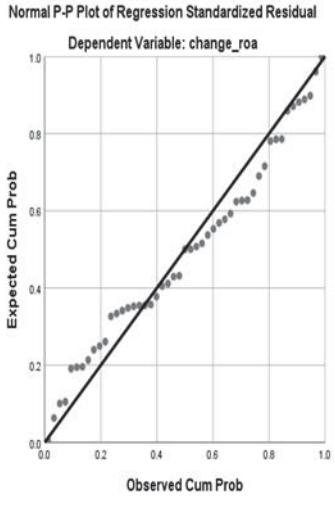


Figure: 4.2

From the table 4.2 skewness of ROA model was 0.207 positive, which means the model is skewed to the right. The ROE model had a negative skewness of 4.644 which means it is skewed to the left. Tobin's Q had a positive skewness of 3.069 which means the model is skewed to the right. The ALD model had a Negative skewness of 0.714 which indicates skewness to the left. The LC model had a positive skewness of 1.288 which indicates skewness to the right.

Table 4.2: Skewness & Kurtosis.

Descriptive Statistics					
	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
ΔROA	49	0.207	0.340	4.478	0.668
ΔROE	49	-4.644	0.340	29.344	0.668
Δ Tobin's Q	49	3.069	0.340	10.649	0.668
ALD	49	-0.714	0.340	1.137	0.668
LC	49	1.288	0.340	0.598	0.668
Valid N (listwise)	49				

4.2.3 Test for Autocorrelation

Autocorrelation is the problem that exists if the disturbance terms are not equal to zero that is $cov(u_i,u_j) = 0$ (Satchell, 2003; Wooldridge, 2015). Presence of autocorrelation could lead to incorrect standard errors (Satchell, 2003). Consistent with prior studies the Durbin-Watson test was used to test for auto-correlation (Baatwah, Salleh, & Ahmad, 2015; Sultana et al., 2015) . The null hypothesis being tested is $H_0=0$, no autocorrelation.

Table 4.3: Durbin Watson statistic

Models	*Durbin-Watson Statistic*	*Decision*
Model 1		
Model 2		
Model 3	1.66	Reject Ho
Model 4	2.56	Fail to Reject Ho
Model 5	0.98	Fail to Reject Ho
Model 6	1.17	Fail to Reject Ho
Model 7	2.03	Reject Ho
Model 8	0.70	Fail to Reject Ho
Model 9	1.04	Fail to Reject Ho
Model 10	2.02	Reject Ho
Model 11	0.69	Fail to Reject Ho

Table 4.3 shows that for model 3, model 7 and model 10 the Durbin Watson statistic was close to 2 hence we reject the null hypothesis showing no presence of autocorrelation. Durbin Watson statistic was model 4, Model 5, Model 6, Model 8, Model 9 and Model 11 was not close to two indicating that there was autocorrelation due to the rejection of the null hypothesis.

In line with Mizon, (1995) who argued that autocorrelation presents an opportunity rather than a problem and can be avoided by a "general to specific strategy" this study used a two-stage panel least squares regressions model (Mizon, 1995).

4.2.4 Multi-collinearity

Multi-collinearity has been defined as the problem that arises when two or more independent variables are highly correlated (Satchell, 2003). Tests were conducted using the Variance Inflation Factor VIF). Prior studies show that a VIF greater than five (tolerance <0.20) implies that the regression coefficients were poorly estimated (Hair, Ringle, & Sarstedt, 2013; Mardikyan, Çetin, & Mardikyan, 2008). Table 4.4 presents the multi collinearity test using VIF for the ROA models. Prior studies show that VIF that is less than ten implies no multi-collinearity. According to the findings in table 4.4 the VIF of the independent variables ranged between 2.331 and 6.434 for model 1. The VIF for Model 2 ranged between 1.007 and 6.377, while the VIF range for model 3 was 1.156 to 6.377. The VIF values showed that there was no multi-collinearity since they were

below 10. In conclusion, since there is no relationship between the independent variables in the ROA, the relationship can be said to be orthogonal.

Table 4.4: Collinearity test; ROA

	MODEL 1		MODEL 2		MODEL 3	
Variables	Tol	VIF	Tol	VIF	Tol	VIF
LN_SALES	0.429	2.331	0.432	2.312	0.432	2.313
LN_EBDTA	0.155	6.434	0.157	6.377	0.157	6.377
LN_FA	0.299	3.348	0.307	3.252	0.306	3.266
TANGIBILITY	0.295	3.385	0.478	2.093	0.446	2.244
MBR	0.173	5.774	0.213	4.694	0.206	4.865
ALD	0.184	5.447	0.993	1.007		
LC	0.160	6.252			0.865	1.156

Table 4.5 summarizes the multi collinearity test using VIF for the ROE models. All the 3 models had VIF values below 10 indicating that there were no multi collinearity issues with the 3 models.

Table 4.5: Collinearity test, ROE Models

	MODEL 1		MODEL 2		MODEL 3	
Variables	Tol	VIF	Tol	VIF	Tol	VIF
LN_SALES	0.429	2.331	0.432	2.312	0.432	2.313
LN_EBDTA	0.155	6.434	0.157	6.377	0.157	6.377
LN_FA	0.299	3.348	0.307	3.252	0.306	3.266
TANGIBILITY	0.295	3.385	0.478	2.093	0.446	2.244
MBR	0.173	5.774	0.213	4.694	0.206	4.865
ALD	0.184	5.447	0.993	1.007		
LC	0.160	6.252			0.865	1.156

Table 4.6 summarizes the multi collinearity test using VIF for the Tobin's Q models. All the 3 models had VIF values below 10 indicating that there were no multi collinearity issues with the 3 models.

Table 4.6: Collinearity test, Tobin's Q Models.

	MODEL 1		MODEL 2		MODEL 3	
Variables	Tol	VIF	Tol	VIF	Tol	VIF
LN_SALES	0.429	2.331	0.432	2.312	0.432	2.313
LN_EBDTA	0.155	6.434	0.157	6.377	0.157	6.377
LN_FA	0.299	3.348	0.307	3.252	0.306	3.266
TANGIBILITY	0.295	3.385	0.478	2.093	0.446	2.244
MBR	0.173	5.774	0.213	4.694	0.206	4.865
ALD	0.184	5.447	0.993	1.007		
LC	0.160	6.252			0.865	1.156

4.2.5 Endogeneity

Endogeneity occurs when the error term and the predictor variable (X) are correlated in a regression model. Situations where we may encounter endogenous variables include where; there are omitted variables, selection bias, simultaneity and measurement error. An augmented regression test (DWH test), can be formed by including the residuals of each endogenous right-hand side variable, as a function of all exogenous variables in a regression of the original model (Davidson & MacKinnon, 1993). If the residual is significantly different from zero, then OLS is not consistent. From the tests below, we fail to reject the null hypothesis *((F(1,40)=1.31, p>0.05))* which indicates that OLS is consistent that is, there is no endogeneity.

Table 4.7: Endogeneity test.

F(1, 40)	1.31
Prob >F	0.2599

4.2.6 Mean reversion test/ Stationarity test

Stationarity of a series (that is, a variable) implies that its mean, variance and covariance are constant over time which means they do not vary systematically over time and they

are time invariant. A stationary series will tend to return to its mean and fluctuations around this mean will have a broadly constant breadth. However, if a time series is not stationary, it is called a nonstationary time series such will have a time-varying mean or a time-varying variance or both. The study used the Augmented Dickey-Fuller unit root test to test for stationarity in the Target Leverage model (TL).

Table 4. 8: Dickey Fuller test for unit root

Test statistics	**Interpolated Dickey Fuller**		
	1% Critical Value	5% Critical value	10% critical value
Z (t) -3.482	-3.594	-2.936	-2.602
MacKinnon approximation p-value for z(t) =0.0085			

Decision: The null hypothesis of a unit root is rejected against the one-sided alternative hypothesis if the computed absolute value of the tau statistic exceeds the DF or MacKinnon critical tau values and we conclude that the series is stationary; otherwise (that is, if it is lower), then the series is non-stationary.

From the above, the tau statistic is |3.482|, hence the null hypothesis is rejected which confirms the series is stationary.

4.3 Descriptive Statistics

4.3.1 Descriptive statistics for the variables

The secondary data used in the study was obtained from audited annual reports of the acquirers' listed at the NSE and were analyzed using the OLS regression methods. The chapter section below discusses the descriptive statistics. The Table 4.9 provides a summary result for each variable that was considered in this study.

On Average acquirers' have a ROA of 7.98% with the highest firm having 33% and a minimum of -19.22% and the standard deviation being 8.845%. The summary results show that the mean ROE for acquirers' firms listed in Kenya was 13.51% and the highest and lowest ROE being 45% and -97.0% respectively. With the standard deviation of ROE being 20.24%. On Average the firms' Tobin's Q was 1.47238 times and maximum value being 7.5166 times while the minimum value being 0.09943 times. The standard deviation of the Tobin's Q was 1.74414 times.

Table 4. 9 : Descriptive statistics

Variable	N	Mean	Median	Maximum	Minimum	Std. Deviation
ROA	*49*	7.986	5.914	33.020	-19.228	8.846
ROE	*49*	13.515	11.787	45.069	-97.500	20.246
Tobin's Q	*49*	1.472	0.640	7.517	0.099	1.744
Change in Dependent Variables						
ΔROA	*49*	-1.401	-1.563	22.661	-27.597	7.701
ΔROE	*49*	-2.931	-0.904	27.551	-115.539	18.537
ΔTobin's Q	*49*	0.242	-0.124	6.367	-1.059	1.298
Independent Variables						
ALD	*49*	0.005	0.023	0.330	-0.488	0.029
LC	*49*	0.092	0.014	0.705	-0.400	0.034
Control Variables						
TAN	*49*	0.417	0.317	0.760	0.082	0.220
EBDTA	*49*	16,905,906.12	2,946,113.00	112,834,000.00	228,350.00	27,477,012.95
MBR	*49*	1.37	0.51	7.42	0.07	1.71
SIZE	*49*	68.27	46.38	233.72	0.53	68.90
Firm Specific Variables						
Book Leverage	*49*	0.21	0.13	0.82	-	0.23
Debt Value	*49*	4504944.837	1192167	24469236	0	6863364.372
Market Capitalization	*49*	117702467.3	6558264	1242028268	486403.5	245201837.3
Fixed Assets	*49*	23.21	8.77	121.71	0.63	35.97

4.3.2 Descriptive statistics from Multiple Regression models

In order to observe how acquirers' Leverage adjustment, move, the Target Leverage was estimated. The leverage change as measured by Leverage deficit and Adjustment in leverage deficit after the merger from year 1 to 5 is summarized in table 4.10 below.

Table 4.10: Descriptive statistics for ALD, LC and Acquirers Financial Performance

	ΔROA		***ΔROE***		***ΔTobin's Q***		***ALD***		***LC***	
time	***Mean***	***sd***	***Mean***	***sd***	***Mean***	***sd***	***Mean***	***sd***	***Mean***	***sd***
t-1	0.000	0.000	0.000	0.000	0.000	0.000	0.032	0.107	0.000	0.000
t	-1.522	3.122	-1.941	4.221	-0.103	0.542	0.039	0.147	0.064	0.158
t+1	-0.709	3.730	0.771	5.637	0.153	1.045	-0.004	0.235	0.109	0.321
t+2	-2.369	7.051	-3.252	8.590	0.300	1.141	0.000	0.224	0.113	0.279
t+3	-1.516	7.557	-2.287	9.170	0.267	1.185	0.022	0.220	0.083	0.282
t+4	-1.045	8.946	0.881	12.343	0.254	1.292	0.003	0.208	0.099	0.242
t+5	-2.648	13.824	-14.688	42.661	0.823	2.293	-0.055	0.216	0.175	0.153

The post-merger ALD figures are positive in the short term that is from years 1 to 2 suggesting that majority of the acquiring firms move towards an optimal debt level after Mergers and acquisitions. However, in the long term in year 5, ALD moves in the opposite direction. The leverage deficit as shown in the figure above is positive throughout the period of study. The indication is that most acquirers are not over levered before the merger. The graph shows that the acquires leverage ratio increases after the merger suggesting an increased debt capacity after the merger. Consequently, the leverage deficit remains positive as before the merger period.

The change in ROA and ROE calculated from the pre-merger values and the actual ROA and ROE during the period under study keep declining. This is supported by previous studies on mergers and acquisition that suggest that acquirers' performance as measured by ROE and ROA do not improve with mergers and acquisition activities (Tuch & O'Sullivan, 2007). The change in acquirers' performance as measured by ROE deteriorates more after the merger.

The change in Tobin's Q after the merger increases after the merger suggesting that acquires market value increases after the merger as measured by the post-merger market price. This can also suggest that most acquirers are overvalued after the merger.

4.4 Correlation matrix

A correlation Analysis was used to check the relationship between the dependent (Change in ROA, Change in ROE and Change in Tobin's Q) and the dependent variable (ALD and LC).

Pearson's correlation coefficient was used. This is a parametric rank statistic that measures the strength of a relationship between two variables (Piovani, 2008). Table 4.8 presents the Pearson's correlation matrix.

The findings show that the correlation coefficients between ROA and ALD was negative but not significant (coefficient = -0.067, $p > 0.05$). This implies that the relationship between ROA and ALD was very weak. The correlation coefficient between ROA and LC was negative and significant (*coefficient= -0.427, p-<0.01*). This meant that the relation is weak, and LC will increase when ROA reduces. The correlation coefficients between ROE and ALD was negative but not significant (coefficient = -0.018, $p > 0.05$). This implies that the relationship between ROE and ALD was very weak and not reliable. The correlation coefficient for LC was negative and not significant (*coefficient= -0.189, p-<0.05*). This meant that the relation was very weak not reliable. The correlation coefficients between TOBIN Q and ALD was negative but not significant (coefficient = -0.012, $p > 0.05$). This implies that the relationship between TOBIN'S Q and ALD was very weak. The correlation coefficient for LC was negative and not significant (*coefficient= -0.144, p-> 0.05*). This meant that the relation is very weak, and LC will increase when TOBIN'S Q reduces.

Table 4.11: Correlation matrix

	ROA	*ROE*	*Tobin's Q*	*ALD*	*LC*	*LN_SALES*	*LN_EBDTA*	*LN_FA*	*TAN*	*MBR*
ROA	1									
ROE	.797**	1								
	0.00									
Tobin's Q	.728**	.387**	1							
	0.00	0.01								
ALD	-0.07	-0.02	-0.01	1						
	0.65	0.90	0.94							
LC	-.427**	-0.19	-0.14	0.16	1					
	0.00	0.19	0.33	0.27						
LN_SALES	0.25	0.20	.494**	0.17	.393**	1				
	0.09	0.18	0.00	0.24	0.01					
LN_EBDTA	0.11	-0.06	.353*	-0.10	0.09	.548**	1			
	0.46	0.69	0.01	0.48	0.53	0.00				
LN_FA	0.25	0.19	.575**	-0.03	0.17	.772**	.716**	1		
	0.08	0.19	0.00	0.84	0.24	0.00	0.00			
TANGIBILITY	.293*	.310*	.394**	0.20	.323*	.781**	-0.04	.395**	1	
	0.04	0.03	0.01	0.16	0.02	0.00	0.77	0.01		
MBR	.344*	.297*	.714**	0.11	0.27	.737**	.423**	.785**	.588**	1
	0.02	0.04	0.00	0.45	0.06	0.00	0.00	0.00	0.00	

** Correlation is significant at the 0.01 level (2 tailed)

* Correlation is significant at the end 0.05 level (2 tailed)

4.5 Extraction of Leverage Change and Adjustment in Leverage Deficit variables

A multiple regression model was used (Harford et al., 2009; Uysal, 2011)(Harford et al., 2009; Uysal, 2011)(Harford et al., 2009; Uysal, 2011) to determine the Target Leverage which was used to calculate Leverage deficit. The regression considers size, profitability, tangibility and market to book ratio. Pre-merger data was used for this regression.

The results of the regression model are presented in Table 4.11 shows a summary of the regression statistic for models 1. According to the findings the model was significant F (4,12) = 43.15, p < .001. The multiple correlation coefficient was .98, indicating approximately 95.6% of the variance of the Target Leverage could be accounted for by the independent variables and (1-0.95.6) % represented the unexplained variation. This unexplained variation represents leverage Deficit.

Table 4.12: Results of Regression Model for Target Leverage

Variables	*Coefficients*	*Standard Error*	*P-value*
Intercept	-1.262	0.180	0.000
MBR	0.037	0.013	0.022
LN_FA	0.000	0.013	0.983
LN_SALES	0.017	0.010	0.130
LN_EBDTA	0.074	0.018	0.003
Model Summary			
Multiple R	0.977		
R Square	0.956		
Adjusted R Square	0.933		
Standard Error	0.040		
F	43.145		

Using the regression model shown below, Target Leverage was estimated and residuals (Leverage Deficit) was extracted by taking the actual Target Leverage less the estimated Target Leverage.

$$Estimated\ TL = 0.017 * Size + 0.074 * EBITD + 0.0003 * TANG + 0.037 * MBR - 1.263 \qquad (4.1)$$

Leverage deficit is then estimated as follows.

Leverage deficit = Actual Target Leverage- Estimated Target leverage

Using current and after merger data, a multiple regression model was run to determine the current Target Leverage which in turn was used to estimate the current Leverage Deficit. The results of the regression model are presented in Table 4.12 shows a summary of the regression statistic for models 2. According to the findings the model was not significant F (4,2) = 1.70, p > .05. The multiple correlation coefficient was .39, indicating approximately 15.16% of the variance of the current Target Leverage could be accounted for by the independent variables and (1-0.1516) % represented the unexplained variation. This unexplained variation represents Current Leverage Deficit. Using the regression model shown below, Current Target Leverage was estimated and residuals (Current Leverage Deficit) was extracted by taking the actual Current Target Leverage less the estimated Current Target Leverage.

Table 4.13: Regression Results for Current Leverage Deficit

	Coefficients	*Standard Error*	*P-value*
Intercept	0.187	0.615	0.762
MBR	0.038	0.038	0.325
LN_FA	0.042	0.040	0.300
LN_SALES	-0.029	0.037	0.444
LN_EBDTA	-0.012	0.049	0.810
Model Summary			
Multiple R	0.389		
R Square	0.152		
Adjusted R Square	0.062		
Standard Error	0.231		
F	1.697		

$$Estimated\ CTL = -0.029 * Size - 0.012 * EBITD + 0.042 * TANG + 0.038 * MBR + 1.87 \quad (4.2)$$

From this equation, Current Leverage deficit was estimated as follows.

Current Leverage deficit = Actual Current Target Leverage- Estimated Current Target leverage

From above equations, Adjustment in Leverage Deficit (ALD) and Leverage Change (LC) will be estimated as follows

Adjustment in Leverage Deficit (ALD)= Pre-merger Leverage deficit- Current Leverage deficit

Leverage Change (LC)= Actual Book Leverage- Pre-merger Book Leverage

4.7 Multiple Regression models

4.7.1 Influence of Leverage Change on acquirers' financial performance

To achieve this objective, a multiple regression was used to determine the effect of LC on financial performance in the presence of control variables. Financial performance(FINPFM) was measured using change in ROE, change in ROA and change in TOBIN's Q. The three models are presented using the equation below.

$$FINPFM = B_1LC + B_2Size + B_3EBITD + B_4TANG + +B_5MB + B_0 + \varepsilon \quad (4.3)$$

Table 4.14 below presents model summary for the three models. According to the findings, the ROA model was significant F (6,42) = 1.977, p < .1. The multiple correlation coefficient was .469, indicating approximately 22% of the variance of the change in ROA could be accounted for by the independent variables and (1-0.220) % represented the unexplained variation. ROE model was not significant F (6,42) =0.437, p > .05. The multiple correlation coefficient was 0.242, indicating approximately 5.9% of the variance of the change in ROE could be accounted for by the independent variables and (1-0.059) % represented the unexplained variation. The Tobin's Q model was significant F (6,42) = 3.582, p < .05. The multiple correlation coefficient was 0.582, indicating approximately 33.8% of the variance of the change in TOBIN's Q could be accounted for by the independent variables and (1-0.338) % represented the unexplained variation.

4.7.2 Influence of Adjustment in Leverage deficit on acquirers' financial performance

To achieve this objective, a multiple regression was used to determine the effect of ALD on financial performance in the presence of control variables. Financial performance (FINPFM) was used using change ROE, change ROA and change in TOBIN's Q. The three models are presented using the equation below**.**

$$FINPFM = B_1ALD + B_2Size + B_3EBITD + B_4TANG + +B_5MB + B_0 + \varepsilon \quad (4.4)$$

The table 4.14 below presents model summary for the three models. According to the findings, the ROA model was significant F (6,42) = 3.723, p < .05. The multiple correlation coefficient was

.589, indicating approximately 34.7% of the variance of the change in ROA could be accounted for by the independent variables and (1-0.347) % represented the unexplained variation. The ROE model was not significant F (6,42) =1.109, p > .05. The multiple correlation coefficient was 0.370, indicating approximately 13.7% of the variance of the change in ROE could be accounted for by the independent variables and (1-0.137) % represented the unexplained variation. The TOBIN's Q model was significant F (6,42) = 2.943, p < .05. The multiple correlation coefficient was 0.544, indicating approximately 29.6% of the variance of the change in TOBIN's Q could be accounted for by the independent variables and (1-0.296) % represented the unexplained variation.

4.7.3 The effect of both LC and ALD on acquirers' financial performance

To achieve this objective, a multiple regression was used to determine the effect of both LC and ADL on financial performance in the presence of control variables. Financial performance (FINPFM) was used using change ROE, change ROA and change in TOBIN'S Q. The three models are presented using the equations below.

$$FINPFM = B_1LC + B_2ADL + B_3Size + B_4EBITD + B_5TANG + +B_6MBR + B_0 + \varepsilon \qquad (4.5)$$

Table 4.15 below presents model summary for the three models. According to the findings, the ROA model was significant F (7,41) = 5.567, p < .05. The multiple correlation coefficient was .698, indicating approximately 48.7% of the variance of the change in ROA could be accounted for by the independent variables and (1-0.487) % represented the unexplained variation. The ROE model was significant F (7,41) = 2640, p < .05. The multiple correlation coefficient was .557, indicating approximately 31.1% of the variance of the change in ROE could be accounted for by the independent variables and (1-0.311) % represented the unexplained variation. The TOBIN's Q model was significant F (7,41) = 5.514, p < .05. The multiple correlation coefficient was 0.696, indicating approximately 48.5% of the variance of the change in TOBIN's Q could be accounted for by the independent variables and (1-0.485) % represented the unexplained variation.

Table 4.14: Regression Results

Independent Variables	**Leverage Change (LC)**			**Adjustment in Leverage deficit (ALD)**		
	ROA	**ROE**	**Tobin's Q**	**ROA**	**ROE**	**Tobin's Q**
Constant	20.85	4.570	5.568	20.808	4.139	5.495
	(0.269)	(0.926)	(0.061)	(0.229)	(0.930)	(0.072)
LC	-7.502	-7.055	1.222			
	(0.123)	(0.579)	(0.106)			
ALD				15.837**	26.718**	-0.145
				(0.002)	(0.048)	(0.862)
LN SALES	1.965*	4.097	0.293*	1.864*	3.956	0.300*
	(0.083)	(0.169)	(0.095)	(0.073)	(0.166)	(0.098)
LN EBIDTA	-4.222	-4.348	-0.950***	-4.065	-4.124	-0.960**
	(0.011)	(0.308)	(0.000)	(0.008)	(0.313)	(0.001)
LN FA	0.703	-0.698	0.274***	0.538	-0.881	0.296
	(0.577)	(0.834)	(0.000)	(0.640)	(0.782)	(0.146)
TAN	-11.983	-11.132	-1.858	-7.550	-5.897	-2.360**
	(0.101)	(0.559)	(0.101)	(0.239)	(0.737)	(0.039)
MBR	2.365*	3.583	0.381*	1.896	3.094	0.447**
	(0.089)	(0.324)	(0.077)	(0.127)	(0.365)	(0.042)
R	0.469	0.242	0.582	0.589	0.37	0.544
R Square	0.22	0.059	0.338	0.347	0.137	0.296
Adjusted R2	0.109	-0.076	0.244	0.254	0.013	0.195
S.E	7.273	19.226	1.128	6.652	18.413	1.164
Durbin Watson	1.043	2.024	0.691	1.171	2.029	0.698
F. Statistic	1.977	0.437	3.582	3.723	1.109	2.943
Prob. (F.Statistic)	0.091	0.85	0.006	0.005	0.374	0.017

Values in brackets are the p-values

*** p>0.01, **p>0.05 and *p>0.10

The results are obtained using the OLS regression model.

Table 4.15: Regression Results

Variables	Effect of both LC and ALD on Financial Performance		
	ROA	**ROE**	**Tobin's Q**
Constant	21.772	6.726	5.683
	(0.162)	(0.875)	(0.033)
ALD	45.766***	106.995***	5.709***
	(0.000)	(0.000)	(0.001)
LC	30.446***	81.664***	5.956
	(0.002)	(0.003)	(0.000)***
LN SALES	1.591*	3.224	0.247
	(0.089)	(0.213)	(0.117)
LN EBIDTA	-3.652***	-3.016	-0.879***
	(0.008)	(0.415)	(0.000)
LN FA	-0.052	-2.462	0.180
	(0.961)	(0.401)	(0.310)
TAN	7.348	34.063*	0.554
	(0.314)	(0.098)	(0.651)
MBR	0.140	-1.617	0.104
	(0.909)	(0.635)	(0.651)
R	0.698	0.557	0.696
R Square	0.487	0.311	0.485
Adjusted R2	0.4	0.193	0.397
S.E	5.967	16.652	1.008
Durbin Watson	1.663	2.565	0.982
F. Statistic	5.567	2.64	5.514
Prob. (F.Statistic)	0.000	0.024	0.000

Values in brackets are the p-values

*** p>0.01, **p>0.05 and *p>0.10

The results are obtained using the OLS regression model.

4.8 Chapter Summary

This chapter began with analysis of secondary data from the financial reports of the non-financial acquirers' firms listed in the NSE. Diagnostic tests were done to tests for any violation of the OLS

assumptions and the mean reversion test was also done on the target leverage model. Generally, the findings show a positive relationship between ALD with ROA, ROE and Tobin's Q. The study also shows a positive relationship between LC with ROA, ROE and Tobin's Q. For the firm specific variables, the findings show these variable; Sales, tangibility and Market to book ratio have a positive relationship with the acquirers' financial performance.

However, Earnings before interest and tax had a negative relationship with the acquirers' financial performance. Managerial implication of the study is that acquiring firms who are intentional about adjusting their capital structure after mergers and acquisitions will enjoy better financial performance than those companies which are indifferent about capital structure adjustment. The study also acknowledges that the adjustment in capital structure towards an optimal level is not a static point but an ideal range that a company seeks to find. Therefore, confirming the optimal capital structure theory. The findings also show that many acquirers prefer to use equity compared to debt in their capital structure which then confirms that the companies do not follow the pecking order theory, since under pecking order theory, debt financing is preferred over equity financing because of the tax deductibility of the interest payments and fact that generally, issue costs on debt are lower than issue costs on equity.

CHAPTER FIVE

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the research findings discussions and interpretation, conclusions and recommendations. The objective of the study was to examine the influence of capital structure adjustment in mergers and acquisitions on acquirers' financial performance on firms listed at the NSE. The findings summary is presented in accordance with the research objectives. Finally, the limitations of the research, the research findings, contribution to the body of knowledge and areas of possible further research are discussed.

5.2 Discussions of findings

The purpose of this study was to determine the influence of capital structure adjustment in mergers and acquisitions on acquirers' financial performance on firms listed at the NSE. The findings of the study were determined by using and secondary data obtained from the annual reports of the acquiring firms.

5.2.1 Influence of Leverage Change on Acquirers' Financial Performance

This objective sought to determine the influence of leverage change on the acquirers' financial performance. The objective was assessed through the analysis of descriptive data obtained from the OLS regression analysis from data obtained from the annual reports of the acquiring firms. Financial performance was assessed using ROA, ROE and Tobin's Q.

According to the findings in the generalized model, the effect of LC on ROA had a beta coefficient of 30.45, with a p-value of 0.002 and significant, implying than an increase in LC will increase the financial performance as measured by ROA. The generalized model effect of LC on ROE had a beta coefficient of 81.664, with a p-value of 0.003 and significant, indicating that an increase in LC will increase ROE. The generalized model effect of LC on Tobin's Q had a beta coefficient of 5.956 with a p-value of 0.000 and significant, implying that a unit change in LC will increase the financial performance as measured by Tobin's Q. These findings are different from those of (Bouraoui & Rennes, 2014) that found a negative relationship between LC and financial performance. The study measured financial performance using ROA and ROE only. This can be explained by the fact that most Kenyan acquirers are not over levered before the merger and the

reduction in the actual leverage ratio and the target leverage has a positive relationship with ROA. For over leveraged acquirers, the relationship is expected to be negative. This finding is consistent with a Kenyan capital structure study that showed that most listed firms in Kenya prefer equity to debt financing (Kodongo et al., 2015)

5.2.2 Influence of Adjustment in Leverage Deficit on acquirers' Financial Performance

This objective sought to determine the influence of ALD on the acquirers' financial performance. The objective was assessed through the analysis of descriptive data obtained from the OLS regression analysis from data obtained from the annual reports of the acquiring firms. Financial performance was assessed using ROA, ROE and Tobin's Q

According to the findings in the generalized model; the effect of ALD on ROA had a beta coefficient of 45.77, with a p-value of 0.000 and significant, implying that a change in ALD will lead to the improvement of ROA. The generalized model effect of ALD on ROE had a beta coefficient of 106.99 with a p-value of 0.000 and significant, implying that a unit change in ALD will improve ROE. The generalized model effect of ALD on Tobin's Q had a beta coefficient of 5.709 with a p-value of 0.001 and significant, implying that an increase in ALD will improve financial performance as measured by Tobin's Q.

These positive and significant influence of ALD on financial performance is consistent with those of (Bouraoui & Rennes, 2014; Harford et al., 2009; Yang, 2011). Even though, (Bouraoui & Rennes, 2014) found the relationship between ALD and ROA to be insignificant in the long term, this study shows that ALD has a positive significant relationship with ROA and acquirers can improve their financial performance by moving towards an optimal debt level even in the long term. This shows that acquirers move towards an optimal debt level after the merger. This movement towards an optimal debt level improves the Financial performance significantly.

5.3 Conclusions

The aim of the study was to determine the influence of capital structure adjustment in mergers and acquisitions on acquirers' financial performance. The capital structure decisions debate is one that has attracted several findings. This study contributes to the field of finance in two ways; first, the study shows that acquirers who adjust their leverage levels through ALD will have an improvement in their financial performance. This confirms the theory of the optimal capital

structure. This adjustment however, is a continuous process and businesses can be intentional or non-intentional about the adjustment process. Similarly, the study acknowledges that optimal debt level is not a fixed point but a desirable range that an acquirer aims to achieve.

Secondly, the study shows that LC has a positive and significant relationship with acquirers' financial performance. This finding shows that most acquirers are not over leveraged and that acquirers preferred choice of finance is equity and not debt. The preferred choice could be explained by the fact that debt financing in Kenya is relatively expensive. The findings show that acquirers that are aware of the debt to equity ratio in their capital structure and are intentional about adjusting their capital structure to their optimal level of debt, will improve their financial performance than the acquirers who are indifferent about the capital structure decisions.

5.4 Contribution to Knowledge

The study extended the empirical literature done in the finance area capital structure adjustment. It hopes to help in advancing towards the development of a capital structure adjustment theory. The study hopes to achieve this in two ways; first it extended the research scope of the previous empirical research to the field of finance by including the aspect of market values through the use of Tobin's Q in the measuring financial performance associated with capital structure adjustment. The determination of the change in financial performance for the acquirers was also done using the individual's pre-merger and post-merger financial performance as opposed to the average industry value used by (Bouraoui & Rennes, 2014). Secondly, the study helps in validating the previous research findings in the area of capital structure adjustment and financial performance of acquiring firms.

The study on adjustment on leverage deficit and absolute leverage change had little empirical literature to refer to during the study. The study has therefore made way for other researchers on the area of capital structure adjustment and financial performance. The researcher hopes that the future studies can be conducted on the area of capital structure adjustment and financial performance of acquiring firms, especially in developing countries.

5.5 Recommendations

5.5.1 Recommendations for Policy

The study established that capital structure adjustment has a significant influence on acquirers' financial performance, with the firm's that are intentional about capital structure adjustment enjoying better financial performance than those who are indifferent. Whilst capital structure for non-financial institutions are not regulated, regulators can have policy guidelines on acquirers' capital structure choices since the study shows that acquirers who adjust their capital structure after mergers and acquisitions improve their financial performance.

Investors can also be making an assessment of firm's capital structure choice before making an investment decision since capital structure adjustment influence the value of their investment.

5.5.2 Managerial Recommendations

The capital structure debate is one that has been going on since the original work of Modigliani and Miller. This study linked the adjustment in capital structure to mergers and acquisitions activities. The study shows that adjustment in capital structure after mergers and acquisitions influences the financial performance of the acquirers' firms. Managerial implication is that finance managers who are intentional about the leverage adjustment after mergers and acquisition process will enjoy better financial performance than the ones who are indifferent.

5.6 Suggestions for Further Research

Further studies can be done on capital structure adjustment and mergers and acquisition by including other variables to assess the variables that affect the financial performance.

The study was carried out over a period of 5 years after the merger, further research can be carried out to include more years after the merger to enhance the model. There are limited research on the area of capital structure in mergers and acquisition in the sub-Saharan region, and studies can be done to fill the gap.

Further research can also be carried to assess the influence of capital structure adjustment in mergers and acquisitions on non-listed firms in Kenya.

5.7 Limitations of the Research

The study relied majorly on data from the financial statements of listed companies that had enaged in mergers and acquisition. These financial statements were not readily available for some companies and resulted in some variables such as research and development costs which is known to affect leverage to be eliminated from the study.

The Kenyan data on mergers and acquisition is also not readily available making it difficult to know some aspects of the deal characteristics such as cash payment or equity. Such variables on the method of acquisition could be included in future studies as control variables to assess the influence of capital structure adjustment on financial performance.

There are limited number of firms listed at the NSE that have been involved in mergers and acquistions over the years. The study therefore picked all the non financial firms listed at the NSE that had been in involved in mergers and acquisition.

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APPENDICES

Appendix I: Letter of Introduction

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Strathmore UNIVERSITY
BUSINESS SCHOOL

Tuesday, 10 March 2020

RE: FACILITATION OF RESEARCH – OCHIENG' BOB MARSHELL

This is to introduce Ochieng', Bob Marshell who is a Master of Science in Development Finance student at Strathmore University Business School, admission number MDF 57456/17. As part of our MDF Program, Bob is expected to do applied research and undertake a project. This is in partial fulfilment of the requirements of the MDF course. To this effect, he would like to request for appropriate data from your organization.

Bob is undertaking a research paper on "**Influence of capital structure adjustment in mergers and acquisitions on acquirers 'financial performance.**" The information obtained from your organization shall be treated confidentially and shall be used for academic purposes only.

Our MDF seeks to establish links with industry, and one of these ways is by directing our research to areas that would be of direct use to industry. We would be glad to share our findings with you after the research, and we trust that you will find them of great interest and of practical value to your organization.

We appreciate your support and shall be willing to provide any further information if required.

Yours sincerely,

Veronica Muniu,
Manager | Graduate Programmes, Strathmore University Business School

Appendix II: Ethical Review Approval

Strathmore UNIVERSITY

14th May 2020

Mr Ochieng' Bob Marshell
bochieng@strathmore.edu

Dear Mr Ochieng',

RE: Influence of Capital Structure Adjustment in Mergers and Acquisitions on Acquirers' Financial performance in Kenya

This is to inform you that SU-IERC has reviewed and **approved** your above research proposal. Your application approval number is **SU-IERC0739/20.** The approval period is **7th May 2020 to 6th May 2021.**

This approval is subject to compliance with the following requirements:

i. Only approved documents including (informed consents, study instruments, MTA) will be used
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by SU-IERC.
iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to SU-IERC within 72 hours of notification
iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to SU-IERC within 72 hours
v. Clearance for export of biological specimens must be obtained from relevant institutions.
vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
vii. Submission of an executive summary report within 90 days upon completion of the study to SU-IERC.

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://oris.nacosti.go.ke and also obtain other clearances needed.

Yours sincerely,

for: Dr Virginia Gichuru,
Secretary; SU-IERC

Cc: Prof Fred Were,
Chairperson; SU-IERC

STRATHMORE UNIVERSITY INSTITUTIONAL ETHICS REVIEW COMMITTEE (SU-IERC)
14 MAY 2020
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P. O. Box 59857 - 00200
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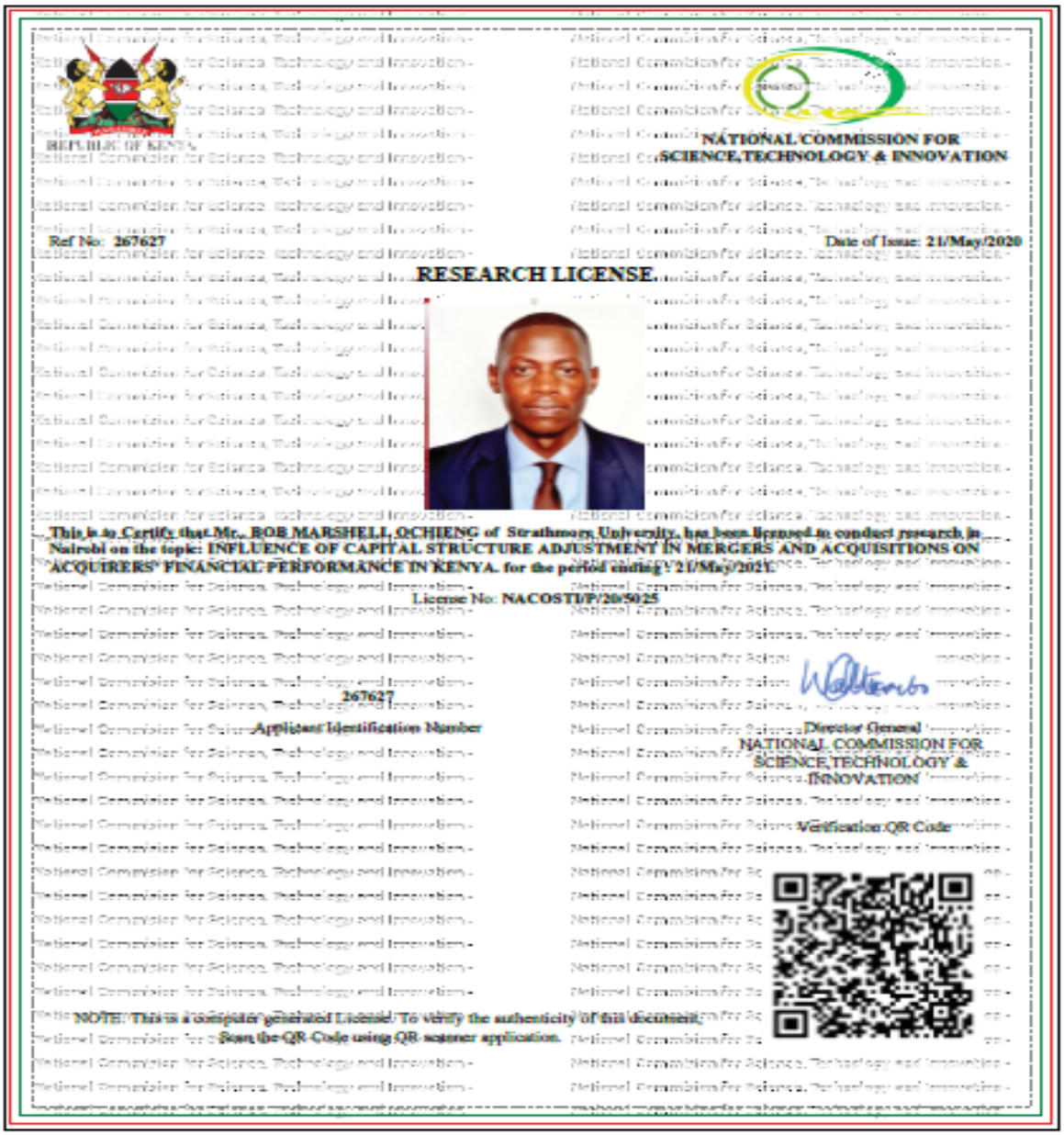
Appendix III: NACOSTI Approval



REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: 267627

Date of Issue: 21/May/2020

RESEARCH LICENSE

This is to Certify that Mr., BOB MARSHELL OCHIENG of Strathmore University, has been licensed to conduct research in Nairobi on the topic: INFLUENCE OF CAPITAL STRUCTURE ADJUSTMENT IN MERGERS AND ACQUISITIONS ON ACQUIRERS' FINANCIAL PERFORMANCE IN KENYA. for the period ending: 21/May/2021.

License No: NACOSTI/P/20/5025

267627

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

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Appendix IV: Listed firms in Mergers and Acquisitions

No.	Institution	Merged with/ Acquired by	Current Name	Date approved
	Banking			
1	Diamond Trust Bank (K) Ltd	Premier Savings & Finance Ltd	Diamond Trust Bank (K) Ltd	1999
2	National Bank of Kenya Ltd	Kenya National Capital C	National Bank of Kenya	1999
3	Standard Chartered Bank (K) Ltd	Standard Chartered Financial	Standard Chartere	1999
4	Barclays Bank of Kenya Ltd	Barclays Merchant Finance Ltd	Barclays Bank of Kenya	1999
5	Kenya Commercial Bank	Kenya Commercial Finance C	Kenya Commerci	2001
6	Co-operative Merchant Bank ltd	Co-operative Bank ltd	The Co-operative Bank of	2002
7	CFC Bank Ltd	Stanbic Bank Ltd.	CFC Stanbic of Kenya Holdings Ltd	2008
8	Habib Bank Kenya Ltd	Diamond Trust Bank Kenya Ltd	Diamond Trust Bank Kenya Ltd	2017
	Commercial and Services			
9	TPS EA (Serena)	Acquisition of TPS Uganda	TPS Eastern Africa	2012
10	Safaricom	Acquisition of One Comm	Safaricom PLC	2008
11	Nation Media Group	Mwananchi Communications Tanzania & Radio Uhuru Ltd	Nation Media Group	2002
	Insurance			
12	Jubilee Insurance Co. Ltd	Jubilee Insurance of Uganda Jubilee	Jubilee Insurance Co. Ltd	2002
13	Pan Africa Insurance Holdings Ltd	APA Insurance Limited	APA Insuranc	2001
	Energy and Petroleum			
14	Kenya Oil Company Kenol	Jovenna Zambia	Kenya Oil Company Kenol	2002
15	Total Kenya Ltd	Chevron Kenya	Total Kenya Ltd	2009
	Manufacturing and Allied			
16	East African Brewerie	International Distillers Uganda Ltd UDV(K) Ltd	East African Brewerie	2002
17	Unga Group Ltd	Unga Millers (Uganda) Ltd	Unga Group Ltd	2013
18	Crown Paint Kenya	Crown Tanzania	Crown Paints PLC	2012
	Investment			
19	Centum Investment Co Ltd	Platcorp Holdings	Centum Investme	2013

Source: Competitions Authority of Kenya (2019)

Appendix V: List of firms in the final Sample

Company	Target Company	Year Acquisition is Completed(t)	Details of Acquisition
Kenol Kobil	Kobil Oil	2007	Kobil and Kenol Merger
Safaricom	One Com	2008	Acquisition of Telecommunications (Yu mobile)
Total Kenya	Chevron Kenya	2009	Acquisition of Chevron Kenya
EABL	Kenya Breweries	2011	Acquisition of Kenya Breweries
Unga Group	Unga Millers Uganda	2013	Acquisition of Unga Millers Uganda
Tps Eastern Africa (Serena)	Acquistion of TPS Uganda	2012	Acquisition of Hotel Moverenpick Dar
Crown Paint Kenya	Crown Tanzania	2012	Acquisition of Crown Tanzania 2012