

**EFFECT OF FINANCIAL LEVERAGE ON FINANCIAL  
PERFORMANCE OF ENERGY AND PETROLEUM FIRMS  
LISTED AT THE NAIROBI SECURITIES EXCHANGE**

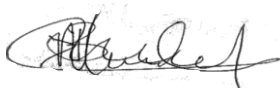
**KIEMA MICHAEL BRIAN MWENDWA**

**A RESEARCH PROJECT PRESENTED IN PARTIAL  
FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD  
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## DECLARATION

I, the undersigned, declare that this is my original work and has not been presented to any institution or university other than the University of Nairobi for examination.

Signed:  \_\_\_\_\_

Date: 6/11/2021

**KIEMA MICHAEL BRIAN MWENDWA**  
**D63/87257/2016**

This research project has been submitted for examination with my approval as the University Supervisor.

Signed:  \_\_\_\_\_

Date:  \_\_\_\_\_

**PROF. MIRIE MWANGI**  
**Department of Finance and Accounting**  
**University of Nairobi**

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## **DEDICATION**

This research is devoted to my family who always supported and encouraged me and completed this class through my life and throughout my study.

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## **LIST OF ABBREVIATIONS**

<b>ANOVA</b>	Analysis of Variance
<b>CMA</b>	Capital Markets Authority
<b>DEA</b>	Data Envelopment Analysis
<b>GDP</b>	Gross Domestic Product
<b>KPLC</b>	Kenya Power and Lighting Company
<b>NSE</b>	Nairobi Security Exchange
<b>ROA</b>	Return on Assets
<b>ROE</b>	Return on Equity
<b>ROE</b>	Return on Sales
<b>SME</b>	Small and Medium Enterprises
<b>SPSS</b>	Statistical Package for Social Sciences
<b>UNCTAD</b>	United Nations Conference on Trade and Development
<b>VIF</b>	Variance Inflation Factors

## ABSTRACT

Firms apply a combination of both borrowed capital and equity capital but the optimum level or mix of the two that maximizes returns remains a puzzle to date since the works of Modigliani and Miller who suggested that various sources of business finance have no impact when determining firm's market value. The goal of the study was to see how financial leverage affected the performance of NSE-listed energy and petroleum companies. The study's population included all four NSE-listed energy and petroleum companies. Financial leverage, defined as the ratio of total debt to total assets in a particular year, was used as a predictor variable in this study. Liquidity was measured by the current ratio, company size was measured by the total assets natural log, and managerial efficiency was measured by the ratio of total revenue to total assets per year. Return on assets served as the response variable for financial performance. Secondary data was collected on an annual basis for ten years (January 2010 to December 2019). The research variables were analyzed using a descriptive cross-sectional design. SPSS software was used to conduct the analysis. The results yielded a 0.448 R-square value, indicating that variations in the chosen independent variables account for 44.8 percent of changes in financial performance amongst energy and petroleum firms, whereas other factors accounting for 55.2 percent of variation in financial performance amongst NSE listed energy and petroleum firms. Independent variables had a good relationship with company performance ( $R=0.699$ ) in this study. The F statistic was significant at 5% with  $p<0.05$ , according to the ANOVA results. This demonstrated that the overall model was effective in determining the variables' relationships. Financial leverage had a negative as well as statistically significant impact on financial performance, but liquidity and management efficiency had a positive and statistically significant impact on the performance of the NSE listed energy and petroleum companies. In this research, the size of the firm had no statistical significance. This suggestion is that NSE-listed energy and petroleum companies should focus on achieving the best degree of financial leverage, improving liquidity positions, and improving managerial efficiency, as the three factors have a substantial impact on their financial performance.

# CHAPTER ONE: INTRODUCTION

## 1.1 Background of the Study

A desirable financial leverage level is an important aspect of business performance (Alkhatib, 2012). Firms may occasionally need to float a number or a combination of stocks and securities in a mixture of debts, property, credit finance and retained earnings. If a firm succeeds in making this combination, it maximizes its value and achieves targeted financial performance. This position is agreed by Dhaliwal, Heitzman and Zhen (2006); Miglo (2014). Subaii (2012) states that the financial leverage is good for company profitability. Lack of liquidity, on the other side, does not fulfill the debt commitments of a company. This may thus have an impact on profitability and commercial operations of the company. As per Bhushan (1991), financial leverage and effectiveness have a connection.

The connections above are based upon the following theories: Myers' trade theory, Modigliani's theory of the capital structure (1984) and Baker's and Wurgler's theory of the market timing (2002). The idea of tradeoff emphasizes the balance between debt-related tax savings, lower agent costs, financial hardship and bankruptcy. Modigliani and Miller (1958) showed that the business performance is not reliant upon its financial structure in terms of efficient, competitive and full capital markets. In their market time hypothesis, Baker & Wurgler (2002) believe that businesses pursue equity issuance timing, in that, when there is a perception of stock price being overvalued, they issue new stock and when undervalued they repurchase.

Energy and petroleum companies with NSE listings are critical to the Kenyan economy's growth and development since they allow for job creation, increased GDP, and foreign exchange earnings during the majority of the post-independence period

(UNCTAD, 2008). Energy and petroleum listed companies, as well as other publicly traded companies, have recently suffered plenty of problems, prompting a debate regarding financial leverage among these companies. Listed energy and petroleum firms face challenges in choosing the most optimal financing decisions that will help them finance their business operations. For this reason, finance managers of these firms usually have to make decisions on the type of debt to issue, whether to issue rights, float shares in the market through the initial public offer, or use retained earnings as a form of financing.

### **1.1.1 Financial Leverage**

Financial leverage is a firm's level of external borrowing used in financing its short- and long-term financial deficit (Bierman, 1999). Many businesses rely on borrowing at a point in time to purchase assets, finance major projects requiring large amounts of capital through research and development (Kumar, 2014). The financial leverage of a company is defined by relative equity and debt financing contributions together with other instruments (Grossman & Hart, 1982). The investment of a firm can be financed through debt, equity or a combination of both.

Financial leverage has both advantages and disadvantages in business growth as well as economic development. The gains associated with debt financing include tax shield and diminished free cash flow issues through the enhancement of managerial behavior while expenses associated with this financing include agency and costs of bankruptcy arising from the conflicting interests between shareholders and debt holders (Fama & French, 2002). In making debt capital decisions, managers should balance debt costs and advantages to enhance performance (Kraus & Litzenberger, 1973).

Measurement of Financial leverage is done using debt ratios. These ratios link the outstanding debts to the company's total assets. A low proportion indicates that the business is not highly reliant on debt, while a large ratio states that it depends extensively on loan funding. A further indicator of the leverage is the debt/total capital ratio. However, the most widely accepted measurement of financial leverage that is often used by researchers in computing leverage in studies that use financial leverage in predicting diverse variables is the ratio of total debt to total assets (Abor, 2005).

### **1.1.2 Financial Performance**

Almajali, Alamro, and Al-Soub (2012) describe this as a firm's capacity to meet financial goals like profitability. Financial performance is equal to or above the financial criteria of a company. It shows how well financial goals were met. Financial performance, according to Baba and Nasieku (2016), demonstrates how companies generate income from assets, allowing stakeholders to make decisions. According to Nzuve (2016), the sustainability of the banking industry is mostly determined by financial performance, that is utilized to assess individual banks' strengths and shortcomings. In addition, the functioning of the banks is concerned with regulatory concerns.

Financial performance focuses mostly on factors that directly impact the financial accounts or reports. (Omondi & Muturi, 2013). The key method of evaluation used by external stakeholders is the firm's performance (Bonn, 2000). As a result, the performance of a company is utilized as a metric. The firm's performance is defined by how well it achieves its goals. A company's financial success is the result of achieving internal and external objectives (Lin, 2008). Growth, competitiveness, as well as survival are some of the terms used to describe performance (Nyamita, 2014).

Financial performance metrics have to be integrated in a number of forms. Asset return (ROA), corporate size, equity return (ROE) and sales return (ROS) are the measures for financial success based on (Ngatia ,2012). Tobin's Q and ROA were employed by Carter et al. (2010) to assess financial performance, while Wang and Clift utilized ROA and ROE (2009). Performance is also assessed by using performance indicators like overall asset sales, fixed asset sales and data development analysis (DEA). ROA as well as efficiency are two well-known performance indicators; as a result, the performance of the listed firms will be calculated using these two indicators in this research. ROA, the ratio of global outputs to total inputs, assesses a company's profitability. Efficiency is evaluated via the DEA, the whole output to the overall input ratio (Mwangi & Murigu, 2015).

### **1.1.3 Financial Leverage and Financial Performance**

Theoretically anticipated association between the two study variables is well captured and illustrated by the trade-off theorem which proposes that business entities determine the ideal debt level by matching the debt costs and the debt benefits with the goal of ensuring that the benefits are more than the costs. Jensen and Meckling (1976) suggest that cost is represented by agency costs and financial distress costs while Myers (1984) suggests that the tax allowance represents the benefits. Debt finance results in tax benefits given that the interest expenses on the debt is tax allowable hence it is expected that a firm with debt finance will face relatively a lower tax obligation compared to a firm that utilizes on equity finance (Frank & Goyal, 2011). However, as debt finance increases, other risks such as risk of bankruptcy and risk rating of the equity shares gradually set in. With increase in the risk levels, the equity shareholders as well as additional debt providers will demand more returns as a compensation for the increased

risks. This thus indicates theoretically that the two research variables have a positive link.

Agency theory by Jensen and Meckling (1976) asserted that managers who work to maximize wealth of the shareholders do not always work for firms on the contrary work towards pursuing their own self-interest. The agency theory states that, financing using debt is a key tool for controlling restriction tendency upon opportunistic behavior by managers for individual benefit. Financing using debt minimizes a firm's free cash flows through payments of interest that tend to be fixed, forcing managers to avoid investments which are negative and therefore work in shareholders' interest.

An earlier modification on the irrelevance of capital structure posited about its inconsequential effect in the determination of the value of the firm. This theory had its basis on the reasoning that tax shield is obtained by the use of debt. By laying basis on this assertion, companies' choice would be a capital structure that is all-debt. Brigham and Gapenski (1996), on the contrary differed positing that the Miller Modigliani (MM) model has truth only theoretically. This is due to the existence of bankruptcy invalidation effort of MM theory as forwarded by Maina and Kondongo (2013).

#### **1.1.4 Energy and Petroleum Firms Listed at the Nairobi Securities Exchange**

The NSE, which was established in 1954, is accountable for the company listing as well as the issuance of securities that are purchased and sold by individuals and institutions, both domestic and international, via stockbrokers or dealers. It is Sub-Saharan Africa's fourth largest Securities Exchange. It specializes in the trading of government and publicly traded securities. NSE's mission is to monitor its members as well as offer listed securities a trading platform. The NSE is the main secondary trading hub. It provides a trade floor that, while accessible, is seldom utilized because of the automatic

substitution system. Members trade from the convenience of their offices thanks to a wide area network. The system is fast, transparent, and capable of handling massive volumes of transactions at once (NSE, 2019). There are currently 4 firms in this sector listed at the NSE.

In regard to financial leverage, Kiogora (2018) carried out a study testing for deviations in the capital structures of NSE quoted companies and made a conclusion that there were dissimilarities in the capital structure amongst the industries/sectors of listed firms. The study shows that specific industry/sector firms tend to have a similar range of the debt to total asset ratio. The study further shows that as leverage increases, the returns reported also increases thus a direct correlation exists between the study variables for NSE listed non-financial firms.

In order to improve their performance, NSE energy and utility companies must manage their financial levers effectively to reduce their expenses and optimize their operating profitability. Financial leverage is an essential part of the strategy for improving energy and utilities shareholders' worth (Siddiquee, Khan, Shaem & Mahmud, 2009). In order to allow energy and utility companies to gain competitive advantage, the best composition and amount of long- and short-term equity debt should be established (Haq & Zaheer, 2011).

## **1.2 Research Problem**

Financial use is the use of borrowed money by a company to achieve its investment aims and goals. This implies that a firm considering to apply financial leverage has to carefully assess the costs and benefits thereof before adopting this financing strategy (Jensen & Meckling, 1976). Many firms apply a combination of both borrowed capital and equity capital but the optimum level or mix of the two that maximizes returns



remains a puzzle to date since the works of Modigliani and Miller (1958) who suggested that various sources of business finance have no impact when determining firm's market value. Myers and Majluf (1984) suggest that companies have predetermined orders and preferences when securing money from internal sources first and then external sources. The decisions on the financing method aim at achieving the lowest possible weighted average cost of capital and sending favourable market signals. Financial leverage is therefore a key element affecting financial results of many businesses.

Energy and oil businesses listed at NSE play a vital part in boosting the economy's development and achieving their aims such as power production, distribution and transmission. The lack of a vibrant energy sector will limit the growth of the economy of a country. With the optimum and positive financial leverage, companies in this industry will increase in advantages such as cost reduction and an appropriate capital mix for energy investments. Financial analysts have supported the use of debt finance in firm's performance improvement as long as it is gotten at a rate that is favorable and the takings used efficiently (Juma, 2016).

There has been a lot of empirical study on the efficacy of the leverage, however the results varied. This can be explained by the different methodologies used as well as conceptualizing of the study variables. Different contextual backgrounds can also explain the differences in previous findings. Khan et al. (2017) conducted a longitudinal research in Pakistan on the performance effect of leverage. As the research calculates ROA and ROE, financial levers have minimal effect on financial success. Thu-Trang (2019) investigates 102 businesses on the Ho Chi Minh Exchange in Vietnam. The findings showed that significant performance leverage was achieved.

Gichuhi (2016) found a local link between the economic performance of the selected Kenyan companies and the capital structure. Macharia (2016) discovered that construction businesses and associated companies listed on the NSE have a negative capital structure and efficiency. Ogutu et al. (2015) verified this finding while investigating the choice and performance of capital structures. Results varied from Njeri and Kagiri (2015), which indicated a positive connection with the profitability of selected business banks. Makau (2019) discovered that leverage lowers ROA. From the above, it is obvious that past research in this field have come to conflicting results. Previous research utilized a variety of methods to accomplish their goals, which may explain the discrepancies in results. Different contextual backgrounds might also explain the differences. The lack of agreement among prior researchers, both internationally and locally, is motivation enough to pursue additional research in this field. The study used these lacunes to address the questions of the research: What effect does financial leverage have on NSE energy and oil firms' performance?

### **1.3 Research Objective**

The study's aim was to determine the effect of financial leverage on financial performance of energy and petroleum firms listed at the Nairobi Securities Exchange.

### **1.4 Value of the Study**

The results of this research will help us better comprehend financial leverage theories and practices. It would also add to the current understanding of the connection between leverage and financial performance and fill a gap in that field that will be helpful for future researchers.

Research helps energy and oil businesses to understand the connection between the two elements, which is critical in achieving the optimal debt-to-equity ratio, which improves both financial success as well as stakeholder trust.

It will be useful to the government as well as key policymakers in assisting the design of policies and processes that will guide energy and petroleum enterprises in adopting financial leverage levels that will enhance their performance, boosting the sector's performance.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

This section delves into the research's underlying concepts. In addition, recent empirical investigations on these as well as related topics will be addressed. Budgetary

considerations and a conceptual model illustrating the relationship between research variables are also important components.

## **2.2 Theoretical Framework**

The main hypotheses about the events are provided. Compromising theory, capital structure theory, and market timing are all part of the theoretical research.

### **2.2.1 Tradeoff Theory**

Myers (1984) presented theory of trade and underlined the balance between debt tax savings, reduced agent costs, financial hardship and bankruptcy. Different authors use the term trade off theory to describe a number of theories that are related. Trade-off theory proposed the amended MM plan, which emphasizes that corporate and financial suffering decreased tax protection advantages.

Tradeoff theory posits that every company has a ratio that is optimal of equity-debt that leads to maximization of firm value. The affirmation of the theory is that a company's capital structures are optimal and this can be determined by transacting off the costs-benefit of using either debt or equity. Benefits accrued from debt shield are hence measured against financial distress. Other costs to be mitigated include Agency cost and information asymmetry. The attainment of optimal point is when the benefits that arise out of debt issues exactly diminishes the rise in the costs that come out of the issuance of more debt present value (Myers, 2001).

Sheik and Wang (2010) have agreed with this theory that the trading theory is expecting to choose a target capital structure that would lead to maximizing of the company value by minimizing the existing market imperfections. Authors who oppose this theory posit that there is an assumption that each source of money has a return and cost of its own. This is linked to the company's ability to earn and its bankruptcy, business and risk

(Awan & Amin, 2014). Based on this theory, the performance of listed firms will not increase irrespective of the form of capital structure adopted (Chen, 2014). This theory has huge implications on the capital decisions firm managers make in carrying out firm operations. Firm managers can make use of the tradeoff theory to determine the debt-equity ratio to embrace in order to enhance shareholders value.

### **2.2.2 Capital Structure Irrelevance Theory**

Both Modigliani and Miller emphasized the importance of capital structure (1958). It examines how a capital structure impacts a company's worth. The argument of the theory is that in perfect market transaction, costs don't exist, taxes and bankruptcy exist, the firm that finances its operations using debt options has value similarity to that not using equity as its sources of capital financing. This theory has several angles to it which explain the value of firms.

The important point about the capital structure plan is that its value is not defined by a debt-to-equity mix and by the average capital cost. Another viewpoint is that the weighted cost of capital leverage does not have a significant causal effect. The third proposition is that dividend policy adopted by a firm doesn't affect its value (Abdul *et al.*, 2013). Modigliani and Miller (1958) emphasize that debt financing increases company value since debt interest is taxable, whereas tax deductions on equity cost are not available.

Capital structure irrelevance has greatly impacted on the development of financial economic theory as shown by Stern and Chew (2003). Breuer and Gurtler (2008) concur that they alluded to no argument in arbitration, as indicated by the theory of Capital Structure. Modigliani and Miller (1958) held an assumption that every firm converge to a "risk class," firms in countries in the world with a semblance in income. However,

Stiglitz (1969) offered a proof on the insignificance of this assumption; thereby showing it to be out of touch with the reality. Based on this theory, the performance of listed firms will not increase irrespective of the form of capital structure adopted. This is due to the tax cost implications associated with equity financing and the risk of bankruptcy associated with debt financing (Breuer & Gurtler, 2008). However, this theory will not have an effect on working capital and firm performance relationships.

### **2.2.3 Market Timing Theory**

Market timing theory, first proposed by Baker and Wurgler (2002), says that companies have their own equity issuance so that new stocks are issued when equity prices are deemed to be overpriced and old stocks are redeemed when share prices are considered low. Changes in stock prices impact a company's capital structure. The theory makes the assumption that economic agents exhibit rationality. Positive information releases by firms to issue equity directly have the effect of reducing the asymmetry between management and shareholders. Reduction in information asymmetry converges with the rise in stock prices.

The theory makes certain propositions among them being the assumption on the irrationality economic agents (Baker & Wurgler, 2002). Consequently, irrational behavior causes firm stock mispricing. Issuance of equity is done by managers if they have a sense that its cost is abnormally low and repurchase if there is a sense that the cost is irrationally high. Another market timing version lacks a requirement of market efficiency. There is no requirement for managers to predict the firm share returns successfully. The assumption made is that timing of the market can be done by managers.

Graham & Harvey (2001) endorse the market time concept. They studied manager's behavior and noted that managers admitted to have made a trial to equity market timing. Baker and Wurgler (2002) added to the evidence of the impact of a company's capital structure on market timing. However, there have been many questions raised by other authors on the Market timing theory. Havokimi (2006) confirmed that although the presence of market time cannot be disputed, it does not affect the company's lengthy power and the re-equilibrium of business leverage fractions towards many goals typically happens. Based on this theory, the performance of listed firms will increase depending on the form of capital structure employed. This is due to the financing cost associated with debt that drives the hierarchy involved in the corporate financing decisions. Managers of firms are also to a larger extent inclined to use equity instead of debt financing since they will be driven to raise more capital through equity issuance by timing the market.

## **2.3 Determinants of Financial Performance**

Components within and outside the business may affect the success of the company. Financial leverage, management efficiency, dividend decisions, business liquidity, firm size, and organizational culture are just a few of the internal aspects. Management has no influence on external forces. They are variables that are beyond the control of the company, but they must be addressed with appropriate tactics (Athanasoglou, Brissimis & Delis, 2005).

### **2.3.1 Financial Leverage**

The borrowing ratio is known as the leverage. This ratio impacts both the company's financial cost and value (Pandey, 2010). The debt amount of a company determines its financial performance. According to Jensen (1987), managers' degree of debt financing

lowers moral hazard by decreasing cash flow. This raises the pressure to perform, which improves the financial performance of the company. As a result, large companies with high debt are in a better position to perform financially. Several scholars examined the connections between profitability and leverage and found that a high levy lowers the conflicting interests of shareholders and therefore enhances performance because of this positive link.

Baker (1976) examined the link between profitability and influence in business. He also reinforced the anticipated impact on productivity in the sector. This relationship was studied and assessed on a value-based approach for aggregating resources utilizing information over 10 years. A Lower leverage estimation suggested that obligation capital was being utilized more as compared to obligation value or to total assets. Net profit was the measure for profitability. The inference from the research was that the industry conditions have an impact on the company's decision to influence. Additionally, the study concluded that firms with higher obligatory capital registered more productivity.

### **2.3.2 Firm Size**

A company's size is determined by its size. The lower the output level and the greater the efficiency of huge economies, the bigger the business. Regardless of their size, huge corporations might lose control of their strategic as well as operational activities, resulting in a decrease in efficiency (Burca & Batrinca, 2015).

Large businesses have more market power and may diversify their holdings. They are also more likely to experience waste of organization if the business expands quickly. The company's size significantly affects the amount of cash flow that may be invested.



The number of employees, property owned, and sales volume are all important factors to consider when defining the firm's size (Almajali et al., 2012).

### **2.3.3 Firm Liquidity**

The capacity of a business to fulfill its obligations using cash or cash equivalents over the course of a year is referred to as liquidity. These are cash-convertible short-term investments. The capacity to meet commitments without having to liquidate financial assets is referred to as liquidity (Adam & Buckle, 2003).

In financing activities companies may utilize liquid assets and invest in the absence of external finance ( Liargovas & Skandalis ,2008). Strong liquidity companies can better handle unforeseen difficulties and financial requirements. Money, according to As per Almajali et al. (2012), it has a substantial effect on business efficiency; as a result, companies should strive to increase current assets whilst reducing liabilities. High liquidity levels, on the other hand, may be damaging to a business(Jovanovic ,1982).

### **2.3.4 Management Efficiency**

This is an important qualitative factor to consider when analyzing and evaluating a business's operational efficiency. This characteristic is evaluated in many ways, including the ability of management to use resources effectively, increase financing, and appropriately assign this financing (Kusa & Ongore, 2013).

The profitableness ratio is a qualitative assessment of the quality, efficiency and effectiveness of employee internal inspections (Athanasoglou, Sophocles & Matthaois, 2009). Operations expenses are influenced by quality management, which in turn has an impact on a company's fundamentals. Consequently, efficiency in management has a major effect on business efficiency (Kusa & Ongore, 2013).

## **2.4 Empirical Review**

Local, regional, and worldwide studies were used to confirm the connection between financial leverage and performance with various outcomes.

### **2.4.1 Global Studies**

The research was carried out by Ajibolade and Sankay (2013) to assess if work and financial leverage connect in order to create synergy impacts on profitability. The study was based on two year panel data of manufacturing Nigerian stock exchange listed firms. Using Panel and Factorial-ANOVA estimation methods, the study concluded that on individual basis, a positive significant association exist amongst financial leverage and profitability but no significant association amongst the composition of working capital and profitability. The research, however, has shown that profitability is favorably impacted because the working capital composition of the company interacts in line with the financial leverage. The research suggested that, financing decision should be considered in relation to working capital composition in order to optimize profitability and to sustain healthy liquidity position.

Enekwe, Agu and Eziedo (2014) examined how Nigerian pharmaceutical firms' financial leverages affect on their profitability. The research is based on secondary data that spans the years 2001 to 2012. Data was analyzed using Pearson correlations and regression models. Results revealed that the debt-to-equity ratio were both adversely linked to ROA profitability. The research also showed that the interest coverage ratio boosted the profitability of the Nigerian businesses examined. In contrast, the results also indicated that Nigerian companies' profitability had a minimal effect on the debt to equity ratios, debt ratio and interest cover.

Khan et al. (2017) conducted a longitudinal study in Pakistan. Between 2004 and 2009, 100 Pakistani firms listed at the KSE were studied. ROE, Tobin Q and ROA and market capitalisation have been used to assess company performance. Debt and equity attributed to the measure of financing decisions. Curiously, there was no significant impact created by leverage and firm's performance. ROA of firms with huge base of assets had a greater ROA. Tobin Q indicated that the market worth of the assets of companies remained unchanged from the new additional capital costs. The Similarly, the market worth of companies remained unchanged. This study confirms with previous documents that the performance of a company does not alter financial leverage.

Thu-Trang (2019) put his context in an emerging economy, Vietnam. This study was conducted amongst 102 Ho Chi Minh bond businesses. Total debt, long-term debt on total assets, and short-term debt on total assets are used to compute ROA and levy. The research has shown a significant link between leverage and business success. It has been discovered that increasing debt usage lowers company success. Firms should thus be cautions when deciding to use debt. This paper did not show if the firms that used more equity performed significantly better.

Doan (2020) did an investigation on how financial leverage impacts firm performance in Vietnam. The target population were listed companies on the Ho Chi Minh Bourse and selected 102 non-financial firms. The research was conducted between 2008 and 2018. To address the inconveniences of the model, the generalized technique of time is employed to guarantee dependability and reliability. To measure firm performance ROA was used. In addition, leverage funding was evaluated using three measures: debt on assets includes asset obligations, short-term debt on assets, and long-term debt on assets. Inflation, economic growth, and company size are the control variables. The

study's findings indicate that leverage is linked to corporate success. The results were that firm performance declined as more debt was consumed.

### **2.4.3 Local Studies**

Njeri and Kagiri look at how capital analysis affects NSE bank performance (2015). The net profit margin, return on assets, and return on equity were used to construct the capital structure. The study utilized the descriptive method with major data from the management of the surveys by 35 respondents, who were primarily management branches of the banks mentioned. The data gathered were then analyzed using correlation and multiple regression analyzes, which found that 56.4% of the financial condition of the selected banks was a consequence of capital structure decisions. Since the study was based mostly on the opinions of managers rather than secondary evidence, the results may be restricted to answers only as opposed to facts.

From 2009 to 2011, Mwangi & Birundu (2015) looked at the financial impact of Thika on small and medium-sized businesses. The strategy used for the research consisted of the descriptive design using many regressions and correlation analyses. The research found that the financial performance companies are not influencing the structure of capital, asset tangibility and asset turnover.

For electricity utility firms in Kenya, Chahenza (2017) conducted a research on the same subject using the same factors. The research comprised 17 Kenyan energy utility providers. The sample included significant companies such as KPLC, KenGen, and Ketraco. The debt ratio was used to evaluate the capital structure, and ROE profitability was estimated. The study lasted 7 years (2009-2016), with semi-annual data collected. Using a multi-linear regression model and a descriptive cross-sectional approach, the

researchers discovered statistically insignificant correlations between Kenyan energy utility providers over the course of the study period.

In Kisumu County, Ongombe and Mungai (2018) looked at the effect of financial performance choices on sugar businesses' capital structure. All 3 Kisumu County sugar factories were the target population in the research. Secondary data were used and taken from published 2011-2015 finances. Simple and multiple regression analysis together with correlation analyzed the data quantitatively so as to establish the level of influence of each of the autonomous variables. The data were presented via narratives and tables. The debt ratio is negatively associated to fiscal performance, whereas the debt/equity ratio has a large and unfavorable impact on the economic health of sugar producing enterprises in Kisumu County, according to the data. In addition, it was shown that WACC had a favorable and substantial financial effect on sugar companies' financial performance.

Mwaura (2017) carried out a similar study on NSE listed firms covering the period 2011-2016. The study population was 65 firms out of which 36 formed the study sample. Secondary data from the NSE Handbooks and yearly financial reports was used in the research. The obtained data were grouped and analyzed using the Regression and SPSS Models. The research results demonstrate that when the debt ratio rises, equity returns fall (inverse connection) and therefore result in a negative association between external long-term debts and investment returns.

## **2.5 Summary of Literature Review and Research Gaps**

This chapter examined closely the established links between financial and financial leverage. The studies and results reviewed clearly demonstrate how financial scientists have no effect on financial performance, capital structure or financial performance. The

study shows some of the different researchers' conceptual arguments on the relationship between the factors that have been established. Three key assumptions supporting the link between financial leverage and financial success were uncovered during the critical literature review. These are: trade theory, theory of irrelevance for capital structure and market theory.

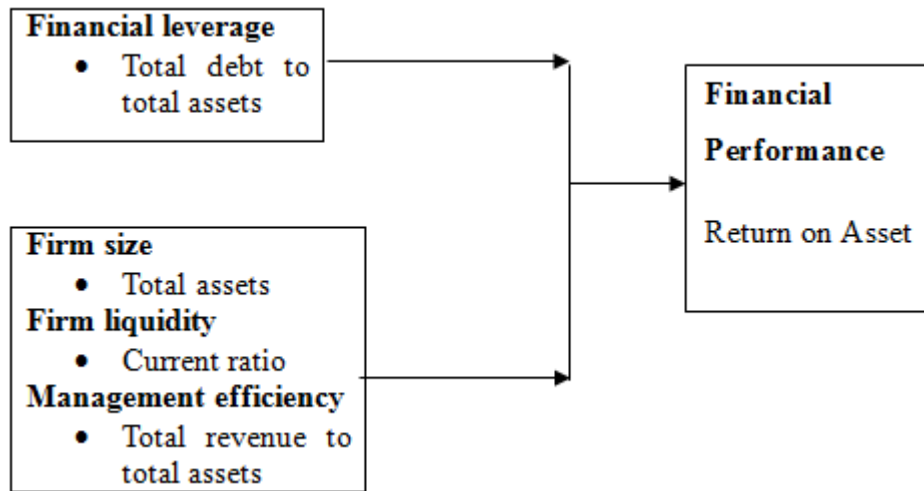
Numerous relevant publications on the study variables were analyzed as part of the empirical review to identify research gaps and analysis approaches. Financial leverage, as per the study, has an impact on the profitability. However, the results were mixed, with some research concluding that there is a strong beneficial association and others concluding that there is none. Nevertheless, the investigations were all conducted using various approaches and data was collected over different time periods, which could explain the disparities in the outcomes. The study contexts were also different with some studies focusing on a single sector and other focusing on several sectors. The operationalization of the study variables have also been varied and this can also explain the differences in previous studies. This study will use the research issue to answer the research question: What impact does financial leverage have on the profitability of energy and oil businesses listed on the Nairobi Securities Exchange?

## **2.6 Conceptual Framework**

The connection between the variables is shown in the model below. In the research, a predictor variable will be the yearly debt-to-asset ratio. Firm size, liquidity, and managerial efficiency will be the control variables. The ROA assessed financial performance is the dependent variable.

**Figure 2.1: The Conceptual Model**  
**Predictor variable**

**Response variable**



**Control Variables**

**Source: Researcher (2020)**

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Introduction**

To sum up the study and evaluate the effect of financial leverage on financial performance, a research technique was needed. The layout, population, data collection method, and analytical approaches are all described in this section.

### **3.2 Research Design**

In its descriptive inquiry, the research employed a transversal design. A descriptive study's purpose is to determine what and how a phenomenon occurs (Cooper & Schindler, 2008). Since the researcher wishes to explain the present situation, this method is suitable for study (Khan, 2008). This type of research is suitable when the researcher knows the subject under study, but wants to learn more about the connection

between studied factors. Descriptive research is moreover concerned with producing a true and exact representation of the variables investigated, which helps to get a response to the research inquiry (Cooper & Schindler, 2008).

### **3.3 Population and Sample**

The population, as per Burns and Burns (2008), is the total number of interesting observations in a sample, such as people or events, that an investigator notes. As of 31 December 2020, there were four listed energy and petroleum businesses (see Appendix I). No sampling was done because of the limited population.

### **3.4 Data Collection**

Each NSE enterprise's annual financial statements from January 2010 to December 2019 contained secondary data gathered from a data sheet. Only a few of the exact statistics gathered include total assets, total debt, current assets, current liabilities, total expenditures and net income, total income, and total operational costs.

### **3.5 Data Analysis**

SPSS version 23 was used to examine the data. Graphs and tables were used to quantitatively show the results. Descriptive statistics like central trend measures, percentages and dispersions have shown the data. Examples of inferential statistics include the Pearson correlation, multiple regression, ANOVA and determination coefficient.

#### **3.5.1 Diagnostic Tests**

The research structure was put through a series of diagnostic tests to see if it was applicable. To assess if the residuals were normal, the Kolmogorov-Smirnov and Shapiro-Wilk tests were used. The Kolmogorov-Smirnov and Shapiro-Wilk residual



tests were used to see whether the data were normal. A non-significant result was the usual signal in all tests (a p factor of more than 5%). Multicollinearity tests have also been conducted using the inflation factors of tolerance and variance (VIF), which indicate multicollinearity when the tolerance is greater than 0.2 or the VIF is greater than 10. The Durbin Watson test, which reveals a value of 1.5 to 2.5 and no self-correlation through the Levene test and the remaining graphs, as well as the serial correlation (autocorrelation), were also used to perform the inquiry (Khan, 2008).

### 3.5.2 Analytical Model

The following model was used:

$$Y = \alpha + \beta_1 X_{1t} + \beta_2 X_{2t} + \beta_3 X_{3t} + \beta_4 X_{4t} + \varepsilon.$$

Where: Y = Financial performance given by the ratio of net income to total assets

$\alpha$  = y intercept of the equation.

$\beta_1, \beta_2, \beta_3, \beta_4$  = are the regression coefficients

$X_1$  = Financial leverage given by the ratio of total debt to total assets

$X_2$  = Firm size as measured by natural log of total assets

$X_3$  = Firm liquidity as measured by the quotient of current assets and current liabilities

$X_4$  = Efficiency of Management measured as the total revenue to total operating expenses ratio

$\varepsilon$  = error term

### 3.5.3 Tests of Significance

To establish the importance of the overall model and individual characteristics, the researcher conducted parametric tests. The model's overall importance The F-test was

examined and generated by the Variety Analysis (ANOVA), which used the t-test as a statistical meaning for the numerous variables.

## CHAPTER FOUR: DATA ANALYSIS, RESULTS AND FINDINGS

### 4.1 Introduction

This chapter analyzes CMA data to determine how financial leverage impacts energy and oil businesses' financial performance. Correlation and regression data were represented in tables utilizing descriptive statistics, as indicated in the segments below.

### 4.2 Descriptive Analysis

The average, maximum, minimum, and standard variables are presented in this investigation. Table 4.1 displays the variable statistics. For all four energy and petroleum companies whose data was gathered, SPSS was utilized in the analysis from 2010 to 2019. The figures are listed below.

**Table 4.1: Descriptive Statistics**

	Units	N	Minimum	Maximum	Mean	Std. Deviation
ROA	Ratio	40	-.0200	.2673	.061780	.0585583
Financial leverage	Ratio	40	.0970	1.9142	.536760	.3314832
Firm size	Log	40	5.8384	8.2602	6.982673	.5842750

Liquidity	Ratio	40	.2160	2.7557	1.416420	.7007653
Management efficiency	Ratio	40	.0000	.8117	.279658	.2207592
Valid N (listwise)		40				

**Source: Research Findings (2020)**

### 4.3 Diagnostic Tests

On the data gathered, diagnostic tests were run. To get variable information, the study used a 95% confidence interval or a 5% significance level. Diagnostic tests were helpful in determining if the data was false or true. As a result, the closer the confidence interval is to 100 percent, the more correct the data utilized is assumed to be. The tests performed in this example were normality, multicollinearity, heteroskedasticity, as well as autocorrelation.

#### 4.4.1 Normality Test

The Kolmogorov-Smirnov test was used for this analysis. The criterion was if the probability was greater than 0.05, the data had a normal distribution.

**Table 4.2: Normality Test**

	Kolmogorov-Smirnova		
	Statistic	Df	Sig.
ROA	0.486	40	0.234
Financial leverage	0.326	40	0.112
Liquidity	0.408	40	0.207
Management efficiency	0.394	40	0.179
Firm size	0.272	40	0.063

**Source: Research Findings (2020)**

Since the p values are above 0.05, the aforementioned findings indicate that the data was regularly distributed. As a result, the normal distribution null hypothesis was accepted, indicating that the researcher fails to reject the null hypotheses.

#### 4.4.2 Multicollinearity Test

William et al (2013) defined this characteristic as correlations between the predictor variables. This attribute was tested using VIF. Field (2009) says that VIF values over 10 suggest that this feature exists.

**Table 4.3: Multicollinearity Test**

<b>Variable</b>	<b>VIF</b>	<b>1/VIF</b>
Financial leverage	1.30	0.771
Liquidity	1.27	0.785
Management efficiency	1.02	0.978
Firm size	1.20	0.833

**Source: Research Findings (2020)**

Table 4.3 shows the VIF values, that were discovered to be less than ten, indicating that Multicollinearity was not present, as per Field (2009).

#### 4.4.3 Heteroskedasticity Test

The error process in cross-sectional units may be homoscedastic yet vary across units called groupwise Heteroscedasticity. Breuch Pagan is calculated for each group using the hetttest program. Heteroscedasticity is a term used to describe the heteroscedasticity of residuals. According to the null hypothesis:  $\sigma^2_i = \sigma^2$  for  $i = 1 \dots N_g$ , where  $N_g$  is the cross-sectional units.

**Table 4.4: Heteroskedasticity Test**

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<b>Modified Wald test for group wise heteroscedasticity in fixed effect regression model</b>
H0: $\sigma(i)^2 = \sigma^2$ for all i
chi2 (40) = 314.92
Prob>chi2 = 0.0763

---

**Source: Research Findings (2020)**

The homoscedastic error hypothesis was not dismissed, as shown by the 0.0763p-value in Table 4.4.

#### **4.4.4 Autocorrelation Test**

Since conventional serial correlation biases make the results more efficient, the Breusch-Godfrey autocorrelation test was used to identify serial correlations in the idiosyncratic term of a model.

**Table 4.5: Autocorrelation Test**

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<b>Wooldridge test for autocorrelation in panel data</b>
<b>H0: no first-order autocorrelation</b>
F(1, 39) = 0.336
Prob>F = 0.6240

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**Source: Research Findings (2020)**

From Table 4.5 above the p-value is not rejected since it is a significant p-value (p-value = 0.6240).

#### **4.5 Correlation Analysis**

To identify the connection between variables, correlation analysis is employed. The Pearson correlation was utilized to investigate the connection between energy and oil sector performance and variables (financial leverage, liquidity, firm size, and managerial efficiency).

**Table 4.6: Correlation Analysis**

		ROA	Financial leverage	Firm size	Liquidity	Management efficiency
ROA	Pearson Correlation	1				
	Sig. (2-tailed)					
Financial leverage	Pearson Correlation	.008	1			
	Sig. (2-tailed)	.952				
Firm size	Pearson Correlation	.319*	-.259	1		
	Sig. (2-tailed)	.020	.061			
Liquidity	Pearson Correlation	.021	-.014	-.123	1	
	Sig. (2-tailed)	.881	.922	.381		
Management efficiency	Pearson Correlation	.019	-.040	.039	-.348*	1
	Sig. (2-tailed)	.891	.778	.784	.011	

\*. Correlation is significant at the 0.05 level (2-tailed).  
b. Listwise N=40

**Source: Research Findings (2020)**

Financial leverage, liquidity, and management efficiency all showed a small but favorable relationship with energy and petroleum company financial success ( $r = .008$ ,  $p = .952$ ;  $r = .021$ ,  $p = .881$ ;  $r = .019$ ,  $p = .891$ ), according to the findings. The size of a business has been proven to have a positive connection with its financial success ( $r = .319$ ,  $p = .020$ ).

**4.6 Regression Analysis**

Financial leverage, liquidity, firm size, and managerial efficiency were the variables upon which performance was modeled. The significance level for the analysis was set at 5%. The regression result was contrasted to the crucial value from the F – table. The results are listed below.

**Table 4.7: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.669 <sup>a</sup>	.448	.385	.0459183	2.050

---

a. Predictors: (Constant), Management efficiency, Financial leverage, Firm size, Liquidity  
b. Dependent Variable: ROA

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**Source: Research Findings (2020)**

The R square shows the variables of the response variable because of the predictor variables changes. R square was 0.448, showing that differing financial leverage, liquidity, size and managerial effectiveness represent 44.8 % of the variability in energy and oil companies' financial performance. 55.2 % of the financial performance variation may be ascribed to factors outside the model. Furthermore, as demonstrated by a 0.669 correlation coefficient(R), the independent factors had a high link with financial performance.

**Table 4.8: Analysis of Variance**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.060	4	.015	7.107	.000 <sup>b</sup>
	Residual	.074	35	.002		
	Total	.134	39			

a. Dependent Variable: ROA

b. Predictors: (Constant), Management efficiency, Financial leverage, Firm size, Liquidity

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**Source: Research Findings (2020)**

The significance level is set at 0.000, which is much lower than  $p=0.05$ . This means that the model was sufficient to assess the financial leverage, liquidity, firm size and managerial efficiencies of NSE-listed businesses in energy and petroleum.

The R-square indicated the way the variables were connected. The significance of the link between responder and predictor factors was shown by the p-value of the sig. column. The confidence interval of 95% indicates a p-value of less than 0.05. As a consequence, a p-value higher than 0.05 indicates that the predictor and response variable are unrelated. The results are listed below.

**Table 4.9: Model Coefficients**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-.889	.282		-3.155	.003
1 Financial leverage	-.079	.037	-.138	-2.112	.036
Liquidity	.152	.038	.524	3.973	.000
Firm size	.185	.139	.182	1.326	.191
Management efficiency	.089	.039	.283	2.271	.028

a. Dependent Variable: ROA

**Source: Research Findings (2020)**

All other factors, except for company size, have generated significant positive findings (high t-value,  $p < 0.05$ ). Because a p value greater than 0.05 is displayed, the business size generated a positive but modest result.

The following equation was created:

$$Y = -0.889 - 0.079X_1 + 0.152X_2 + 0.089X_3$$

Where,

Y = Financial performance

X<sub>1</sub> = Financial leverage

X<sub>2</sub> = Liquidity

X<sub>3</sub> = Management efficiency

The constant = -0.889 in the model indicates that performance would be -0.889 if the variables (financial leverage, liquidity, company size, as well as management efficiency) were all zero. While firm size was insignificant, a unit rise in financial leverage resulted in a 0.079 loss in performance, but a unit rise in liquidity or managerial efficiency resulted in 0.152 and 0.089 increases in financial performance, respectively.



#### **4.7 Discussion of Research Findings**

The research examined how financial leverage impacts NSE energy and oil firms' performance. The dependent variable of total debt was the financial leverage to the percentage of total assets. The current liquidity measurement ratio was limited by total sales to the overall percentage of assets and the business size assessed by the debt to assets ratio. ROA was the name of the efficiency response variable.

The correlation coefficient of Pearson showed that the size of a business has a favorable connection with its performance. NSE Energy and Oil businesses' performance showed a good but not important connection to financial leverage. The study also showed that the relationship between business size and managerial efficiencies and the success of NSE energy and oil companies has been favorable but negligible.

The result shows that 44.8% of changes in the response variable according to R<sup>2</sup>, which implies other factors other than the model explain 55.2% of performance changes. The predictor variables of financial leverage, liquidity, size of a business and efficiency explained. With an F-value of 7.107, the model was 95% confident enough. This shows that the connections between the variables were sufficient to anticipate and describe.

The findings are consistent with Enekwe, Agu and Eziedo (2014), which examined how Nigerian pharmaceutical companies' financial leverage affects their performance. The research was based on secondary information between 2001 and 2012 and sampled three firms. Data analysis was carried out. Regression and correlation models based on Pearson. Debt and the debt/equity ratio were both shown to be adversely linked to ROA profitability.

Doan (2020) investigated how financial leverage affects business performance in Vietnam and came up with similar results. A total of 102 non-financial companies were

sampled from the Ho Chi Minh Stock Exchange's target demographic. From 2008 - 2018, the research was conducted. To address the limitations of the model, an extended technique of moment is employed to guarantee dependability and reliability. ROA was employed to assess business performance. To assess leverage finance, three measures were used: short-term total assets debt, long-term total assets debt, and overall assets debt. Control factors include inflation, economic growth and business size. Research findings indicate that financial leverage is linked to business success. The findings showed that company performance decreased with greater debt consumption.

## **CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS**

### **5.1 Introduction**

The facts, conclusions, as well as limitations discovered during the research are summarized in this chapter. It also makes policy recommendations that will help policymakers raise the expectations of publicly traded energy and petroleum companies in order to achieve better results. The findings of the study also include suggestions for future studies.

## 5.2 Summary of Findings

The study's goal was to see how NSE's financial performance is affected by financial leverage. Financial leverage, liquidity, business size, and managerial efficiency were among the variables studied. This was accomplished using a descriptive cross-section design. SPSS has been used to analyze secondary CMA data. Annual data for four energy and oil corporations has been obtained during a ten-year period from their annual reports.

The size of a business has a strong positive connection with its financial success in the energy and oil sectors, according to correspondence studies. The financial leverage of NSE energy and petroleum companies was positive but not substantially linked to their financial success. The study also found a modest but substantial link between liquidity, managerial efficiency, and NSE energy and petroleum companies' financial success.

As depicted by 0.448 R square, indicating that differences in financial leverage, liquidity, business size, and management efficiency account for 44.8 % of the variance in NSE listed energy and petroleum enterprises performance. 55.2% of financial performance variation is attributable to variables outside the model. The results showed that the predictor parameters selected were significantly linked with the business results of energy and oil companies ( $R=0.66.9$ ). The F value was calculated as 5% higher than the crucial value while the p value was 0.000 and showed that the model included data on the effects of the four independent variables on NSE power and animals.

The regression outcomes suggest that performance might be -0.889 if all factors (financial leverage, liquidity, company size, and managerial efficiency) were zero. Increasing unit leverage would lead to a performance loss of 0.079, whereas an increase

in liquidity or management efficiency would lead to financial performance improvements of 0.152 and 0.089, while corporate size is not relevant.

### **5.3 Conclusion**

The financial performance of publicly traded energy and oil businesses are affected significantly by financial leverage. The results indicate that a one-unit increase in that variable has a substantial negative effect on energy and petroleum business performance. Company liquidity has a strong positive performance connection and therefore greatly improves liquidity performance. The survey also showed a statistically significant impact on management efficiency on financial performance and suggested that management efficiency is significantly affecting the performance of the companies examined. Furthermore, business size has a favorable but modest financial impact, meaning that corporate size isn't a big predictor of firm size.

The results indicate that the selected factors, such as leverage, liquidity, size, and managerial efficiency, significantly affected businesses' success. These factors influence significantly on energy and oil companies' financial performance, since ANOVA's p value is less than 0.05. The finding that the selected variables account for 44.8% of variations in performance indicates that other non-model factors account for 55.2% of variance in energy and oil companies' financial performance.

This study incorporates Ongombe and Mungai's (2018) results on the effect of capital structures on the business results of sugar milling companies in Kisumu County. The research's target population was all three sugar producing companies in Kisumu County. Secondary data during 2011-2015 have been used and taken from disclosed financials. Simple and multiple regression analysis together with correlation analyzed the data quantitatively so as to establish the level of influence of each of the autonomous

variables. Tables and accounts have been used to display the data. The findings indicated that the debt ratio was related to negative and insignificant financial performance while the debt-to-equity ratios were significant and harmful to the financial output of sugar production companies in Kisumu County.

This study also agrees with Mwaura (2017) who carried out a similar study on NSE listed firms covering the period 2011-2016. The study population was 65 firms out of which 36 formed the study sample. The research used secondary data from the NSE Handbooks as well as publicly available yearly financial reports. The collected data were sorted and analyzed using the SPSS and Regression models. The results indicate that when the debt ratio rises, equity returns decline (inverted relationship) and therefore result in a negative connection between long-term foreign borrowing and investment returns.

#### **5.4 Recommendations**

Leverage has both a positive and negative impact on financial performance, according to the results. Policy reforms include: energy and oil companies listed in NSE shall assess fiscal advantages and bankruptcy costs connected with loan funding. Levels of debt should be kept at appropriate levels because a high debt level has been shown to decrease financial performance. This will assist in achieving the objective of enhancing shareholder value.

Financial performance and liquidity were found to have a positive relationship in the research. The suggestion is that a detailed examination of the liquidity condition of publicly traded energy and petroleum firms be performed to ensure that the firms are functioning at adequate levels of liquidity, consequently boosting financial

performance. The rationale for this is that liquidity is extremely vital since it has an impact on how a company operates.

The NSE's energy and petroleum operations performed much better as a result of improved management efficiency. The proposal is that energy and petroleum companies establish optimal personnel management methods to ensure that skilled and devoted employees be attracted and retained, since this would help improve financial performance. Talent management methods such as staff planning, recruiting, learning and development should be given special consideration as should employee perks and payments.

### **5.5 Limitations of the Study**

The research looked at some of the elements thought to effect the NSE-listed energy and petroleum companies performance. The research focused on four explanatory variables in particular. Nevertheless, additional factors, some of which are internal, like the firm's age and corporate governance, though others which lack management's regulation, like rate of exchange, economic growth, balance of trade, as well as rate of unemployment, are influential in determining financial performance of companies.

The research used a scientifically sound analytical technique. The research also overlooked qualitative data that may explain additional variables influencing the connection between financial leverage and energy and oil company performance. Qualitative techniques like focus groups, open surveys and interviews may help to provide more definitive results.

The research focused on a span of 10 years (2010 to 2019).It's unclear whether the outcomes will last long. It's also uncertain if same results can be expected beyond 2019.

A multivariate linear regression model for data analysis was used. The investigator

cannot correctly extrapolate results due to the model's shortcomings, such as misleading conclusions from a change in variable financial performance. When data is added into the model, conflicting outcomes may occur.

### **5.6 Suggestions for Further Research**

The study uses secondary data to examine at the impact of the financial leverage on NSE energy and oil firms' performance. In order to complement this research, same survey on the basis of primary data obtained through thorough surveys as well as interviews on all 11 NSE listed energy and petroleum corporations might suffice.

Further research on variables such as growth prospects, industrial practices, business age, political stability, and other macroeconomic variables is required since the study did not cover all of the elements that affect the financial performance of NSE oil and energy companies. Policymakers may use a tool that evaluates the influence of different factors on performance to help them make decisions.

The research was restricted to NSE-listed energy and oil businesses. Other corporations operational in Kenya should be investigated further, according to the study's recommendations. Future research should look into how financial leverage affects characteristics other than financial performance, such as business value, operational efficiency, and dividend payment, to name a few.

Because of the readily available data, the focus of this research was drawn to the last ten years. Later studies may span a lengthy period of time, such as thirty or twenty years, and may have a major effect on this study by confirming or refuting its findings.

A longer research has the benefit of allowing the researcher to catch the effects of business cycles like booms as well as recessions.

Lastly, this research relied on model of multiple linear regression, that has its own set of drawbacks, including the possibility of erroneous and misleading conclusions due to changes in variable financial performance. To explore the many connections to financial success, future research should use alternative models, such as the Vector Error Correction Model.

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## **APPENDICES**

### **Appendix I: Energy and Petroleum Firms Listed at the NSE**

1. KenGen Ltd
2. Kenya Power & Lighting Co. Ltd
3. Total Kenya Ltd
4. Umeme Ltd

## Appendix II: Research Data

<b>Firm</b>	<b>Year</b>	<b>ROA</b>	<b>Financial leverage</b>	<b>Firm size</b>	<b>Liquidity</b>	<b>Management efficiency</b>
<b>Units</b>		<b>Ratio</b>	<b>Ratio</b>	<b>Log</b>	<b>Ratio</b>	<b>Ratio</b>
Umeme	2019	0.1358	0.5571	7.2455	0.4338	0.2560
	2018	0.0665	0.4924	7.2427	1.0792	0.2181
	2017	0.0626	0.8749	7.2300	1.6347	0.1629
	2016	0.0553	0.8488	7.1991	1.0404	0.1247
	2015	0.0484	0.4892	7.2025	0.8038	0.0348
	2014	0.0473	0.1072	7.1591	2.0699	0.2365
	2013	-0.0200	0.0970	7.1386	2.2816	0.0141
	2012	0.0177	0.1158	7.1299	2.3779	0.0221
	2011	0.0068	0.1323	7.0958	2.7557	0.2429
	2010	0.0076	0.1656	7.1233	2.4602	0.1798
KenGen	2019	0.0102	0.5574	6.3816	1.2090	0.0605
	2018	0.0172	0.2372	6.2692	1.3700	0.4567
	2017	0.0221	0.2890	6.2711	1.6456	0.6456
	2016	0.0305	0.5506	5.8384	1.5002	0.6042
	2015	0.0357	0.4666	5.8765	2.3867	0.6121
	2014	0.0372	0.4312	8.1356	0.2160	0.8117
	2013	0.0438	0.4353	8.1692	0.3649	0.5988
	2012	0.0451	0.5064	8.1922	0.4073	0.6589

<b>Firm</b>	<b>Year</b>	<b>ROA</b>	<b>Financial leverage</b>	<b>Firm size</b>	<b>Liquidity</b>	<b>Management efficiency</b>
<b>Units</b>		<b>Ratio</b>	<b>Ratio</b>	<b>Log</b>	<b>Ratio</b>	<b>Ratio</b>
	2011	0.0538	0.4194	8.2602	0.5021	0.6398
	2010	0.0540	0.3824	8.1722	0.4648	0.6294
Kenya Power	2019	0.0559	0.2776	7.0491	1.9536	0.0057
	2018	0.0638	0.2908	7.0539	2.0223	0.2672
	2017	0.0718	0.2770	7.0854	2.0727	0.2726
	2016	0.0915	0.2366	7.1037	2.0954	0.2747
	2015	0.0944	0.2615	7.0772	2.3651	0.3414
	2014	0.1193	0.8145	6.6699	0.9120	0.3769
	2013	0.1266	0.8365	6.6493	0.8469	0.1996
	2012	0.1343	0.8202	6.6439	1.1693	0.2519
	2011	0.1631	0.8878	6.6390	0.9537	0.1449
	2010	0.2018	0.7937	6.6129	1.2192	0.1746
Total	2019	0.2673	1.9142	6.4129	0.9038	0.0058
	2018	0.0271	0.9686	6.4727	1.5485	0.4094
	2017	0.1229	0.7179	6.5173	1.5805	0.2166
	2016	0.0012	0.7097	6.5742	2.2050	0.3170
	2015	0.0235	0.5366	6.5863	2.5238	0.0000
	2014	0.0266	0.5580	7.0075	0.9903	0.0415
	2013	0.0129	0.5648	6.9670	1.0299	0.1184
	2012	0.0224	0.5272	6.9870	1.0054	0.0786
	2011	0.0237	0.5613	6.9537	1.0562	0.3178
	2010	0.0435	0.7601	6.9113	1.1994	0.1621

