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Ratio Analysis Determinants of Financial Performance of Listed Banks in Kenya

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By
Daniel Oigo Ogachi

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Hungarian University of Agriculture and Life Sciences, Hungary

Name of Doctoral School: Doctoral School of Economics and Regional Sciences

Discipline: Management and Business Administration Sciences

Head of Doctoral School: **Prof. Dr H.c. Popp, József, DSC**

Corresponding member of the Hungarian Academy of Sciences
Hungarian University of Agriculture and Life Sciences
Institute of Economic Sciences

Supervisor(s): **Prof. Zéman, Zoltán, PhD**
Full professor, Institute director, Leader of Program
MATE Institute of Business Regulation and Information Management
Vice-Chairman of the Economics Committee of the Hungarian Rectors' Conference

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Approval of Head of Doctoral School Approval of Supervisor(s)

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACRONYMS

ARIMA: Auto-Regressive Moving Average

CAR: Capital Adequacy Ratio

CMA: Capital Markets Authority

CROCI: Cash Return on Capital Invested

DTR: Debtors' Turnover Ratio

GPM: Gross Profit Margin

IMF: International Monetary Fund

LDR: Loan Deposit Ratio

NPM: Net Profit Margin

NIM: Net Interest Margin

NPL: Non-Performing Loans

NSE: Nairobi Securities Exchange

ROA: Return on Assets

ROCE: Return on Capital Employed

ROE: Return on Equity

ROS: Return on Sales

TATR: Total Assets Turnover Ratio

WB: World Bank

1. INTRODUCTION

Ratio analysis is a financial analysis tool used primarily to relate two figures applicable in different categories. According to Innocent (2015), ratio analysis is the separation of data into their elements or parts, the tracing of facts to their source to discover the general philosophies underlying individual phenomena. He adds that the review of a financial statement is an interpretation, magnification and a translation of the facts found in the financial statements to draw the appropriate conclusions, thus drawing inferences about the company activities, the financial situation and the outlook. Innocent (2015) sees ratios as a means of articulating relationships amid the various items posted in the financial statements. In financial accounting and reporting, there are individual relationships on the financial reports that exist. The relationship displays through the profit and loss account as well as the statement of the financial positions.

Ariss (2010) adds that ratios are used most effectively in clarifying financial statements, especially when there is a standard unit of measure or basis for comparison. Ratios compare with a benchmark or standard before commenting on any inference. According to Seetha et al. (2016), analysing ratios is the process of interpreting the relationship between and among various numerical values based on the firm's financial statements to summarise the vast data quantities on financials for ease of use in making qualitative decisions regarding the performance of the firm.

Financial performance analysis is an integral part of business management to know past, current, and future accounting performance. It delves into its financial strengths and weaknesses by examining the profit and loss account's financial position and balance sheet. The research augments that ratio analysis is a powerful analytical tool for financial forecasting. Ratios act as a yardstick for appraising the financial well-being of a firm. Besides, it is a mathematical expression of the relationship between two or more accounting figures. There are industry benchmarks that help organisations in making comparisons. The ratios emanate from the balance sheet and a firm's income statement (Gokulpriye et al. 2020).

Company profitability ratios are essential as they help an enterprise manifest its capacity to generate earnings relative to equity and sales. The ratios play a critical role in measuring the firm's ability to increase yield earnings and profits and cash flow relative to a set indicator, typically, the invested capital. Profitability is a consequence of policies and decisions, and the profitability ratio is the

measure of the combined outcome of liquidity, asset management, and debt on the firm's efficiency. Return on Equity, Return on Investment, Net Profit Margin, Cash Return on Capital Invested (CROCI), Return on Sales, Return on Capital Employed (ROCE) as well as Gross Profit Margin (GPM) are examples of profitability ratios (Khan & Khokhar, 2015).

Company profitability ratios are essential as they manifest an enterprise's ability to generate earnings relative to sales and equity. The ratios serve as a measure of the firm's capability to raise yield earnings, cash flow and profits relative to a particular indicator, typically the capital invested. Profitability is a consequence of policies and decisions, and it depicts the enterprise's combined result of liquidity, asset management, and debt. The ratios stated above educate about the company financial performance at earning profits comparative with a selected standard of measurement. Higher qualities for the more significant part of these proportions pass on that the organisation gives a correct parity in creating benefits and income. Net benefit proportion gives a decent sign of the general degree of productivity of the organisation. This proportion measures the amount of every dollar acquired by the organisation changed into benefits. The higher the overall net revenue is, the more persuasive the organisation is at changing over income into a real benefit. Net overall revenue gives proof to the organisation's policies & choices, cost structure and creative productivity. Various methodologies prompt the net revenue to shift among various organisations. A company is considered influential in converting revenue into actual profit if it has a higher margin.

Performance appraisal is essential for any company that operates on the market. A company's performance evaluation is essential because it helps to enhance future work. The definition of success has several interpretations, which indicate that this word is interpreted differently by consumers of financial information to fulfil their desires. We may conclude that: managers are concerned about the overall success of the company, current and future investors are concerned about the output of revenues from investments made, employees are interested in security and benefits, manufacturers are concerned about the solvency of their customers, and consumers are concerned about the stability of the company. Companies need to review their results and, if possible, adjust their approach to improve profits. Shareholders need this information to determine which business they are going to invest in, and consumers often use this information as a metric when selecting a product (non-financial information).

Commonly it is argued that competitive markets are necessary for economic growth and, more generally, that competition is a health affair for companies and investors. The competition promises to provide incentives for efficient, innovative production and downward pressure on both costs and prices has implications for competition policy. However, it is difficult to measure the extent of competition in the market directly. Researchers often use the size of firms' size over their costs and the resulting profitability levels as proxies for competition. In particular, Aghion, Braun, & Fedderke (2008) concluded that South African manufacturing firms operate in relatively uncompetitive markets based on their empirical observations that these firms have been able to generate abnormal profits compared to their counterparts in other markets. More specifically, ABF claims that SA manufacturing firms have consistently been more profitable on a comparable basis over a period extending from the mid-1960s through to 2006. Using various estimates of markups and profitability, they suggest that SA firms have been between 50% and 100% more profitable than their international peers, hinting strongly at the need for stricter competition policies to protect the South African consumer.

The productivity of firms and ways to enhance it are hotly debated issues among managers and scholars. Identifying causes of variance in firm-level profitability is a significant ongoing research area in accounting and finance, economics and strategic management. Researchers have made a great deal of effort to investigate theoretical models to boost companies' profitability (Pratheepan, 2014).

The development of financial markets and economies is significant as long as results are different, depending on the countries analysed. Several studies discovered that leverage in Chinese firms negatively influences Return on Assets (Duan & Niu, 2020). Some studies could not find any relationship between financing decisions and performance (Ebaid, 2009). (Akintoye, 2008) conducted a study to analyse corporate performance in selected companies operating in the Nigerian food and beverage industry. He used four indicators as performance measures related to earnings and dividends. Besides the role of capital structure, the author mentioned taxation, business risk, financial flexibility and managerial behaviour as essential performance factors. Other studies revealed that Romanian companies are rather intuitively managed, as managers take decisions subjectively, focusing on the short-term and forgetting about competitiveness and long-term performance (Alarussi, 2019).

Firm performance is vital for investors, stakeholders and the whole economy. Investors value the return they get from their investment, which means that well-performing businesses can reward investors with high and long-term yields to their investment. Better performing companies will boost employee income and prompt the production of quality products for customers. The profitability of firms also translates to increased future investments, spur employment opportunities and enhancing people's livelihood and income.

Asimakopoulos, Samitas, & Papadogonas (2009) used a sample of Greek non-financial firms in the Athens Stock Exchange to identify profitability is determining factor. They found that size of the firms, sales growth and investment impacted firm profitability positively, whereas leverage and current assets impacted it negatively. On the other hand, corporations' primary aim is to maximise shareholders' return and minimise costs among the many corporate priorities. Several companies declare annual profits, not because of their strong financial base but because they want to control the financial shock waves sent to the customers. Sometimes, companies in financial difficulties have to make dividends available to shareholders to build investor confidence in their invested companies. Payout

Profitability is a challenge for any company or firm since investors worldwide invest their money in a business to make a return (Ogachi & Zeman 2018). Managers are responsible for optimising the profits of such shareholders. Managers must do everything in their power to ensure that they increase shareholder value by minimising costs. Many investors have lost their money by making long-term investments, which has necessitated some academicians to have a different approach to studying corporate financial efficiency. One method uses ratios to predict companies' bankruptcy (Jarrow, Chava, & Jarrow, 2010). Investors' losses resulting from a lack of knowledge and know-how to provide financial information to determine potential market prospects. For example, many listed companies in Kenya have collapsed, with shareholders losing much money.

The Uchumi Supermarket and Kenya Airways were a clear example of this. It is important to identify companies according to their financial capacity to know those financially stable companies performing well and those performing poorly in various sectors of the economy. Kaplan & Zingales (1997) used qualitative and quantitative information from published financial reports to classify firms based on their degree of financial constraint. Therefore, the management of listed companies has to ensure that they safeguard shareholders' rights as well. Businesses should produce income and

ensure the efficient operation of the business based on the prudential accounting principle. Scrutinising companies' financial ratios is an essential aspect of managing a company's financial performance since its economic viability is unswervingly affected by business decisions. This phenomenon was initially studied in 1958 by Modigliani and Miller (Finance & Miller, 2006). Hence, proper attention and care are required while making such a decision.

Financial ratio scrutiny is a vital feature of a company's financial performance since a company's economic stability is unwaveringly determined by the company's business decisions, as first discussed by Modigliani and Miller in 1958, considered academic finance giants (Finance & Miller, 2006). The efficient selection and use of appropriate ratio are critical elements of the firm's financial strategy. As a result, there is a need for proper attention and care while taking such a decision. Financial ratio monitoring is a method for shaping financial soundness in terms of profitability, thereby encouraging companies' financial efficiency using their past financial statements. Management is required to make public financial statements. Each business is concerned with its profitability as the critical determinant of its cash flow and economic sustainability and the investors and employees' well-being. Financial information is also crucial for the government to make it possible to know the amount of tax imposed on a corporation.

According to Antofagasta (2010), investors have lost money to fraudster companies that have declared inadequate income to draw investors. Most Kenyan investors have limited knowledge about the essential financial determinants used to make educated decisions about whether or not to invest. There are very few studies on testing the deciding factor in the profitability of the listed companies in Kenya. With the increasing need for such an analysis, the study proposed reliable financial ratios as significant internal determinants of the listed companies' results.

Most of the past studies on profitability determinants of firms have not focused on identifying the profitability determinants of the listed companies in Kenya even though these companies represent the most critical sectors of the economy and hence significant pillars of the Kenyan economy. This vital knowledge gap is why this study proposes simple financial ratios as significant internal profitability determinants for the Kenyan listed companies. Financial ratios serve as the evaluation tools to measure a firm's performance. Profitability determinants are forces that directly profitability of a firm, making them indispensable parameters for decision making for firms aiming to enhance profitability. Financial ratios are the evaluators of a company's financial performance. Profitability

determinants are forces that directly affect the profitability of a company and, as such, are useful tools for the firms concerned to understand their decisions in order to increase the profitability of their business. The financial statements review influences a company's sustainability, and such decisions are essential, as they are essential elements of a financial plan needing attention. The research, therefore, aimed to identify the factors determining financial performance.

Any company is most concerned about its effectiveness. The profitability ratio used to measure the company's bottom line is one of the most commonly used ways of calculating the financial ratio. Profitability indicators are essential for business administrators and owners alike. When external investors invest their capital in a small business, it is the responsibility of the business' primary owners to demonstrate the firm's profitability to these investors. Profitability ratios reflect the overall productivity and profitability of an organisation. Many researchers have studied profitability determinants in many other areas, but none studied the profitability determinant by employing financial ratio analysis (Khan & Khokhar, 2015). As a result, this study demonstrates how the financial ratio assessment helps determine profitability in the banking industry.

1.1. Bankruptcy Prediction

Forecasting for corporate bankruptcy is one of the critical subjects of interest to many economists today. Developing and constructing effective models for assessing financial distress in a company is crucial to shareholders in making investment decisions. Continuous increase in performance indicators shows growth prospects while declining business performance levels should sound a warning tool for investors in divesting from the company. Their study (Ogachi, Ndege, Gaturu, & Zeman, 2020b) constructed a comprehensive model to predict bankruptcy among listed companies in Kenya. Using panel data for ten years from 64 listed companies, the researchers used canonical correlations and logistical regression to establish relationships and cause and effect the variable under investigation. Findings indicate that total asset, working capital ratio, and asset turnover had positive coefficients. On the contrary, inventory turnover, debt-equity ratio, debtors' turnover, debt ratio, and current ratio negatively affected bankruptcy prediction. The study concluded that the working capital ratio, debt-equity ratio, debtor's turnover, total asset, current ratio, inventory turnover, debt ratio, and asset turnover were the best substantial ratios for forecasting bankruptcy.

Predicting bankruptcy is a crucial topic receiving considerable attention all over the world. A bankruptcy threat in any organisation is an essential aspect for decisions making both internally and externally. Most researchers utilise financial statements to come up with parameters for establishing companies that are doing well financially as well as those that are disabled, which is essential, especially to shareholders and any other potential investor to cushion them again possible losses to their finances (Zoričák, Gnip, Drotár, & Gazda, 2019).

Bankruptcy predictions are of great importance to all insurance market participants. As insurance products become more and more familiar to the public, to purchase consumers' willingness products is strengthened. However, since the service period of insurance products happens after purchasing products, the consumer is very concerned about whether the insurance company will pay when purchasing the insurance company. Predicting an insurance company's solvency during the product service phase is crucial to both the policyholder's purchasing decision and the company operation. In many instances, policyholders have a habit of thinking that large companies are financially stable and that they are solvency guaranteed, which is not always the case. In assessing the creditworthiness of companies, the various actors use solvency adequacy ratio indicators. In most companies, the companies have a given solvency adequacy ratio used as a yardstick for measuring performance required to be made public. One of the questions that stakeholders ask themselves is whether the indicator is reliable for policyholders to forecast a company's solvency using the current information.

The study by Agrawal & Maheshwari (2019) assessed whether a sensitivity variable, industry beta, has a significant influence on the firm's possibility to default. The study used multiple discriminant analysis and logistic analysis in the investigation. The study found out that industry beta is statistically significant in predicting defaults. Higher exposure to industrial conditions contributes to an increased likelihood of default.

Other studies have introduced learning models for bankruptcy prediction using textual disclosures. Although many scholars do not regard textual disclosures as financial decision support models, peep learning models have a higher superior prediction of performance forecasting for financial distress using textual disclosures. Blending between textual data and traditional accounting-based ratios is one of the recommended ways of improving prediction models. The study's results to investigate

two deep learning architectures' effectiveness showed that simple models are more effective than convolutional Neural Networks (Mai, Tian, Lee, & Ma, 2019).

Business leverage responds differently to employees' rights in bankruptcy depending on whether it is driven by strategic concerns in wage bargaining or by credit constraints. Using novel data on employees' rights in bankruptcy, we estimate their impact on leverage, exploiting time-series, cross-country, and firm-level variation in the data. For financially unconstrained firms, results accord with the strategic debt model, leverage increases more in response to rises, incorporate property values or profitability if employees have substantial seniority in liquidation and weak rights in a restructuring. Instead, in financially constrained firms, leverage responds less to these shocks if employees have stronger priority (Ellul & Pagano, 2019).

Convolutional neural networks have higher prediction accuracies than conventional methods. They are applied to help in problem identification invariant fields. Convolutional neural network models used for financial analysis have little but significant research on predicting movements in stock price because they are suitable for images compared to general numeric data, including published financial statements, in a study of 2062 financial statements of 102 companies in the Japanese stock market. The study concluded that employing a trained network in bankruptcy prediction has superior performance relative to methods that employ other techniques, including AdaBoost or Altman's Z - score, using decision trees, support vector machines, linear discriminant analysis, or multi-layer perceptron (Hosaka, 2019).

Whether using market-based or accounting information to forecast companies' performance, corporate financial distress has been an ongoing debate in finance research—forecasting for corporate. Integrating a regime-switching mechanism, we institute a hybrid financial distress prediction model using non-uniform loadings in market-based approaches and accounting to re-examine the issue. There is a need for creditors to increase the loading on market-based information when considering large and liquid corporations. Contrariwise, for companies engaged in financial reporting and analysis, there is a need to emphasise accounting ratio-based variables to analyse company performance. Managerial prudential discretion in releasing accounting information to the general public will help people and various stakeholders know about the company in making informed decisions. Disclosing information helps in increasing information asymmetry for high-end companies (Li & Faff, 2019).

Bankruptcy prediction models are generally designed from financial information because the financial statements are reliable. However, the reality is slightly different since some companies sometimes manipulate financial statements to deceive the market and different actors. Companies present financial statements depending on several circumstances. In some instances, they show financial statements to change the market perception of its operations' risk. In risk management strategies, then they may tend to distort information on the financial statement.

A recent example is the Keroche brewing company alleged to have manipulated the accounts by disguising a capital injection as a loan. The consequence is a very hefty tax slam by the government. It is hard to tell the extent of manipulations on the financial statements, which calls for the concept of earning management discussed early. The earning management, therefore, may influence any model build which relies on data from financial statements. If the distortions in the financial data can be measured accurately and other economic variables, then there is a possibility of designing accurate models that solely rely on classic books of account (Jardin, Veganzones, & Séverin, 2019).

Bankruptcy prediction is a subset of financial performance analysis. Bankruptcy is the negative financial performance of a company. Predicting financial distress involves a ratio analysis to determine companies that may be on their dead edge. The financial difficulty of companies occurs before bankruptcy. Company financial distress prediction is analysing the financial statement of companies. In research to determine the financial distress of a company Purnomo (2018) used several ratios. The study used profit margin ratio, financial leverage ratio, current ratio, and quick ratio. All the variables above had a strong positive relationship in bankruptcy prediction.

Corporate failures in major economic companies have stimulated a better understanding of research to develop predictive capabilities that guide investment decision-making. Financial distress forecasting in companies relies on available data from listed companies' financial statement, public companies that have been declared bankrupt. Accounting ratios are a vital signal indicating a hazard. Several indicators are typically used based on past observations using data to describe business performance based on mathematical models. Corporate borrowers' decisions on credit risk Traditionally, they depended exclusively on subjective human experts' judgments, based on experience and a set of guiding principles. However, two significant hitches are associated with this approach: the difficulty of making consistent estimates and the fact that they tend to be reactive rather than predictive (Cleofas et al. 2016).

Financial distress analysis is an essential phenomenon in studying the investment behaviour of companies. Scholars have conducted studies concerning bankruptcy prediction with comparative studies done in Canada, France, Germany, Italy, Spain, UK and the USA. Findings from the studies established that financial distress on investment is dissimilar according to companies' investment opportunities. Conclusions from the studies revealed that companies that have financial difficulties but with fewer opportunities are likely to under-invest. In comparison, firms that are not financially sound but with better opportunities do not present different investment behaviours that health companies (López et al. 2015).

Usually, a firm does not go bankrupt instantaneously but does so through a multi-step failure process that considerably varies. A very lengthy failure process often characterises massive corporate failures, whereas it can emerge quickly for small to medium enterprises (SMEs). Bankruptcy is the final stage of the decline process. According to (Weitzel & Jonsson, 1989), a firm's decline process has five stages, and it is only in the very last phases that a successful turnaround/reorganisation is impossible. The failure process can vary widely depending on various factors, including the industry, age, size, and national location for similar firms (Laitinen, Lukason, & Suvas, 2014). This study assumes that some failure processes will be more gradual than others, and we wish to take this process into account in examining the relationship between failure causes and the onset of bankruptcy.

Besides, predicting bankruptcy is essential for investors as well as suppliers or retailers. Credit lenders and investors need to assess the risk of a company's financial bankruptcy before making an investment or loan decision to avoid significant losses: banks and other credit lenders. Suppliers or retailers of a company are always engaged in credit transactions with the company, and they also need to fully understand the company's financial status and make decisions on the credit transactions. Predicting a company's financial distress is of great concern to the various actors of a company. Insolvency problems necessitated the need for studies to establish different corporate stressors affecting investors in making investors decisions.

1.2. Background of the study

Financial intermediaries play a significant role in driving economic growth, and their survival is a critical component of macroeconomic stability. These intermediaries include banks, investment

firms, insurance companies, mutual funds and credit unions. Despite the recent trend of financial disintermediation and growth in market-based finance, the banking sector's share in the financial system has increased, and its position has strengthened. The history of world financial catastrophes has attested that the impact of financial development and banks' intervention on economic stability and growth is acute, and the process of concocting and implementing reforms is more complicated than expected (Neves, Gouveia, & Proença, 2020).

Profits serve as a buffer to neutralise the impacts of economic shocks, and the higher the profitability of a sector, the more resilient it will be to adverse shocks. The banking sector's flexibility is even more critical in transitional economies that are continuously restructuring their legal and macroeconomic environment to comply with the international policies introduced by the World Bank (WB) and International Monetary Fund (IMF). This resiliency translates into a more robust financial system. A well-functioning and sustainable banking system are crucial to resist adverse shocks and financial distress, particularly in commodity-dependent economies (Duan & Niu, 2020).

Recent global events linked to high-profile corporate failures, such as Enron in the US, have placed the policy agenda back on the agenda and intensified discussion on the effectiveness of the determinants of the success of listed companies to build trust in capital markets. In the wake of the recent unprecedented growth of the Kenyan financial markets, new problems have arisen, requiring all players' concerted efforts to safeguard the stock market's credibility.

Kenya has had a number of its setbacks as well. The new Rupert Murdoch corporation was also in the news accused of breaking into people's phones and emails to build stories because of low corporate governance systems. Many stockbrokers operate their businesses outside the expected corporate governance framework. In the absence of professional and severe governance malpractices, some stockbrokers have so far encountered substantial financial difficulties, which have compelled the Capital Markets Regulator to put them under receivership/legislative management.

Each country has financial institutions that incorporate financial guidelines and ensure economic growth and control of its money. The financial institutions are responsible for managing and

controlling all the resources related to financing. A banking institution's presence helps economic activity in a country (Samail et al. 2018).

Many of the most severe scandals in accounting have occurred within the last two decades, leading to financial crises that devastated the economies and people's lives on a grand scale. The scandals' origin was traced back to a few greedy people whose acts resulted in devastating results that brought down whole corporations and impacted millions of individuals. An overestimation of assets and underestimate liabilities, including roundtrip sales, is the most common accounting fraud type. It is not a query unique to a region. Accountants and auditing practitioners talk about accounting scandals with realistic consequences, the expectation being that Auditors produce audit reports free of either intentionally or innocently made material errors. Falsification of financial statements is an issue that misleads this relationship (Van, 2018).

According to Barnes (2011), scandals of concern in the study of ratio analysis which has shaped the financial industry included the Waste Management Scandal in 1998, the Enron Scandal (2001), WorldCom Scandal (2002), Tyco Scandal (2002), HealthSouth Scandal (2003), Freddie Mac Scandal (2003), American International Group (AIG) Scandal (2005), Lehman Brothers Scandal (2008), Bernie Madoff Scandal (2008) and the Satyam Scandal (2009).

The Waste Management Scandal (1998), a publicly-traded US waste management company that reported fake earnings of over $1.7 billion. The Securities and Exchange Commission (SEC) established that the former CEO and the owner were guilty alongside several other top executives, leading to the company auditors fined over $ 7 million and $457 million. Secondly, Enron's mega scandal in 2001 was an energy company based in the US. The shareholders discovered that the company was hiding billions of dollars in bad debt using accounting loopholes, leading to a loss of over $74 billion by the shareholders leading to a rapid share price collapse, nosediving from $90 to below $1 within a year. Revealed was that the company's CEOs had pressured the auditor firm not to disclose billions of dollars of debt off the balance sheet. The scandal led to Enron's bankruptcy and Arthur Andersen's dissolution. These had a significant impact on the financial markets as well as negative perception by the shareholders. It led to the reduction of shareholders' confidence in making significant applications.

The other scandal involved the WorldCom Scandal (2002), an American company in the telecommunication industry. Immediately after the Enron company's collapse. The company had inflated assets close to $11 billion. The company inflated its revenues by making false entries, thereby under-reporting line costs through capitalising instead of expensing them. The scandal came to the limelight when the firm's internal audit established close to $3.8 billion in fraudulent accounts. These led to Bernie Ebbers's jailing, the company's CEO, and a sentence of 25 years in prison for charges ranging from fraud, filing false documents to conspiracy. The scandal's resultant impact was a loss of over 30,000 in job opportunities and investors losing money to the tune of $180 billion.

The collapse of Enron in 2001 and WorldCorn in 2002 captured the world's attention. Dibra (2016) asserts that good corporate governance should ensure and demonstrate transparency of financial reports to the stakeholder and maximises shareholder value on a sustainable basis. CG most plays an essential role in standardising and ensuring the best quality and well written financial reports (Rezaee, 2004). Mallin (2002) observes that the CG environment varies across countries and from firm to firm. Agency theory asserts that to minimise the EM practices and agency cost, the firm should exercise close and stringent monitoring of managers, which the firm boards should undertake, principals, or representatives (Heath, 2009). Empirically better corporate governance implementation limits the manager's opportunistic behaviour and reduces the agency problem (Moez, 2018). To restore the investors' trust and confidence in the stock market, CG is of utmost importance as many countries have minimised their EM practices by introducing CG codes.

The other scandal that has shaped shareholders' view in ratio analysis management as a financial performance projection tool was the Tyco Scandal (2002), a blue-chip company. In 2002 it was discovered that the CEO and CFO had stolen over $150 million, inflating the company's earnings by over $500 million in the books of account. The two siphoned money through unapproved loans and stock sales. The two were jailed for 8 and 25 years in prison and compelled to pay $ 2.92 billion to the investors. The Healthsouth Scandal of 2003 was another one where the publicly-traded healthcare company CEO inflated its earnings by over $1.8 billion. The company's previous day went under; the CEO had sold shares of over $75 million in stock. The CEO was found guilty of bribing the state's governor and sentenced to 7 years in prison. In the same year, the Federal Home Loan Mortgage Corporation (Freddie Mac), a backed mortgage financing giant in Fairfax County, Virginia, was reported to have misrepresented over $5 billion in earnings. The COO, CEO and CFO

had intentionally exaggerated earnings in the company's financial books. Following an SEC investigation into the company's accounting practices, the scandal came to light.

The American International Group (AIG) Scandal in 2005 was another critical scandal that has shaped the operations of the financial markets and companies listed. In this scandal, the company was a US multinational insurance firm with customers across 130 countries estimated to be over 88 million customers. The CEO was found guilty of manipulating the stock price with an enormous accounting fraud of almost $4 billion. The company's books indicated that the firm had disguised loans as revenue and forced customers to use insurers with pre-existing payment agreements. The firm also asked stock traders to inflate the company's share price, compelling AIG to pay the SEC $1.64 billion in fines. The company also paid $115 million and another $725 million to a Louisiana pension fund and three Ohio pension funds.

No single study on financial performance or corporate bankruptcy prediction fails to acknowledge the Lehman Brothers Scandal in 2008, a global financial company based in New York City is one central investment bank in the United States. During the 2008 financial crisis, the company had concealed over $50 billion in loans. These loans had been masquerading as sales using book-keeping gaps (Munteanu, 2012).

According to the SEC investigation, the company sold toxic assets to banks in the Cayman Islands on a short-term basis. Lehman Brothers, it was understood, would repurchase these assets. It posed the impression that the business had an additional $50 billion in cash and $50 billion fewer in toxic assets. Lehman Brothers went bankrupt in the aftermath of the scandal. In the same year, still, during the financial crisis, Bernie Madoff Scandal was reported. Madoff had deceived investors out of more than $64.8 billion. Madoff, his accountant, David Friehling, and the second in command, Frank DiPascalli, were all convicted on charges brought against them. The former stockbroker was penalised with a 150-year long prison term and ordered to pay $170 billion in restitution portfolio.

Finally, Satyam Scandal and Indian IT services and back-office accounting firm based in Hyderabad founded in 2009. The company had raised revenue by $1.5 billion, becoming one of the biggest accounting scandals. The inquiry discovered that the Founder and the Chairman had falsified cash balances, margins and profits. During the investigation, the founder confessed the fraud to the board of directors via a letter. The investigation failed to file charges on time, even though the CEO and

his brother accused of falsification of records, breach of trust, bribery and fraud, the Central Office of and they were both set free. Accounting scandals, therefore, affect the right financial position of a company and, therefore, do not give fair value to such companies.

Studies researching the determinants of profitability have identified several factors in many countries. However, they do not indicate which factors are the most significant concerning the firm's profitability, although different factors have been identified as determinants of profitability in different countries using the different study methods, which this research intends to explore. Therefore, this study explores the critical determinant used to measure listed companies' profitability in Kenya. Thus, recognising the determinants of heterogeneity in firm profitability is potentially one of the most fertile fields of study for industrial economists and strategic managers. It is understood by many that the profitability determinants of companies are of critical importance as a core strategy for economic growth for any country aiming for an export-oriented industrialisation policy in an open economic setting (Pratheepan, 2014).

Firms listed in the NSE should serve as professionally run public investment vehicles to draw investor confidence and uphold the public interest. Uchum's placement under the receivership in 2006 and subsequent delisting from the NSE is just a case in point. The failure of Uchumi pointed at the board of directors accused of malpractice and ignorance for governance and mechanisms. This study aims to define the powerful determinants for calculating companies' profitability, making investors either invest or divest from companies based on a financial position analysis (Korir & Cheruiyot, 2014).

According to the Economic Survey, there has been a marked improvement in Kenya's equity market in both primary and secondary markets in 2010. Market capitalisation increased by 40% in 2010, exceeding Kshs 1 trillion, with an average annual return of 36% based on the NSE 20 Share Index. As a result, NSE was one of Africa's best-performing equity markets after the Uganda Securities Exchange, which recorded an index return of 53%. Equity turnover and share volumes accounted for 190 per cent and 127 per cent, respectively, as market capitalisation increased by 40 per cent compared to the year 2009. The impressive performance resulted from improved business confidence in the market for economic recovery, the adoption of best practice in capital markets and the resumption of participation by foreign and institutional investors, e.g. foreign investors' turnover.

1.3. Statement of the problem.

Lack of proper financial management of banks may trigger bankruptcy, leading to the business's collapse and losing shareholders' funds. Several factors trigger bankruptcy, both directly and indirectly related to the company. Banks can declare bankruptcy if they must close operations if their performance is low due to numerous non-performing loans or assets. Banks can also have liquidity problems if massive withdrawals are massive rather than deposits on any particular day, week, or month. Therefore the performance of companies can be measured by the use of financial reports published by the company. Financial statements include the balance sheet and the income statement, which provide information about the financial position.

The bank's financial statements consist of a balance sheet that provides information on the financial situation, a sales statement to determine the bank's operating growth, and cash flows that provide information on its turnover. Company financial reports present a company's past financial performance and forecast the company's future financial condition. The high valuation of the company indicated the high prosperity that needs to be achieved by every company.

There are various techniques used in company assessment, and one of them is financial ratio analysis. A bank's performance can be indicated by looking at the liquidity, efficiency ratio, bank risk, capital ratio and profitability. The liquidity ratio evaluates the company's ability to meet short-term liabilities through the generated profits, whereas the business risk ratio measures the risks of running a business. The capital ratio assesses the capital's ability to cover losses, whereas the business efficiency ratio measures its degree of efficiency. The financial ratio is to be used to detect financial distress. The bankruptcy prediction model used is a means of early warning of financial distress; that is, it can improve conditions before reaching a crisis or bankruptcy condition.

Banks have faced several challenges in the recent past. They are ranging from cybercrime, where banks have lost money to the tune of billions of cash. On the other hand, the 2016 interest rate cap saw banks struggling in attracting interests from loans since the lending rate cap was at 4% off the central bank lending rates. As a result, banks became unattractive for investment by investors. There is no clear set of ratios used to measure banks' profitability, as most investors lack the required skills or performance indicators aside from the apparent ratio of net profit. A thorough analysis of the

ratios is necessary to help investors in making investment decisions. Therefore ratio analysis using financial statements becomes a fundamental unit of analysis for ascertaining bank profitability.

Lack of precise financial performance analysis has seen many investors lose money due to investments in companies or banks that collapse. Most of the crippling financial companies deceive the investors through dividends, making investors confident in the company. Over time, many investors have assessed companies' financial performance based on the amount of dividend. Some investors use assets as the only sole factor for evaluating financial performance. Inappropriate analysis of a bank's financial performance can lead to wrong investment decisions, leading to a loss of funds in bankruptcy cases.

On the other hand, Managers use earnings management to consistently present financial statements from one period to another. They ensure consistency because large fluctuations on financial statements may raise the alarm to investors. In instances, managers have been under pressure to manipulate financial statements to use accepted modes to maintain a particular profit level acceptable by investors. In other instances, managers or CEOs alter the financial reports to portray a positive image in the market. Such statement alteration can be deceiving, mainly where the investors use the company's net profit to make investment decisions. Therefore, shareholders need to have financial analysis skills on published financial statements to make investment decisions based on facts and reason supported ratio determinants of financial performance.

1.4. Research Objectives

The following objectives guided the study:

1 To assess the relationship between the choice of capital and financing and company financial performance.
2 To examine the relationship between a bank's assets and its financial performance.
3 To determine the effect of dividend payment policy on the financial performance of banks.
4 To identify the effect of cash flow and debt settlement on company performance.

1.5. Justification of the study

The capital market authority is best suited to developing an atmosphere that allows local businesses to go public, ensuring local companies' listing on the international stock market. Listing businesses

in the stock market increase the performance of the company's activities. Potential investors shall utilise a financial statement review and find the relevant information to create long-term market viability since companies must publish their financial reports for each fiscal year.

The findings will also help CMA deal with manipulating share prices and insider trading and ensuring that directors do not invest in companies because they have some inside knowledge about its operations. The study will support the Nairobi Security Exchange (NSE) by promoting the role of enabling and mobilising investment savings in productive enterprises as alternative inputting savings for bank deposits, investment in real estate or direct consumption by influential companies. The results also help the NSE to assess the growth of the different sectors of the economy. The findings can also be a factual justification for the listing and delisting of companies.

The study results will be necessary to the National Government of Kenya, as the determinants of the business's financial soundness will help assess if the tax paid by these firms complies with the tax charged. Achieving Vision 2030 depends heavily on the financial performance of local and national governments. This study's results guide the central government in combating tax evasion and misappropriation to ensure the sustainable development of decentralised institutional structures and the achievement of the 2030 vision. Investors are different consumer of financial statements. Highlighting the primary determinants for assessing listed companies' financial results would help investors make the right investment decisions in interest companies. The study will enable investors to have trusted by highlighting critical determinants of financial growth. The results of this study can make a valuable contribution to the available literature. Students in finance, public policy, governance, information technology, human resource management, and law may find this research necessary for broadening their knowledge in this field.

1.6. Scope of the study

This study was limited to understanding the essential determinants of listed banks' financial performance by reviewing financial reports for 2009-2018. Most financial statements for the year 2019 were yet to be issued by most banks and the regulatory body. The research is limited to analyse the performance until 2014. The researcher will review the financial statements of listed companies for ten years. The study used secondary data, i.e. listed banks financial statements published by the

Capital Markets Authority and the Nairobi Securities Exchange. The following research questions guided the research:

1) What is the relationship between the choice of capital for a company and listed banks' financial performance?

2) What is the relationship of company Asset on the financial performance of banks?

3) Does the dividend payment policy have any effect on the financial performance of banks?

4) How do cash flow and debt settlement affect the financial performance of listed companies?

2. LITERATURE REVIEW

This chapter will review the various theories and critique theories concerning specific variables of concern, measuring both the dependent and independent variables. The section will also explore the dependent and independent variables' conceptualisation by analysing the two variables' relationships. Also, an empirical review of past studies, both global and Local, was used to identify a research gap.

2.1. Theoretical Review

The following theories guided the study:

2.1.1. Gordon Theory

Gordon Theory by Myron Gordon in 1959, also referred to as the "Bird in Hand Theory", postulates that almost all shareholders want dividends from various cash to capital gains. He indicated that companies should pay dividends, suggesting that a bird in the hand equals two in the bush. The theory is that the companies that pay dividends are the most productive, and those that do not pay are inefficient. The theory implies that shareholders should only invest in businesses that announce dividends to demonstrate excellent financial success (Gordon, 2013). The theory also suggests that companies should declare large dividends to shareholders to raise their share price because cash dividends are a good and safe thing to do to investors as capital gains to shareholders are risky. Investors face the price risk reduction associated with the increase in dividends (Turki & Al-khadhiri, 2013). The bird in hand theory received criticism because the necessary rate of shareholders' return does not depend on its dividend policy. They argued that if investors were oblivious to dividend income and capital gains, this principle would be meaningless.

2.1.2. Portfolio Theory

First proposed by the famous American economic scholar Markowitz in his book "Securities Portfolio Selection (1952). It was gradually developed over the past 50 years and finally became a leading theory in western investment concept systems. The approach is the most imperative and plays a vital role in studies related to company performance. Based on the portfolio balance model of asset diversification, the best possible holding of each asset in a portfolio of wealth holders

depends on policy decisions based on various variables, such as the vector of the rate of return on all assets kept in the collection. This risk vector is consistent with the ownership of the financial asset and the size of the portfolio. The portfolio concept explores investors' portfolios of diversified securities and diversified investments. Its goal is to enable investors with portfolio investment capabilities to maximise their profitability and minimise their risks through their scientific combination.

Markowitz used the link between interest rates and risks of all capitals to explore how to use the optimal portfolio in an uncertain economic system, obtain the fund separation law, and lay the foundation for creating asset pricing theory. The idea of capital integration mean-variance put forward by Markowitz laid the foundation for forming the new capital combination concept. It became the cornerstone of the entire modern financial theory widely used in the financial industry in economically developed countries and regions. This theory quantitatively determines the best investment portfolio and help people form a practical and reliable decision.

2.1.3. Agency Cost Theory

Proposed by Jensen and Meckling in 1976, the theory seeks to analyse the conflict which occurs between agents of the companies (Managers) and the shareholders. The agency problem history dates back to when human civilisation practised business and tried to maximise their interest. The agency problem is one of the age-old problems that persisted since the joint-stock companies' evolution. Almost every organisation has possibly suffered from agency problems in variant forms. The agency problem has taken different shapes with the change in time, and the literature has evidence about it. The debate on literature concerning agency theory appreciates the need to understand the causes of the agency problem, the forms in which it portrays and the various costs involved to minimise the problem. It is marked to explore the main ideas, perspectives, problems and concerns related to the agency theory. The conflict of interest and agency cost arises

According to Chowdhury (2004), the agency problem arises from the separation of ownership from control, different risk preferences, information asymmetry and moral hazards. Chowdhury points out the key factors that lead to agency problems such as separation of ownership from control, risk attitudes differences between the principal and agent, short period involvement of the agent in the company, unsatisfactory incentive plans for the agent, the prevalence of information asymmetry.

Agency problems occur in the listed firms between the principal owners and the agents, the primary owners and the minor owners, and the leading owners and the creditors (Barnea, Haugen, & Senbet, 1985). Therefore, Jensen & Meckling (1976) contend that agency costs involved in separating ownership from control should not be excessive provided that factors such as competition, executive labour market, and incentive plans designed to reduce managers' self-interest.

2.1.4. Static Trade-Off Theory of Capital Structure

The current theory contends that firms choose a capital structure acceptable to the firm to minimise the adverse effects of bankruptcy and agency costs (Brounen et al. 2004, p.93). Firms that respond to the static trade-off theory have managers whose incentive to issue stock to keep the EPS dilution is high. A study by Brounen et al. (2004) in Europe and the US on the importance of agency costs and bankruptcy established that bankruptcy reform was considered the fourth-most important issue after financial freedom, credit ratings and earnings volatility. The results confirm the existence of static trade-off theory in corporate management (Bancel & Mittoo, 2004; Brounen et al.2004). The application of the trade-off theory requires a two-step process firstly, define a target capital structure and secondly, choose elements to include in the trade-off: financial flexibility, credit rating, the volatility of earnings, tax advantage, transaction costs, the debt of other firms, potential costs of bankruptcy (Brounen et al. 2004; Brounen et al. 2004).

2.1.5. Theory of investment

Also called the germinal theory of corporate finance proposed by Miller and Modigliani (1958) argues, The value of a company is independent of its capital structure" (Miller, 2001). Dividends and capital structure are not relevant to the determination of stock prices on the market. (Miller and Modigliani, 1958; Chew, 2001). Instead, a firm's market value relies on the earning power of the assets currently held and on the size and relative profitability of the investment opportunities" (Miller & Modigliani, 1958, p. 663). Criticism against flaws of M&M theory by Ball (2001) indicated market perfection where M&M assumed the information was complete and symmetric when it was not. The other assumption was the Easy acceptance of firms with high debt trading levels off for tax-deductible benefits and the assumption that financial decisions did not influence investment decisions.

2.2. Literature Review

Companies are often concerned with profitability. Almost every organisation is concerned to produce more and more profits. The most prevalent methods used to assess companies' financial performance include studying the ratio used to evaluate companies' financial condition. Managers and owners of businesses depend heavily on the profitability index to make a variety of decisions about companies' well-being. Suppose a small business has foreign investors who put their own money into the company. In that situation, the managers have to demonstrate the company's financial status to the equity holders. Undoubtedly, the principal owner needs to prove profitability to these equity investors. Profitability ratios display the overall efficiency and output of a business. Numerous scientists have examined the determinant of productivity from various perspectives.

Profitability means the ability to make or generate profits from activities of the organisation or business enterprise. It displays how the management of corporates generate profit from available resources in the market. Profitability is also the capability of a given venture to earn a return from its use. Conversely, the term profitability is not tantamount to efficiency. Profitability is a measure of efficiency and an index used to measure efficiency and guide management to greater efficiency. Profitability is a yardstick for measuring efficiency and not sole proof of organisational efficiency. The net profit figures simply disclose the right equilibrium between the values received and the value given. Changes in operational efficiency are purely one of the aspects on which an enterprise's profitability largely relies.

Banks walloped after the financial crisis of 2007-2009 and the world of recession, but others survived, not sparing even the South African banking sector. The financial crises of 2007-2009 characterised by increased risk, interest rate cuts and tightening of regulations have theoretical implications for factors affecting the capital structure and the optimal mix of debt and equity. Investors moved out of equities and sought safety in gold; debt became more expensive due to the high-risk environment (Haddad, El Ammari, & Bouri, 2020).

In addition to the risk implications of the non-interest activities, the effects of income diversification on banks' financial characteristics considered widely. There have been numerous variations to the previous findings, suggesting conflicting views that reveal the benefits and discounts of non-traditional banking activities for the banking system's safety and soundness (Dang, 2020).

As a result of the deregulation in the late '90s, the banking landscape changed significantly, especially business models. The supervisory concern on restoring profitability while improving capital and liquidity led to several calls for income diversification, from traditional to non-interest-bearing activities, such as trading, advice, underwriting or the distribution of third-party products. This phenomenon has been further reinstated after the global financial crises and shows an increasing global trend (BIS, 2018). Several studies examine the impact of income diversification on profitability and its volatility, with evidence for both a positive and a negative relationship. The same issue involves studies on diversification and bank stability, with recent studies showing more significant evidence of a negative relationship. The effect of income diversification varies across banks and depends on both business models and the economic environment. On the one hand, traditional activities (i.e. deposits and loans) are considered to be stable, despite exposing to significant credit, liquidity and interest-rate risks. Non-interest-bearing operations, on the other hand, are prone to market, operational and reputational risks (Paltrinieri, Dreassi, Rossi, & Khan, 2020).

Financial institutions, especially banks worldwide, perform functions such as mobilisation of savings and deposits, evaluating viable and value-adding projects, allocating and distributing loans and credit, and monitoring financial market participants. These activities have been shown in the literature to promote economic growth and development. However, financial institutions performed these functions; specifically, banks are obstructed and impeded by a lack of information and data from information asymmetry in financial markets. Information asymmetry has adverse effects on financial markets. First, it obstructs financial sector transparency in the credit market, resulting in adverse selection and moral hazard. Second, the lack of accurate, reliable and complete information causes credit rationing, high credit risk and instability, uncertainty and inaccuracy in lending decisions. Thus, by reducing information asymmetry, which enhances financial sector transparency, banks' effective and efficient operations are improved. The essence of financial sector transparency has led most developing economies to set up private and public information sharing institutions (Kusi, Agbloyor, Gyeke-Dako, & Asongu, 2020).

The post-crisis regulatory architecture targets more excellent banking stability by imposing additional capital and liquidity requirements. Profit persistence, however, remains an essential factor for attaining this goal. A study analysed the relationship between funding stability, systemic importance, and banks' profitability in the three founding states of the Eurasian Economic Union

(EAEU), Russia, Kazakhstan, and Belarus, using annual data for 2008-2017. The results show a significant degree of stability in the Net Interest Margin (NIM) and a lack of persistence in asset returns (ROA). Compliance with the minimum level of Net Stable Funding Ratio (NSFR) reduces both the liquidity risk financing and the Net Interest Margin of EAEU banks.

Moreover, imperative banks in the region historically operate at a lower interest spread and less prudent NSFR, which implies a potentially adverse effect on their NIM. Bank-specific variables have different impacts, depending on the measure of profitability. The results also point out that a more outstanding market concentration protects the NIM and negatively affects the EAEU banks' ROA. In the end, Western sanctions have a destabilising effect on the NIM of EAEU banks, but not on systemically important banks (Pak, 2020).

In light of growing interest in the role of political patronage in banking, several issues highlighted concerning politically linked banks' performance and behaviour, which may differ from their non-connected peers. The influence of political patronage on bank risk-taking examined in a sample of 67 banks in several MENA countries in the Middle East and North Africa, based on a hand-collected dataset of political banking connections. However, the study found no evidence that politically-connected banks take more risks than their non-politically-connected counterparts, which were inconsistent with the moral hazard hypothesis. A non-linear analysis revealed an indirect effect of the political link. Contrasting results linked to differences in institutional settings; however, political links remain an essential factor to be considered in prudential banking behaviour, either implicitly or explicitly (Braham, de Peretti, & Belkacem, 2020).

To test if financial technology influences bank performance, Phan et al. (2020) developed a hypothesis that bank performance is affected negatively by financial technology growth (FinTech). They studied the Indonesia market, where FinTech growth has been impressive. The study sampled 41 banks and used data on FinTech firms. The study's findings confirmed that FinTech firms' growth hurt bank performance (Doan, Phan, & Lin, 2020).

There are other factors outside the firm which affect the financial performance of listed banks. In a study on bank profitability in Azerbaijan, Special attention drawn to bank-specific and macroeconomic and how they affect banks. The study applied the Generalised Panel Method of Moments to the data in a dynamic bank profitability model framework. Bank size, capital, and

lending, and the economic cycle, inflation expectations, and oil prices were positively related to profitability, while deposits, liquidity risk, and exchange rate devaluations were negatively associated with it. We also found that the bank's profitability demonstrated moderate persistence, and ignoring country-specific features could lead to bias and poor estimation performance. This research's conclusions would help set banking policies towards increasing profitability, which can be supplemented by ensuring strong research departments within the banks tasked with analysing and forecasting the leading macroeconomic indicators. The novel features of the study include the use of recent economic trends, the accounting of country-specific features and, for the first time, the examination of the effects of the economic cycle on the profitability of the bank in Azerbaijan. The study also featured proper addressing time series properties of the panel data and performances of robustness checks for consistency (Neves et al. 2020).

Several researchers in their study have studied ratio analysis from a different perspective. According to Nissim & Penman (2001), during their study to analyse ratio analysis and equity valuation for 1996 to 1999, the ratio analysis depicted specific trends and patterns when deployed for forecasting. On the other hand, in their study, Carl B, Collier (2004) concluded that financial ratio analysis is complicated and depends on the industries in which the business unit is operating. They based their conclusion while studying the financial analysis for Motorola Corporation. On the other hand, (Patel & Gabani, 2012) concluded in their study that ratio analysis and the financial performance of the company impacted various subsidies provided by the government from time to time and that this is likely to impact the overall financial health of the company (Joshi, Rithal, & Station, 2020).

Leverage promotes sustainable economic growth and moderately improves social welfare. Micro-level evidence also indicates that financial leverage plays a positive and significant role in Chinese firms' performance, as leverage financing can minimise free cash requirements and agency costs caused by foreign equity, thus rising firm valuation. General debt constraints, in particular, can be significantly negatively correlated with firm efficiency, particularly among small and medium-sized enterprises in China (Qian et al. 2009, Fang, Lau, Lu, Tan, & Zhang, 2019).

In a single report called Balanced Scorecard, most companies increasingly provide financial and non-financial success metrics for their subunits. Various organisations emphasise various measures in their scorecards, but the measures extracted from a corporation's policy. The balanced scorecard concentrates on both financial and non-financial success indicators. The balanced scorecard analyses

the success of an organisation from four viewpoints. Financial Perspective stock price, customer satisfaction, return on sales, economic value-added, Market share of customer perspective in various geographic areas, net income, the average number of return visits, internal business process perspective, return on investment, and employee education and capability levels in the learning and development perspective, employee turnover, employee satisfaction, hours of employee training and availability of information system (Yüksel, Mukhtarov, Mammadov, & Özsarı, 2018).

Oktaviani (2018) studied the effects of market share against the US brewing industry guy. Financial performance metrics evaluate the valuable sources for development in the brewing industry from 1969 to 1979. They discovered that increases in the industry market share during that period were not associated with changes in valuation and the output of individual leading companies was strongly correlated. Their understanding is that market share building strategies' performance depends critically on the industry's particular conditions. The conclusion they drew was the absence of fundamental changes in industrial firms' relative resource positions, and the share gains could be too high a price. The research indicates that intra-industry return correlations can be a result of excessive rivalry rather than collusion.

In studying the relationship between Corporate Social Responsibility issues and their influence on company financial performance management, Huang, Chen, & Chen (2018) find that banks with optimistic CEOs create more liquidity than those with pessimistic CEOs. According to Díaz & Huang (2017), banks with better corporate governance create more liquidity during the financial crisis. Hackethal, Rauch, Steffen, Tyrell (2010) document a positive relationship between a banks' cost efficiency and its liquidity creation. Regulatory interventions decrease bank liquidity creation. Conditions in financial markets and the economy also influence bank liquidity creation. Banks create more liquidity when liquidity is high in the stock market or the economy grows faster. Monetary policy, however, has minimal effects on liquidity creation by medium and large banks (Berger and Bouwman, 2017).

Consumer theory explained FinTech firms' effect on banks (Aaker & Keller, 1990) and disruptive innovation (Markides, 2006). The consumer theory suggests that new services (such as those provided by FinTech firms) by meeting the same consumer demand can replace the old services (such as those provided by traditional banks). According to the disruptive innovation theory, new entrants that employ innovative technology offer more accessible and affordable goods and services,

creating competition. The theory's concepts extended to our case where the entrants are the FinTech firms, and the long-established incumbents are the traditional banks. Complementing this line of thought is Jun & Yeo (2016) work, which provides a two-sided market model with vertical constraints, emphasising firm entry. Their model focuses on end-to-end and front-end service providers, a distinction that we do not make. Competition in our story is generated by new entrants regardless of who they are. The distinguishing feature in all FinTech firms is the extensive use of innovative technology to perform tasks initially preserved for banks, including investments, payments and lending (Wilfried & Koffi, 2016; Brandl & Jena, 2017; Puschmann, 2017).

In studying the relationship between risk and financial performance, the research established that overleveraged firms are more likely to accumulate systemic risk, raise financial costs, hurt total factor productivity (TFP), and weaken economic growth. Due to imperfections and information asymmetry in China's financial market, Chinese firms lack external leverage–external financial constraints. However, highly leveraged firms create financial risk. Therefore, exploring the determinants of capital structure is fascinating to understand the nexus between the financial market and sustainable growth in China (Zhang, 2021; Tan, 2016).

Several studies examine the effect of bank capital on liquidity creation. While some studies find a negative relationship between capital and liquidity creation Lei and Song, 2013; Horvath, Seidler, & Weill, 2016; Fu, Lin, & Molyneux, 2016; Chaabouni, Zouaoui, & Ellouz, 2018; Casu, di Pietro, & Trujillo-Ponce, 2019, others find a positive relation (Tran, Lin, & Nguyen, 2016). Berger & Bouwman (2009) show that the relationship is negative for small banks but positive for large banks. Fungáčová, Weill, & Zhou, 2017) show that deposit insurance's introduction reduces capital on bank liquidity creation. Several studies focused on the effect of bank competition on liquidity creation using panel data.

Horváth, Seidler & Weill (2016) found that bank competition negatively affects liquidity creation. Jiang, Levine, & Lin (2019) find similar results for US banks. Toh et al. 2018 show that bank competition's negative effect on liquidity creation disappears for highly diversified banks in Malaysia. Researchers find that other factors also influence bank liquidity creation. Andreou, Philip, & Robejsek (2016), find that managerial ability positively affects bank liquidity creation.

Benefit means the opportunity to profit from all the commercial operations of an enterprise, association, firm or undertaking. It demonstrates how easily the administration can profit by using all the assets available on the market. Gainfulness is also the ability of the venture provided to win back from its use. However, the word gainfulness is not inseparable from the term effectiveness. Productivity is a file of knowledge seen as a proportion of productivity and a manual for more notable effectiveness executives. While gainfulness is an essential measuring stick for estimating proficiency, the degree of efficiency is not conclusive proof of effectiveness. Now and again, good benefits can stem failure, and, on the other hand, a lack of benefits can contribute to an appropriate level of performance. The net profit figure uncovers the right harmony between the qualities obtained and the value given. The shift in organisational competence is just one of the elements on which an undertaking's benefit depends largely (Innocent, 2015).

Adu-Darko & Bruce-Twum (2014) analysed the financial performance of Ghana Breweries Ltd (GBL) to mergers and acquisitions on the Ghana Stock Exchange. The analysis's objective was to assess GBL's viability, solvency and liquidity status, the effectiveness and efficiency of the owners' and creditors' funds, and the relevance of the debt mix and the owner's equity in funding its operations. The study outcome indicates that given the severe attack on its products by cheaper brands and the adverse economic conditions that came after the merger, the company's performance over the period under review has been satisfactory. However, the rise in net turnover, operating profit before foreign exchange losses, decreased from 6.97 to 02.94 billion in 2000 and 2001 respectively but rose substantially to 06.3 billion in 2002 because of the 5 million dollar deposit against the shares paid by Heineken.

The association between capital structure and profitability is vital because profitability is necessary in order for the firm to survive (Shubita & Alswalhah, 2012). The firm's goal is to maximize shareholder value, profit contributed by providing the basis for calculating EPS (earnings per share), declaration of the dividends, and subsequently retained earnings.

Dave (2012) used a sample of firms listed on the Nigerian Stock Exchange to analyse the link between capital structure and profitability. The results showed a negative link between long-term debt and profitability. The study also demonstrated that top management should take an interest in the capital structure to maximise profitability. He further contends that the link between the management of working capital and the profitability of the 131 firms listed on the Athens Stock

Exchange over the period shows that the accounts receivables, inventories and accounts payable have had an inverse relationship to profitability. However, there was a substantial relationship between receivables and accounts payable and profitability. On the other hand, the relationship between inventory and profitability was statistically insignificant, implying that receivables and accounts payable focus on improving profitability.

Leahy (2012) explores the profitability of determinants for the US pharmaceutical industry segment. He checked the proposal that profitability is related to the functions performed and the organisation's risks. As in those studies, the findings differ depending on the measure of profitability used, i.e. the significance of the independent variables can depend on the measure of profitability used.

In determining bank profitability's critical determinants (Curak, Poposki, & Pepur, 2012) analysed bank and industry-specific and macro-economic factors and how they affect banks' financial performance. The study used panel data sampling 16 banks in the Macedonian banking system between 2005 and 2010. According to the obtained results, among internal factors of bank profitability, operating expense management is the most important one. Further, solvency risk and liquidity risk influence profitability. Regarding the external variables, economic growth, banking system reform and concentration show a significant effect on bank profitability in the Republic of Macedonia.

Several studies have identified a negative relationship between profitability and leverage. Chary, Kasturi and Kumar (2011) view the link between working capital and profitability as a topic of heated debates in finance. The decision on working capital influences both the liquidity and the profitability of excess investment in working capital, resulting in lower liquidity. He suggests that the management needs a trade-off between liquidity and profitability to optimise shareholder capital. It is essential to establish the link between these two statistical indicators to understand the relationship To determine the effect of working capital on profitability. The initial literature review shows that there are essential effects between the independent variables and the dependent variables in this analysis. The financial ratio study would also help prepare, procurement, distribution, and manage its financial capital to achieve the company's objective(s) with minimum financial distress and maximum benefits.

Besides, if the finances are handled excellently by the management, the company will raise its profits while, if not, the profits of the company will reduce. In other words, the inventory turnover ratio and the debtors, the turnover ratio must be held at higher levels to increase profitability; the creditors can be kept at higher levels to shorten the net trading period's duration. The negative relationship between the net trading period and the return on assets was different across industries depending on the industry.

Lastly, the association between the management of working capital and profitability can be assumed to negatively impact the management of working capital and the variable of profitability. There is a negative relationship between the overall profitability and the calculation of working capital management. These are consistent with the view that the period between the procurement of raw materials and the collection of finished products might be too long and that a reduction in this period would increase profitability.

Responsibility accounting system facilitates the measurement of managerial performance. Managers are assigned responsibility for individual cost, profit or investment centres. Edmonds, Tsay, & Olds (2010), managerial performance can be measured by comparing the assigned responsibility centre's operating results with established standards or the organisation's assigned responsibility centres. Comparing the standard amount with actual results is one way of evaluating managerial performance. The flexible budget is for the evaluation of planning and performance. For example, managers may assess the company's cash position's adequacy by assuming various activity levels. Similarly, for various potential levels of activity, the number of staff can be evaluated for the quantities of materials and the necessary equipment and storage facilities (Edmonds et al. 2010).

During this period, Adams (2010) assessed Accra Brewery Limited (ABL). The study aimed to investigate the financial status and profitability of ABL, a publicly-traded company listed on the Ghana Stock Exchange, over seven years from 2000 to 2006. The research assesses the likelihood of bankruptcy of Accra Brewery Ltd (ABL) using a bankruptcy prediction model called Allman's Z-score. Adams found out that the risk status of ABL was much more threatening from 2000 to 2006. The researcher also examined the company's financial position using the traditional ratio analysis and mainly focusing on financial profitability, liquidity and solvency. The results indicated trends in the financial ratio that represented impressive and unimpressive performance.

Other studies have looked at non-traditional banking activities and how they reduce bank liquidity creation. The engagement of banks in non-traditional banking activities studied in the vast literature. These works stem from the fact that the non-traditional segments increasingly contribute non-interest income to bank profit and thus massively drive banks' operation strategies and risk management (Laeven & Levine, 2007).

International Federation of Scholarly Association of Management (2006) conducted a study about Internationalization and Financial Success – Empirical Data from Global Brewing Organizations. The research aimed to establish how 18 breweries globalised their companies since the 1990s and the relationship with the financial output sample. It also shows that the world's leading brewing groups underwent a rapid international expansion in 1999-2004, but there was still a more significant difference between the groups in the level of international reach achieved by 2004. The research unravels some of the massive gaps between various breweries worldwide, focusing on the degree of global involvement and corporate performance (Carlsson, 2006).

Lazarids and Tryfonids (2006) confirm the development of a relationship between 2001 and 2004 between profitability and working capital management for the 131 firms listed on the Athens Stock Exchange. Findings from this study showed a negative relationship between profitability and receivables, accounts payable, and inventories. On the other hand, Kieu (2001) studied working capital and financial management techniques like break-even analysis, profitability metrics, and ratio analysis.

Leah (2004) used a range of profitability metrics to analyse the liquor industry profitability determinants. Like Leahy (1998), Leah (2004) examined the suggestion that profitability links to various organisational functions and risks. Three profitability metrics were analysed and linked to the proxies for the functions performed and the risks assumed by individual producers. The findings vary depending on the measure of profitability used, i.e. the value of independent variables would depend on the profitability metric used. Leah's findings (2004) concurred with Leahy (1998), who had initially established that the results did not vary systematically based on the estimation process.

In a study by Abreu Margarida & Mendes Victor (2002) to establish the influences of bank-specific variables and their influence on banks' profitability, the study established that well-capitalized banks have low bankruptcy costs higher interest margins on assets.

The decision on the capital structure of a bank is close to that of a non-financial company. While there are substantial inter-industry differences in companies' capital structure due to each industry's unique nature, intra-firm variations are attributable to individual companies' market and financial risk. Al-Najjar & Taylor (2008)

Miller Modigliani Merton (1958) introduced capital structure determinant theory and the theories that have followed crudely categorized as the trade-off hypothesis and pecking order theory. The extent to which taxes impact corporate capital structure is ambiguous. Modigliani and Miller argue that the absence of taxes is irrelevant to firm value in a frictionless financial market, whereas trade-off theory relaxes the assumptions of a perfect financial market. They note that optimal capital structure relies on marginal costs and returns over debt and that the tax shield effect applies efficiently to capital structure. Firms with a higher debt tax shield can benefit from lower financial distress costs and can take tremendous advantage of debt's mispricing compared to equity, gaining greater leverage. However, the taxes mentioned mainly concern value-added tax (VAT), and export tax rebates (ETRs) rarely explored. Generally, ETRs are an essential policy tool, although refunds on VAT and consumption tax paid on exported goods during production, circulation, and sales can promote export (Chen et al. 2006).

Similarly, Durden & Mak (1999) state that financial measures concentrate primarily on figures that may not tell their entire story. Besides, lower-level managers and staff may feel helpless to influence net revenue or investment—non-financial operating measures developed as a consequence. Different indicators cover both financial and non-financial indicators. A Balanced Scorecard is one of the indicators used to assess the firm's success in numerous fields.

2.2.1. Ratio Analysis Indicators

Ratios are essential instruments for assessing any corporate organization or corporation's financial health by using these ratios to determine the firm's financial status or financial performance. In certain situations, ratings to quantify financial distress or predict firms' insolvency or bankruptcy. Several academics have performed ratio analysis studies for various reasons, emphasising safeguarding investors' interests.

Ratios are essential both in the organisation's financial forecast and in evaluating the viability of the projects. The ratios are also essential in determining the financial viability of a firm. Therefore,

firms should predict the financial burden they will face safeguarding the interests of shareholders. Bankruptcy prediction is essential for investors as it is an excellent signal to encourage divestment and investor protection.

Financial success is one of the main elements on which investors base their decisions. Results from financial performance researchers support investors and the general public who are frequent consumers or banking services recipients. The bank's financial well-being lets customers determine where to invest their money. Time series and trend analysis are core components of banks' economic prosperity over time (Sibarani, 2020).

Companies' financial output is one of the most significant considerations that investors use to make investment decisions. Firm success is a source of sustainable economic development. Bank success is essential for stakeholders, creditors, workers, the government and the general public. Ratios are critical in evaluating financial results; however, there has been no consensus on the best proportions for calculating business performance.

The lack of accountability in corporate governance and false information provision to the general public has resulted in businesses failing and investors losing money. Earlier that year, some investors in South Africa were shocked by Steinhoff International Holdings. This was one of the top companies on the Johannesburg Stock Exchange listing before its demise. The flaws in corporate governance are related to bankruptcies — manipulating the financial statements that resulted in two managers' dismissal. Rossouw and Styan (2019) think that significant problems occur concerning the auditor who had already signed the accounts before insolvency.

Some rates are useful indicators, whereas others are not suitable for calculating corporate financial performance. The research (Vieira, Neves, & Dias, 2019) examined the output determinants of Portuguese firms using data from 37 non-financial firms between 2010 and 2015. The findings showed that the determinants of firm success differ depending on the variable used to assess performance. Evidence from the research results indicated that the firm's performance determinants shift based on how different stakeholders value the firm's performance.

Financial output analysis is crucial to corporate management to make the company stable. In Afghanistan, commercial banks make a significant contribution to the economy of the region. A business has to concentrate on the ongoing concerns if it wishes to continue contributing to its

economy. In a study conducted by Haidary and Abbey (2018) to evaluate the crucial profitability determinants, the results unveiled a significant impact on the bank's internal influences' profitability. Eternal economic conditions have not impacted profitability. As a result, corporate governance's performance dictates the profitability of banks rather than macro are.

In a study conducted to predict the risk of bankruptcy, Horváthová and Mokrišová (2018) used Data Envelopment Analysis as an alternative method to the Altman technique to determine the risk of bankruptcy. The study's main objective was to create efficient business financial soundness, competence, and efficiency metrics. The study used private non-manufacturing firms and the DEA process. DEA was vital as it allowed both outputs and inputs used. The findings suggested the use of the DEA system because the predictive models do not include these indicators. Further recommending that the cost ratio be extended to Slovak companies when measuring bankruptcy risk.

Large state-owned companies struggle the least relative to businesses with comparable debt structure. A similar study investigated the determinants of financial distress in Bursa Malaysia. Jaafar et al. (2018) determined the factors that led to the collapse of the company. The assessment of early signs of financial distress in a company is essential as it enables the management team to take proactive measures to save the company from going bankrupt. Financially troubled businesses decrease supplies as they push supplies to opt for cash payments instead of credit payments due to fear of losing money associated with a company's poor financial performance. The research used a fixed-effect model for 18 companies for eight years, from 2009 to 2016. The results show that significant financial distress determinants are leverage and profitability.

A research was conducted on corporate governance issues (Shahzad, Nawab, Tanveer, Shafi, & Bhatti, 2018) to empirically analyse bank-specific financial and macroeconomic performance determinants in Pakistan's Islamic and traditional banks. The use of unbalanced annual panel data for the period 2010-2015 Gross Domestic Product (GDP), Real Interest Rate (RIR), and Political Stability (PS) is negligible in the output of both types of banks. Based on the report results, credit cost has a positive and significant effect on bankruptcy risk. Bank managers should also concentrate on managing overheads and operating costs in order to boost performance. Both variables negatively connect with financial results. Our findings indicate that changes in overall management

practices and new operational quality requirements, and financial risk management are necessary to improve banks' performance.

The Mongolian Stock Exchange (MSE) analysis took a different view of the ratios to assess their effect on financial results. The researcher. Bayaraa (2017) aimed to explore the numerous rates crucial to business success in MSE financial performance research included a sample of 100 Mongolian joint-stock firms from six significant sectors. 2012-2015 panel data used. Performance metrics included in the Study, Asset Return (ROA), Equity Return (ROE) and Sales Return (ROS). The predictor variables include; earnings per share (EPS), growth in sales, profit and assets, gross profit margin, the cost to revenue ratio. In addition to that, quick ratio, return on costs, long-term debt to total assets, current ratio, short-term debt to assets ratio, cash ratio were explanatory variables and current assets to total assets ratio. The research covered a wide variety of prices, which indicates that the results provide a detailed comparative overview. Among the three financial performance metrics, Return on Assets is more decisive than Return on Equity and Return on Revenue. Earnings per share, cost-returns have a favourable correlation, whereas short-term loans have a detrimental impact on the net asset ratio and the price-to-income ratio. Income growth, earnings per share and expenses per revenue ratio positively affect the ROS Company's financial performance, while the return on investment impacts the financial performance calculated by the benefit on income positively.

In his study, Ilyukhin (2017) investigated the determinants of capital structure for Malaysian manufacturing companies using 174 registered companies in Malaysia from 2011 to 2014. The results have shown that a company’s profitability, together with non-debt tax shields, is negatively linked to firm leverage. Corporate governance techniques, the concentration of ownership, the division of CEO-chairs, and the board's independence did not impact firm leverage. Other variables in the analysis that had no impact were liquidity, firm size and asset structure.

Ratios are essential both in the organization's financial forecast and in assessing the feasibility of the projects. On the other hand, the ratios are essential to determine the financial viability of a business. As a result, corporations should foresee the financial pressure they will face fending the interests of shareholders. Bankruptcy prediction is vital for investors, as it is an excellent signal that promotes divestment and investor security. Pálinkó and Svoób (2016) made a similar finding. In their study, the Bankruptcy Trajectory Roadmap evaluated a total of 15,564 liquidated between 2003 and 2012,

measured in their report by the Bankruptcy Trajectory Roadmap. Research has shown that ratios are the primary method of producing a signal of bankruptcy in firms. Ratios help investors to avoid investing in financially troubled companies.

In his research, Frederick (2016) sought to identify the underlying factors that help the success of licensed domestic commercial banks in Uganda by applying a multi-linear regression analysis over 2000-2011. Monetary policy rules and instruments do not impose high levels of liquidity and capital adequacy. The findings showed that the driving force behind commercial banks' success included management efficiency, asset quality, interest income and capital adequacy. The use of ratios may be an actual litmus test for predicting firms' bankruptcy since it will help prevent ailing firms' formation for investment purposes. Research (Aleksanyan & Huiban, 2016) on economic and financial determinants of firms' exit due to bankruptcies in the French food industry for the period 2001–2012 showed that the risk pattern of bankruptcies differs between the food industry and other manufacturing firms. Firm efficiency is a primary determinant of the firm's likelihood of bankruptcy.

In a report by Rashid & Jabeen (2016), the financial and macroeconomic determinants of economic success in Pakistan examined by traditional Islamic banks. The researchers constructed the Financial Performance Index (FPI) based on the CAMELS ratios and then ran the computed index on those determinants. The research used unbalanced panel data from the 2006-2012 annual financial reports. The GLS regression results were known as significant indicators of general bank performance, overheads, operating efficiency, and reserves. Bank deposits and market concentration are critical in explaining the success of the banks under study.

On the other hand, the study found that interest rates on returns and GDP are detrimental to both types of banks' output. In order for banks to boost their financial efficiency, managers need to concentrate on managing overheads and operating costs. Bank managers can concentrate on managing operating and overhead costs to enhance performance. From the empirical findings presented, the two variables negatively related to the FPI. Our findings indicate a need to improve general management practices and integrate new operational efficiency and financial risk management standards to improve banks' performance.

Another team, Mempengaruhi, Bank, and Tielung (2015), used panel data from the company's financial statements for the period 2010 to 2015 to look at factors determining the profitability of

commercial banks in Indonesia. The study established a positive relationship between the Net Interest Margin (NIM) and its size and bank profitability. The study also showed a negative relationship between the Loan Deposit Ratio (LDR) and Non-Performing Loans (NPL) significant negative relationship with bank profitability. Banks in Indonesia should worry about internal systems and policies and consider both the internal environment and the macroeconomic environment in designing strategies to increase their competitiveness or income. The banks in Indonesia should devote themselves to offer new banking services and engage in hazardous investment areas that could lead to a dramatic increase in their profitability.

To study bank-specific and macroeconomics and Complex Credit Risk Determinants in Islamic Banks and Conventional Banks, Waemustafa and Sukri (2015) sampled fifteen traditional banks and thirteen Islamic Banks across Malaysia from 2000 to 2010. The analysis's objective was to establish the macro-economic and bank-specific determinants of credit risk in Islamic and Traditional Banks. The study findings have shown that the bank's fundamental credit risk determinants are uniquely affected by the development of Islamic and Traditional Banks' credit risk. Besides, the study found that inflation was substantial to credit risk for the Islamic and Conventional Banks. Inflation was a significant credit risk factor for both Islamic and Traditional Banks.

Vătavu (2015) conducted a study in Romania on the relationship between capital structure and financial efficiency. The analysis included 196 Romanian companies on the Bucarest Stock Exchange listings and active in the manufacturing sector for eight years (2003-2010). The researcher's interest variables included long-term debt, short-term debt, total debt, and total equity as capital structure metrics, whereas the return on assets and return on investment as efficiency proxies. As a factor and dependent variables, various researchers use different ratios. Previous studies have used asset tangibility, tax, risk, liquidity and inflation as capital structure measures in Romanian manufacturing companies. Research results have shown that avoiding debt and taking equity leads to improved financial performance in Romanian firms.

Vintila & Nenu (2015) identified Conflicting findings on company size and financial performance in the Romanian stock market. The study examines possible impacts on corporate financial results using 46 firms listed on the Bucarest Stock Exchange for 2009-2013. Findings have shown a positive effect on the number of workers using an accounting strategy. The findings were

conflicting, suggesting a negative association with total assets using a market approach. Transparency and accountability in reporting did not have any statistical significance for results.

The market value of a company's stock, according to other studies, is positively affected by the liquidity of the company. On the other hand, leverage has an inverse relationship with company efficiency (Demirhan & Anwar, 2014). The research used 140 non-financial companies from Borsa Istanbul during the financial crisis of 2008. The primary objective of the report was to provide metrics for sound financial management during the financial crisis.

For instance, Mirza (2014) conducted a study to develop key performance metrics for listed companies' financial health in the Pakistan Stock Exchange. The study's main objective was to analyze the potential correlation of selected economic metrics, ownership structure, risk management, and the financial output capital structure. The research involved 60 organizations performing a 5-year time series review from 2007 to 2011. Fixed-effect models can be used to analyze the relationships between several variables. In this case, Mirza's study focused on ownership and risk management, the core determinants of Pakistan's financial success. Block holder investors own more shares and thus greater leverage over the company's financial performance because allowing them more leverage relative to the other investors. They are also seeking important policies and changes that safeguard their business interests.

Manufacturing firms lack adequate private capital to make profitable investments, and the use of assets is ordinarily inefficient. In times of higher taxation and inflation, prosperous businesses are disbursing portions of their company's assets, minimizing their costs. There is an indicator of risk-taking activity in manufacturing firms that display a propensity for debt during a financial difficulty and dealing with high business risks or unable to pay debts. Owing to the lack of data on long-term debt ratios, the effects of these regressions are not statistically meaningful. Besides, the regression models referring to the return on equity clarify the reduced proportion of its variance.

The financial analysis is a primary instrument used by actuaries in the decision-making process for the insurance company's underwriting and investment activities. Insurance companies' financial performance is also essential in the macro-economic sense, as the insurance industry is one of the components of the financial systems to promote economic growth and stability (Burca & Batrinca, 2014). In their report, the researchers tried to define the determinants of financial success in the Romanian insurance industry. Insurance companies' financial performance evaluated at the micro

and macro-economic level determined by internal factors represented by the business's essential characteristics and external factors related to the associated entities and the macro-economic climate. The analysis attempted to examine the determinants of financial success in the Romanian insurance industry during 2008-2012. The results of the panel data techniques indicated that the determinants of financial success in the Romanian insurance market included financial leverage in insurance, business size, gross written premium rise, underwriting risk, risk retention ratio and solvency margin.

The financial sector is a critical pillar of economic growth accepted widely that a sound and robust banking system is the gateway to sustainable economic development. Javaid and Anwar (2011) researched to confirm the determinants of bank profitability in Pakistan. The study targeted the top 10 profitable banks in Pakistan over the period 2004-2008. Research has begun on the challenges that banks have faced in that region. The world in which they were working was very complex, with standard shocks affecting banks' well-being. Variables that influence banks' overall output in Pakistan were required to preserve the business's financial stability basing the research on internal variables. Using the Ordinary Least Square (POLS) approach to investigate the bearing of properties, loans, equity, and asset-backed deposits (ROAs), empiric studies have shown clear evidence that these variables have an apparent effect on profitability. However, the findings show that higher overall assets can not inherently lead to higher income due to economies of scale. Higher loans also lead to profitability, but their effect is not significant. Besides, the results showed an immense contribution of Equity and Deposits to profitability.

Almajali, Alamro, and Al-Soub (2012) analyzed the factors that often influence Jordanian insurance companies' financial performance based on data from the Amman Stock Exchange from 2002 to 2007 with 25 insurance companies' observation. The findings indicated that debt, liquidity, size, and management competence index contributed a positive statistical effect to Jordanian insurance companies' financial performance.

In the Czech Republic, Davidson (2002) researched the establishment of financial dissent determinants. Davidson decided to create bankruptcy drivers in the Transitional Economic from data collected in 1993-1999. The research used neoclassical, financial and corporate governance variables to compare simple bankruptcy models. The study results have shown that privatization of

corporations' results in weak corporate governance and ultimately affects financial efficiency. If all other variables remain stable, these companies are highly likely to go bankrupt.

2.2.2. Determinants of Financial Performance

Hoang, Dang, Tran, van Vu, & Pham (2019) conducted a study to assess the factors influencing listed firms' financial performance on the Vietnam Stock Exchange. The variables of concern for this research included capital structure, firm size, short-term liquidity, fixed asset investment, growth rate and receivable management. Audited financial statements of 269 large companies were used in the study for the years 2010 to 2016. Using Quantile regression and Ordinary Least Square regression (OLS), the study's findings established a positive relationship between firm size and financial performance. On the contrary, capital structure, short-term liquidity and fixed asset investment negatively associate with business performance. The study established that a no correlation between growth rate, receivable management and financial performance.

A study conducted by (Dorgi Ojuni & Okello Baw, 2019) found conflicting research results that loan default rate, interest rate and forex transaction significantly affected commercial banks' growth. Whereas this research established that all three variables had a significant influence on banks' growth, bank default by customers, an increase in the interest rate, and forex transactions harm a bank's growth.

According to (Haidary & Abbey, 2018), banks' capital adequacy is an indicator of measuring banks' financial sustainability. As a standard indicator by investors as security against their investment. Capital adequacy gives assurance and comfort to investors and depositors. Additionally, on external signs of banks' financial performance (Ali & Akhtar, 2011) identified Net operating income as an essential indicator while Alkhatib, Superiore, & Pavia (2012) proposed net profit as the best financial indicator in the bank. So have been used to denote negative economic performance, and as a result, they are used to predict Financial Distress among companies (Jaafar, Muhamat, Alwi, Karim, & Rahman, 2018). The negative relationship between leverage and financial performance indicators is one of the proxies of business performance. Higher levels of debt expose the firm to the risk of bankruptcy. An increase in profitability is a kind gesture for firms as it is an indicator of enough capital for sustaining companies.

Elshaday, Kenenisa, & Mohammed (2018) conducted a study to examine private Ethiopian commercial banks' financial performance. The study used secondary data from eight private banks with more than ten years of operation. Data from financial reports were deemed critical using panel data for eight banks from 2007-2016. Correlations, multiple regression and random-effect model used. Based on the findings of the study, Credit Interest Income (CIR), Capital Adequacy Ratio (CAR), and Size of the bank (SIZE) have a positive and statistically significant effect on financial performance. On the other hand, Operational Cost Efficiency (OCE), Loan Loss Provision (LLP), Leverage Ratio (LR) and Non-performing Loans (NPLs) have a negative and statistically significant effect on banks' financial performance. The study recommended to cut on loan loss and maximise their leverage ratio to enhance profitability.

Analysing the diversity of the board and its influence on the financial performance of companies, (Arquisola, Shella, & Hutabarat, 2018) studies gender of the board members, their age, and nationality and how the factors affect the performance of 9 commercial banks in Cikarang, West Java, Indonesia. The study established that the board members' age and nationality significantly affected banks' financial performance (ROA) in Indonesia.

In another study by (Sahyouni, Wang, & Wang, 2018), the researcher used panel data of 4995 banks across emerging and developed countries between 2011-2015. The study aimed to assess how the bank's creation of liquidity, macro-economic and bank-specific factors affect bank profitability. Conflicting research findings established that banks that increasingly create liquidity have lower profitability. In a nutshell, we expect that an increase in cash leads to increased bank profitability. The findings also revealed positive correlations between bank size, Asset management and capital ratio, and bank profitability.

Banks in Central and Eastern European Countries were not an exception in studies related to financial performance determinants. Antoun, Coskun, & Georgievski (2018) surveyed investigate macroeconomic determinants, industry and bank-specific factors that affect banks' financial health. The CAMEL model has gained dominance throughout the world. This study constructed a financial performance index (FPI) that heavily relies on CAMEL ratios—using a fixed-effect regression model from panel data for the year 2009-2014. Results from the study suggested a negative correlation between asset quality, bank earnings and bank size.

On the other hand, asset quality and bank earnings positively related to the business mix and inflation. Liquidity and capital adequacy were negatively affected by bank size and positively correlated with economic growth and bank concentration. Different studies have used different ratios to measure the financial performance of companies under review. Similar proportions have the same influences or correlations with business performance.

A related study conducted in Ghana by (Nagaraju & Boateng, 2018) analysed bank-specific and macroeconomic variables and their relationship with Savings and Loans (S&L) between 2011 to 2016. Loans and Advances were positively correlated with profitability while non-performing Loans, Bank Size, Capital Adequacy, Inflation and GDP growth rate negatively influenced profitability. The study period of 6 years was not big enough to conduct a conclusive trend analysis. Such studies require a minimum of years of trend analysis to build effective forecasting models. The findings were, therefore, inconclusive.

Another study was conducted in Ghana using secondary data for five years for 24 registered banks using fourteen financial ratios. The findings revealed that the Bank Profitability index, Asset index, and Share of Industry constitutes the most important ratios for assessing Ghana's bank financial performance. The index can assist any organizations, investors, and individuals in undertaking overall financial performance assessment and ranking of Ghana's banking institutions.

Applying a two-step generalised method of momentum (GMM), Yao, Haris, & Tariq (2018), analysed the impact of industry-specific, bank-specific and macroeconomic variables on bank profitability in Pakistan for the study period 2007-2016. Twenty-eight banks were involved in the study. Findings revealed that bank profitability in Pakistan was explained by financial structure, bank size in terms of asset, higher solvency, labour productivity, operating costs, market power and economic growth. Negative determinants of profitability included operational efficiency, credit quality, banking sector development, inflation, and industry.

Assessing bank profitability is of concern to any shareholder willing to invest in their stocks. There is a need to conduct a thorough analysis of profitability drivers for prudential decision making in developing an investment model. Rekik & Kalai (2018) compared accounting and economic-based measures of bank efficiency and profitability in fourteen countries. This study involved 110 banks for the year 1999 to 2012. The study period was long enough for conducting bank financial trend

analysis for investment purposes. The findings revealed that results suggest that researchers should probably focus more on profit efficiency than cost efficiency. Almost all banks are below the optimal size. This because all the banks were below the optimal size.

A shift to Islamic banking in Malaysia established similar research findings to early researchers. In a study to investigate financial performance indicators in Islamic banks, (Samail et al. 2018) used ROA as a dependent variable with capital adequacy (CA), asset quality (AQ), and liquidity management (LM) as predictor variables. The sample included 6-year financial reports between 2010 and 2016. Asset quality and liquidity management have a significant influence on the performance of Islamic banks. On the contrary capital, adequacy had an insignificant relationship with performance.

In a study to establish the profitability determinants and their influence on the financial performance of commercial banks in Kosovo, (Nuhiu, Hoti, & Bektashi, 2017) used Net Interest Margin (NIM), Return on Average Assets (ROAA), Return on Average Equity (ROAE), and as the dependent variables for measuring the financial performance of banks. The research revealed that Kosovo's economic performance among the profitability indicators includes Capital adequacy, asset quality, and management efficiency as the key indicators.

In a similar survey by (Unal & Belke, 2017) on 23 deposit-taking in turkey, the results revealed significant differences between listed and non-listed banks on bank-specific variables. Bank capital, bank size, economic growth, liquidity risk, exchange rate, inflation, policy rate, and market concentration influence its profitability.

In addition to ratio analysis determinants of organisations' financial performance, (Aidoo & Mensah, 2017) presented insights on tools to assess organisations' financial health. He used a multidimensional approach in his research by combining several indicators to determine organisations' economic well-being. Ratio analysis is the ultimate tool used for long to evaluate companies' financial performance. With the changing demands of the market in business operations, there is an increase in alternative performance evaluation methods.

Rashid & Jabeen (2016) developed a CAMELS' parameters model for evaluating bank performance. They assigned weights to asset quality, earnings, capital adequacy, and sensitivity to risk because these three factors help in the growth, efficiency, and survival of banks. In contrast, lesser weight

was assigned to management and liquidity because high liquidity reduces banks' profitability. He calculated CAMELS' parameters for each bank using. Evidence from studies suggests that overheads and operating efficiency negatively affects the financial performance index FPI. High ratios of operating expenses to net interest income and costs to total assets are less likely to perform well in terms of CAMELS' parameters in the banking sector.

Additionally, capital structure is an essential factor in determining a company financial performance. Capital structure is a combination of both equity and debt financing of a company. A desirable blend of the two is required for the company to generate maximum profit for the company. Evaluating the relationship between ROA, ROE, and the company's capital structure suggests a significant ROA influence than ROE (Dasuki, 2016).

In the banking sector, performance drivers about profitability can be internal or external (Daoud & Kammoun, 2017). The internal factors mainly influenced by management decisions about their policy decisions (Gorus, 2016). In contrast, external factors relate to macroeconomic variables that focus on industry and reflect the economic and legal environment where banks operate (Athanasoglou, Brissimis, & Delis, 2008).

Ratios are crucial to evaluate the financial performance of companies, significantly to signal performing or insolvent ventures. Among the key variables used to measure negative return in a company include its profitability (Thai, Goh, Teh, Wong, & Ong, 2014). Declining profitability is a good sign of a financially distressed company.

Apart from ratio analysis as an essential determinant of financial performance, studies have also focused on corporate governance issues and their effect on companies' financial performance. Corporate governance (CG) ideally deals with managing the firm's activities or company by designing structures and procedures. (Chen, Ribeiro, Vieira, & Chen, 2013) argue that corporate governance limits agency cost, which leads to the reinforcement of the viewpoint that the better the CG, the more improved the performance and the higher the firm value. Corporate governance is crucial, positive, and significant in its relationship with firm performance based on past research. Using Tobin’s Q and ROA, the findings revealed a positive association between corporate governance quality and firm performance and market value. (Heracleous, 2001) confirmed the relationship between corporate governance best practices represented by the mechanisms of the

duality of chief executive officer/Chairman and the insider and outsider composition in the firm and firm performance.

Therefore, liquidity risk may arise in cases where banks cannot decrease their liabilities and consequently have a severe effect on banks' financial performance. Loan loss provision to total loans (LLPTL) is an indicator of asset quality in commercial banks, implying that an increase in non-performing loans leads to an increase in loan loss provision and ultimately a negative impact on profitability, and hence an increase in credit risk (San & Heng, 2013).

The concept of financial performance has changed over time, depending on the user of the financial information. Most users were concerned only about the company's profit in our days' potential shareholders consider other things among them the company's ability to pay a dividend for capital investment. Management of companies use financial measure, report and improve their performance. The administration used classical indicators like (ROA, ROE, and ROI), gross profit margin, net profit margin, debt ratio, current ratio and acid test ratio to measure financial performance. Management is moving away from the classical to modern concepts of creating value, which is more relevant than conventional indicators (Valentin, 2012). According to Bellovary, Akers, Bellovary, Giacomino, & Akers (2007), ROA was the most reliable and popular indicator of financial performance in their research.

Another critical variable of concern to researchers is the board of directors (BOD) and their influence on companies' financial performance. BOD is an indispensable and exceptional component of both board dynamics and the overall quality of corporate governance mechanisms that oversee its business conduct to ensure its agents properly manage it and reduce agency costs (Ujunwa, 2012). Small board size is useful since they mostly lead to better financial performance than larger ones because small board led to increased communication and coordination among the directors, making it easier to solve problems. Larger boards may lead to decreased poor decisions (Adnan, Rashid, Meera, & Htay, 2011). Contradictory research findings by (R. B. Adams & Mehran, 2012) showed that large board of directors are more effective due to the expertise, knowledge and effectiveness brought about by people from diverse fields with different experiences and education. It was, therefore, suggested that large board lead to the higher financial performance of companies.

The size of the bank is also another variable used to measure the profitability of the company. (Pilloff & Rhoades, 2002) in their study, established a positive relationship between bank size and profitability. (Molyneux & Seth, 1998); Ramlall (2009); Sufian (2009) also found a positive relationship between banks size and profitability. Based on the study, larger banks were more profitable than smaller banks.

2.2.3. Earnings Management

Involves using accounting techniques and principles in-line with International Financial Reporting Standards (IFRS) to prepare financial statements and reports that show the real picture of a company's financial position. It is an essential concept in accounting. Companies, in some instances, manipulate financial statements to portray a positive image to investors. Managers must judge accounting rules and principles to have an unbiased view of the company's financial position. Earnings Management takes advantage of how accounting rules are applied and generates financial statements that inflate earnings, revenues or total assets.

According to Lakhal (2003), firms providing earning voluntary disclosures are more inclined to increase institutional ownership and offer their executives stock option plans. These results imply that the corporate governance structure has to support new requirements to improve market transparency. The corporate value accounting approach used to improve financial reporting quality helps users of accounting information in the decision-making process. Many authors outline problems related to the fair value hierarchy valuation of financial instruments and the discretionary use of unobservable inputs in the financial instruments valuation process to support earnings management (Pompili & Tutino, 2019).

Earning management is thought to have different effects depending on the kind of firm or company involved. A study involving 239 non-financial listed companies for the period 2007-2015 (Gottardo & Moisello, 2019) studied the effect of earnings quality on a firm's market value. Earnings management practices have a significant adverse impact on non-family firms' market value while they do not substantially affect family firms' value. A shred of empirical evidence shows a significant positive relation between voluntary nonfinancial disclosure and market value, but this is true only for family firms. Coupled with Social Corporate responsibility, earnings management

plays an essential role in establishing the firm value, which is a crucial variable in investment decisions.

Firm value is one of the essential components for firms, especially listed firms. The market can evaluate the firm's performance using firm value; investors will consider investing in companies with attractive benefits; therefore, it makes a firm motivated to increase its value. The amount of firm value is one of the indicators for assessing the success of a firm. Firm value besides has a relationship with a firm's stock price as it reflects the actual value of the firm's assets. Companies that keep higher firm values are desirable to investors compared to those that have lower costs. Falling figures of the firm's value reduced investors' confidence, which may threaten the firm's survival. In research to scrutinise the effect of accrual earnings management and real earnings management on firm value empirically, findings revealed that practical earnings management hurts firm value (Darmawan, T, & Mardiati, 2019).

A study by (Liu, 2019) investigated if earnings management affects different investors' trades before earnings announcements using data set from the Chinese stock market. He further investigated investor trading patterns before the earnings announcement. Findings revealed that institutional investors tend to release their stocks before any earnings surprises, whether positive or negative. Therefore, the results provided a piece of clear evidence by emphasising the importance of earnings management in the formulation of investor decisions.

To determine whether the company size variable can strengthen real earning management and accrual earning management on value relevance. According to Rachmawati (2019), company size has proved to enhance practical earnings management and accumulation earning management on predictive value. Earnings management is the act of influencing accounting and financial reporting to obtain some private gain. Note that earnings management is a management intervention on the financial reporting process to benefit the management itself. (Kaaya, 2015) Schipper (1989) defined earnings management as taking deliberate steps within the constraints of accepted accounting principles to achieve the desired level of reported income, which creates investment misperceptions. When management fails to achieve the specified profit target, they take advantage of the flexibility allowed in the accounting standards, modify reported earnings before presenting the final financial statements, and apply accounting methods that provide a better picture of its performance. The actions have a direct impact on the audit process and the audit statement within the report.

Implementing sound corporate governance has a broad effect on the enterprise management system and is expected to minimize fraud or manipulation. Research conducted by Hardiningsih (2010) and Mayangsari (2003) show that good corporate governance in a company ensures that the company or the management provides reliable information to the public, impacting its respective stock prices. However, this might have the negative effect of encouraging companies to manipulate accounting results within the accounting standards parameters to present information that avoids a decline in their stock prices.

Guna & Herawaty (2010) and Jao & Pagalung (2011) put forward the argument of information asymmetry conditions between the management (agent) and the owner (principal). They noted that when management failed to achieve the specified profit target, management took advantage of the flexibility allowed by the accounting standards to modify reported earnings when preparing the financial statements. Management tends to choose and apply accounting methods that provide a better picture of the company's performance. They note further that when managers have more information than shareholders, they will tend to report better performance by using practices.

Corporate governance issues are influenced by politics in some instances, especially where companies are politically connected. Political connections have a significant influence on management earnings (Wardhana, 2019). Based on findings from past studies on corporate performance, evidence from studies show that companies that adopted acceptable governance practices performed better than others. A possible factor influencing organisational governance effectiveness could be a country's legal environment (Lusi & Swastika, 2013).

Past abstinence from earnings management increases investor responses to future earnings surprises. Importantly, this effect occurs where managers would, in the past, have had strong incentives and ample opportunities to misrepresent earnings. Overall, investors seem to interpret the extent to which management resists temptations for misreporting as a "litmus test" of trustworthiness (Eugster & Wagner, 2018). According to Rachmat, Siregar, & Maulana (2017), companies with Earning Management earn lower future earnings. The ability to forecast changes in future earnings stems from the expertise of Earning Management Detection Model. Companies with great attention from the regulator earn lower expected future earnings. Based on this study's results, the stakeholder to consider M-score to judge financial reports.

Earnings management research has also focused on external and internal factors that constrain managements' ability to manage earnings towards some firm-specific threshold. These factors include independent audit committees and boards of directors (Klein, 2002), Big Six auditors (Becker, DeFond, Jiambalvo, & Subramanyam, 1998), and venture capitalists (Morsfield, Tan, and Felix, 2004). Besides, other research explores the extent to which a firm's balance sheet constrains earnings management. Firms that use their available discretion in measuring accruals to inflate earnings in one period will find it more difficult to inflate earnings in subsequent periods due to the reversing nature of accruals. A simple example will help illustrate this point. A firm that inflates earnings in period t by booking a lower than necessary bad debt expense is likely to write off more bad debts during period t+1 than was provided for in the accounts receivable allowance account. The firm will have to book an incremental bad debt expense in period t+1 to make up for the previous period's overoptimistic bad debt expense. Thus, the firm will have a more difficult time using the same manipulation to inflate earnings in period t+1.

2.3. Concept of Financial Performance

Financial performance measures the results of the firm's policies and operations within a specified period in monetary terms, with the results expressed in the form of profit or losses. Microfinance banks' financial performance measures the banks' profit or losses within a specified time. Ilaboya & Omoye (2013) viewed financial performance concerning the organisation's ability to generate earnings by efficiently and effectively utilizing available resources over a given period. Malik & Nadeem (2014) viewed financial performance as a measure of a company's financial position over a specified period to know how efficiently a company uses its resources to generate income. Financial Performance is the results of a company's policies and operations in monetary terms, and these results are reflected in the organization's return on investment, return on assets and added value (Ilaboya & Omoye, 2013). Financial performance refers to accomplishing an organisation's financial activity; it explains how a firm can use its assets to generate revenues. The organization also can generate new resources from daily operations over a given period (Korir, 2011). Financial performance, therefore, can be referred to as the outcome of a business's activities within a given period in monetary terms. It shows the changes in shareholders' wealth and asset/liabilities of the business.

2.4. Research Gap

Most of the studies conducted in Kenya on financial performance determinants are inclined to specific industries like the insurance industry and banking industry. There is no comprehensive study conducted on all listed companies as a whole. Therefore, these studies' findings may not apply to other sectors, like the agricultural sectors' telecommunication industry. Therefore, there is a need to conduct comprehensive research within the different areas to determine the listed companies' financial performance conclusively. The central role of company managers is to ensure that they safeguard the interests of the shareholders. Thus, managers need to understand the key indicators of financial performance to understand the companies' financial health in which they have invested, which will give valuable information on whether to invest or divest in some companies. There are, though, a few studies done to address these issues.

Managers may skew information to either side to mislead investors on their companies' financial position due to fraud or the managers' interests. Some studies have on the determinants of micro-financial institutions' financial performance, which is just a small section of the banking industry. Such studies' findings may not be generalised since micro-financial institutions' regulator is the Central Bank of Kenya. At the same time, the Capital Markets Authority regulates all the activities of listed companies in Kenya.

The literature review cogently reveals a fraction of research related to the determinant of listed companies' financial performance in Kenya. There is a need to establish key ratio indicators signalling company bankruptcy. Bankruptcy indicators will be fundamental as a threshold by investors to indicate financially distressed companies. As a result, shareholders will be cushioned against financial loss as they stay away from ailing companies. The indicators will also help investors divest from financially weak companies. Past studies around the globe have failed to come up with compressive and precise predictors of company liquidation.

2.5. Conceptual Framework

The researcher will use four variables to establish relationships between the predictor and the dependents variable. The study summarised ratios under the following sub-themes; Debt and equity financing ratios using Debts Ratio and Long-term Debt to Equity, ratios involving the company size in terms of assets. In this case, the study used the Natural Log of Assets and Leverage Ratio. The

third category of the ratios included Market Ratios, where the researcher used Dividend Payout and Dividend Yield as predictor ratios. Lastly, the researcher's concern was the ratios used to evaluate the impact of cash flow and debt settlement on company performance. In this case, the study used Capital Adequacy and Growth in Revenues.

The Government, through the Capital Markets Authority (CMA), will be the regulating variable. The stock markets do not operate in a vacuum but regulated by the government through CMA. The CMA is a regulating body charged with supervising, licensing, and monitoring market intermediaries' activities, including the stock exchange (Listed Companies) and the central depository and settlement system. Earnings management. These were very important in this study, as well. The study used information from financial statements. The financial statements use proper and acceptable accounting techniques to present a view of companies' activities, the International Financial Reporting Standards (IFRS) and the Generally Accepted Accounting Principles (GAAP). Companies' management, therefore, makes decisions based on these principles. Earnings management, therefore, ensures that accounting rules are applied, and therefore managers do not create financial statements that inflate or "smooth" earnings.

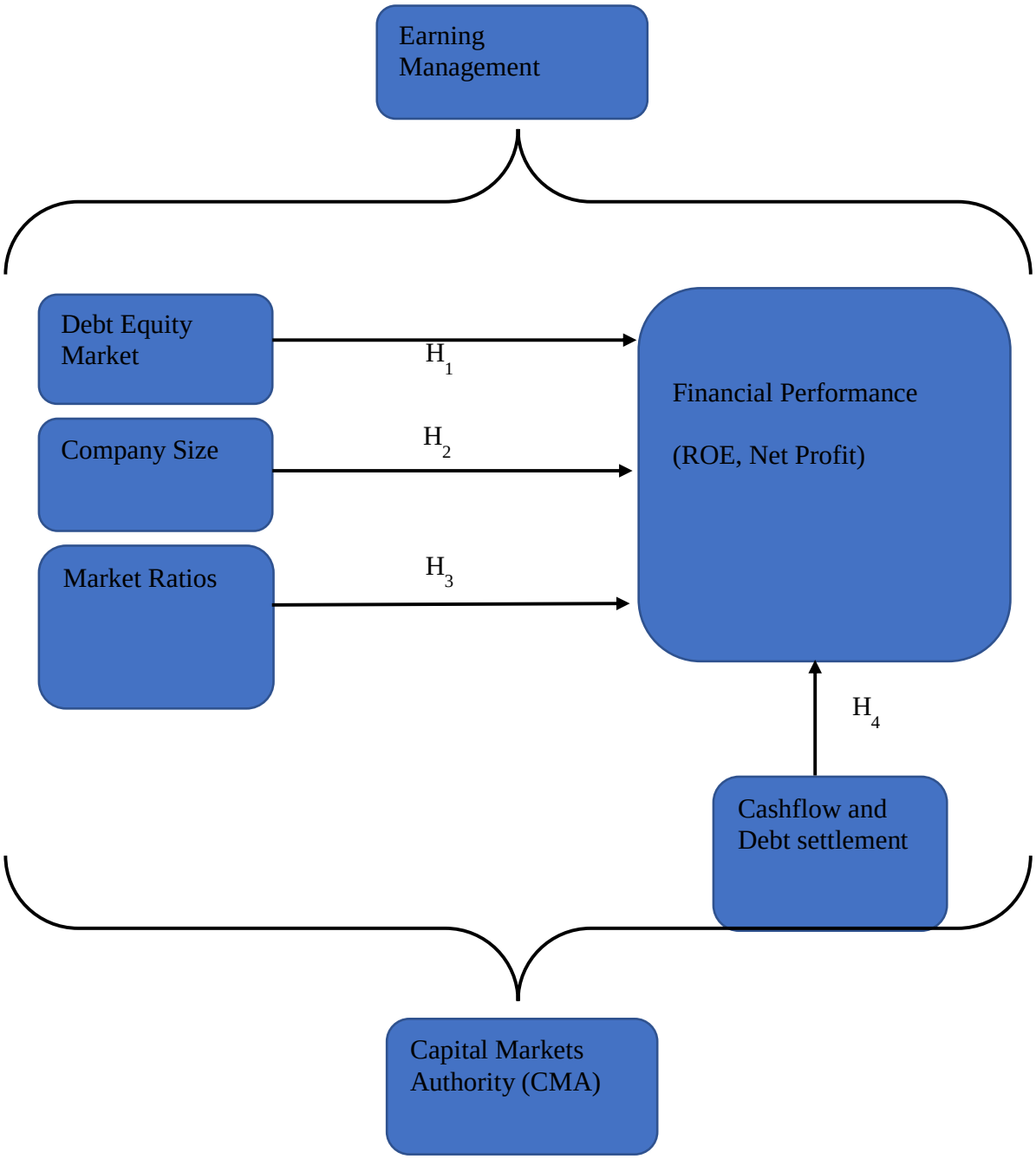

Figure 1. Conceptual Framework

Source: Author's Construction, 2020

2.5.1. Capital Adequacy

In terms of profitability, capital adequacy is one of the determining factors. Kosmidou et al. (2005) examined the influence of various factors, including the macroeconomic conditions and the financial markets' structure, on UK-owned commercial banks' profits between 1995 and 2002. As gauged by the equity to assets ratio, capital strength is the main contributing factor in determining UK banks' profitability, resulting in the claim that well-capitalized banks have lower external financing costs, which increases profits.

Concerning liability, Mendes and Abreu (2001) state that less leveraged banks have margins higher, resulting in better-capitalized banks charging more for loans and paying less on deposits. During the 1999 to 2006 time period, Dietrich and Wanzenried studied the profitability of Swiss commercial banks. Better-capitalised banks seemed to be more profitable. Since capital pertains to the volume of funds available to sustain a banks activity, bank capital serves as a safety net in adversative developments. Javaid et al. (2001) researched the key factors affecting a Pakistani bank's profitability over the 2004-2008 time period. They discovered that banks with higher equity capital levels, total assets, loans, and deposits are more secure, translating into higher profits.

2.5.2. Assets

In theory, the relationship between leverage and size is unclear. Based on the trade-off model, larger corporations predicted to have higher debt capacity and a higher gearing level. As diversified companies, large firms are less vulnerable to bankruptcy. Besides, long-term debt issuance may also result in transaction costs. As Chen (2004) explained, the firm's size has been an important determinant of capital structure decisions. According to Muradoglu and Sivaprasad (2009), small businesses have limited access to financing, so they must pay a higher interest rate, and thus their growth was limited. Large banks are more profitable than small banks because of their economies of scale. Sufian and Chong (2008) researched the factors influencing financial institutions' profitability in a developing economy. They discovered that a bank's size influences the economies or diseconomies of scale in the banking sector. Miller and Noulas (1997) studied significant commercial banks to determine what influence profitability had on the institutions. Studies have shown that a decline in the loan portfolio's quality will negatively affect large banks' performance.

2.5.3. Leverage

The Leverage Ratio is a calculation that determines the number of assets financed using liabilities. Also, this Leverage ratio illustrates the company's ability to settle its obligations in time of liquidation. Leverage has an essential impact on a company's risk profile because it increases the risk that the company may not pay off its obligations. In practice, to cover funding shortfalls, businesses possess multiple funding resources. In this case, the leverage ratio quantifies the extent to which the company's assets rely on debt financing. An amount of how much debt the company bears compared to the assets owned by the company.

2.5.4. Growth rate

The trade-off theory claims that firms with growth opportunities, which are intangible asset, will tend to borrow less than other firms, as growth opportunities cannot be collateralized (Chen, 2004). The researchers are interested in the South African banks' growth rates and their effect on the JSE. The growth rate indicates a need for more capital, altering the firm's capital structure. A deposit is a fundamental part of a bank; the higher the deposit levels, the more significant the impact on profitability. Deposits are the primary source of funding for banks, and deposits are the least expensive funding options. Alper and Anbar (2011: 144) investigated the various factors that impact a bank's profitability in Turkey. They found that the more deposits are transformed into loans, the higher the interest margin and profit. Therefore, deposits have a positive impact on the profitability of the banks.

2.5.5. Bank Profitability

Internal and external factors play a significant role in bank profitability in numerous countries. Most studies view internal factors as bank-specific and external factors as industry-specific and macroeconomic conditions. Exogenous factors are not associated with the running of the financial institution but show the economic and legal environment that influence financial institutions' operation and performance (Athanasoglou et al. 2008). On the other hand, external factors, such as industry and macroeconomic factors, reflect the legal and economic environments. The investigation focuses on the economic environment, considering previous, current, and following recessionary conditions for South African banks listed on the JSE. According to Athanasoglou et al. (2005), the external factors have no relation to bank management but reflect financial institutions' operating and

performance. Internal and external factors are intertwined, focusing mainly on management decisions and policy objectives of a bank. The factors which cause such profitability include the degree of liquidity, capital adequacy, and the expenses of management, provisioning policy, and bank size.

In the above excerpt, Guru et al. (2002) divided bank profitability determinants into two categories controlled by management and those that are not. Manageable factors within the management control are referred to as internal determinants, while uncontrollable factors beyond the management control referred to as external determinants. According to Rasiah (2010), bank assets, liability portfolio management, and overhead expenses are internal factors that tend to impact bank revenue and costs. Accountability expressed as a function of internal and external factors such as return on average assets (ROAA), return on average equity (ROAE), and Net Interest Margins (NIM). In the same view, Dietrich and Wanzenried (2009) say that banks' profitability assessed as the return on average assets as a function of internal and external factors. On the other hand, external variables include variables specific to banks that are assumed to impact financial institutions' profitability.

2.5.6. Bank-Specific Determinants

Many empirical researchers have used various methodologies to investigate the factors affecting capital structure choice in developed and developing economies. All these factors – the size of the credit risk, growth rate, tax and interest rates in the banking sector – were seen as factors influencing the capital structure and their influence on profitability. The bank efficiency theory will provide insight into whether country-specific variables impact the profitability of JSE listed banks' banking sector. Each bank-specific variable has a detrimental or beneficial effect in this context. The study examines banks' ability to effectively use their resources to create banking products and services and generate income from these goods and services. The nature of this relationship has the potential to affect bank profitability significantly. The profitability cycle is asymmetric if each bank-specific variable is associated with either a positive or negative profitability. According to Farlex (2015), the bank efficiency ratio is the expense-to-revenue ratio. Banks desire a lower efficiency ratio because the bank is in a significantly better financial position than spending.

Table 1. Previous Studies Variables and Methods of Analysis

Research Topic	**Predictor Variables**	**Financial Performance indicators**	**Methodology used**
Factors Affecting the Financial Performance of Jordanian Insurance Companies Listed at Amman Stock Exchange, by Amal Yassin Almajali Departmen, Sameer Ahmed Alamro and Yahya Zakarea Al-Soub 2012	Leverage, Liquidity, Company size Company age, Management competency index	Return on Asset (ROA)	Multiple Linear Regression Model
Bank-Specific and Macroeconomic Indicators of Profitability - Empirical Evidence from the Commercial Banks of Pakistan, by Khizer Ali Hailey, Muhammad Farhan Akhtar and Hafiz Zafar Ahmed Hailey 2011	Bank size, Operating efficiency, Capital, credit risk, Portfolio composition, Asset management	Return on Asset (ROA), Return on Equity (ROE)	Multiple Linear Regression Model
Determinants of Bank Performance in Ghana, the Economic Value Added (EVA) Approach by George Owusu-Antwi, Lord Mensah, Margret Crabbe & James Antwi 2014	Capital Adequacy Regulatory, Asset Quality, Earnings and Profitability, Interest Rate Spread (deposit money banks, Liquidity, Sensitivity to market risk, Size of financial intermediaries Private	Return on Asset (ROA), Return on Equity (ROE), Net Interest margin, Economic value added (EVA), Return on average assets (ROAA)	Pairwise correlation Regression analysis
Determinants of Bank Profitability in Indonesia (Case Study of Indonesian Commercial Banks Listed in IDX Period 2010- 2015)	Capital, Non-Performing Loan (NPL), Net Interest Margin (NIM), Loan Deposit Ratio (LDR, Bank Size	Return on Asset (ROA)	Multiple Linear Regression
Financial Crisis and Determinants of Profitability in Islamic and Conventional Banks: The Study of Kuwait Banking Industry	Bank Size, Credit Risk, Bank Diversification, Efficient Management Bank Capital, The Efficiency,	Return on Asset (ROA) Return on Equity (ROE)	ordinary least square (OLS) panel data regression

	Liquidity GDP Growth, Inflation		
Determinants of Bank Profitability in Pakistan: Internal Factor Analysis	Total Loans(TL) to Total Assets (TA) Total Deposits (TD) to Total Assets (TA) Total Equity (TE) to Total Assets (TA) Total Assets (TA)	Return on Asset (ROA)	OLS Regression Analysis
Determinants of corporate financial performance	Stern Stewart consulting company proposed new performance indicators based on value-added: economic value added (EVA) and market value added (MVA). Boston Consulting Group and HOLT Value Associates in Chicago promoted as efficiency indicators TSR (Total Shareholder Return) and return on cash flow - CFROI (Cash Flow Return on Investment). Applied Finance Group proposed economic margins - EM (eng. Economic Margin) to measure performance. Other modern financial ratios used for the evaluation of corporate financial performances are profit per share (EPS), price/income (PER), the market value ratio (MBR), dividend yield.	Return on Asset (ROA), Return on Equity (ROE), Net profit margin	Multiple Regression Equation
Determinants of Financial Distress among the	Leverage (LEV), Liquidity (LIQ),	Return on Asset (ROA)	Fixed Effects

Companies Practice Note 17 Listed in Bursa Malaysia	Growth of Sales (GRW), Size of company (SIZE)		Regression Model
Determinants of the financial performance of a firm: Case of Pakistani stock market	Economic condition, Inflation, Income per capita, Corporate governance, Ownership structure, Block holding, Inside ownership Capital structure, Debt-to-equity, Long-term debt to total assets, Short-term debt to total assets, Risk management, Firm policies and characteristics, Dividend yield Size of the firm, Sales growth (SG), Current ratio, Market capitalization:	Return on Equity (ROE) Shareholder Return (SHR)	Fixed effect model results Haussmann Correlation analysis
Factors Affecting Performance of Commercial Banks in Uganda A Case for Domestic Commercial Banks By Nsambu Kijjambu Frederick	Bank liquidity, Total loans to Total Assets, Capital adequacy, Equity capital to Total Assets, Credit Risk/Loan Quality/Loan loss provisions to Total, Loans, Bank size Natural logarithm of Total Assets, Market profit opportunity Deposits to Total Assets, Cost efficiency, Interest expenses to Equity, Non-interest income, Measure of diversification, Interest income, Net Interest Margin to Total Assets (NIMTA), Cost inefficiency, Interest expenses to Total Assets, Bank Diversification Financial leverage, Non-interest income to Total income, Debt	Return on Assets (ROA) and Return on Equity (ROE)	Multiple Linear Regression

	capital to equity capital, Management inefficiency Operating costs to Total Assets, Management inefficiency Operating costs to Total Income, Reputation/Goodwill		
The importance of financial and non-financial ratios in SMEs bankruptcy prediction Aneta Ptak-Chmielewska*, Anna Matuszyk 2017.	Share of net financial surplus in total liabilities Capital ratio Inventory turnover Liquidity cash Fixed assets Coverage by equity.	Operating profitability of assets and a non-financial factor	Logistic Regression Model
The impact of capital structure on financial performance in Romanian listed companies by Sorana Vătavu 2015	Debt ratios, The ratios of total liabilities, long-term liabilities and short-term liabilities to total assets, The equity ratio (total equity to total assets), Asset tangibility (TANG) fixed assets to total assets, Tax (TAX), described by the ratio of tax to earnings before interest and tax Business risk (BUSRISK), the ratio of the standard deviation of earnings before interest and tax to total assets Liquidity (LIQUID), the ratio of current assets to current liabilities	Return on assets (ROA) as net income to total assets, and return on equity (ROE), net income ratio to shareholders' equity. These	Regression model

Source: Author's Construction, based on Previous Studies, 2021

Table 2. Summary of Analysed Factors

Measure	Author	Measure	Results
Institutional investors	Gillan and Stark (2003)	Analysis of previous studies, arguing that institutional investors' presence positively influences performance, is correlated with factors such as reporting disclosure, minority shareholders protection degree, and dividend Policy.	Positive relationship
Institutional investors	Bhattacharya and Graham (2007)	The presence of institutional investors adversely affect performance and is positively correlated with leverage and market risk	Negative Relationship
Investments in R and D, advertising and marketing expenses	Kemper et al. (2013)	Advertising and marketing expenses investments in R and D Economies of scale Imports, exports, market size and market barriers to entry Company's age The intensity of competition Marketing communication ability Corporate social responsibility	Positive relationship
Type of economy where the company operates	Majumdar and Chhibber (1999)	The presence of foreign investors in the ownership structure	Positive relationship
Leverage	Margaritis and Psillaki (2010) Sheikh and Wang (2011) Vithessonthi and Tongurai (2015)	Leverage (total debt/total assets ratio), calculated at the same time and with a lag of 1-year Short-term and long-term liabilities to total assets ratio Leverage (total debt/total assets ratio)	Positive relationship Negative relationship A positive relationship for

			the small firms and negative relationship for the large ones
Company size	Peng and Luo (2000) Zeitun and Tian (2007) Symeou (2010), Pervan and Visic (2012) Pantea et al. (2014)	Number of employees Total assets Number of employees Total assets Sales	Positive relationship Positive relationship Negatively correlated Positive relationship Positive relationship
Corporate social responsibility	Van Beurden and Gössling (2008) Lioui and Sharma (2012) Moscalu and Vintilă (2012)	Three types of quantifying corporate social performance (measuring the level of transparency based on content analysis, specific programs such as philanthropic and social programs, reducing pollution and their results, researches conducted by using different ratings as KLD, CEP, Fortune, Moskowitz) Social responsibility was quantified based on the data available on KLD STATS Inc. An index designed based on 42 non-financial factors Grouping the following five issues: reporting transparency on CSR, environment, products and services, labour, society and human rights. On this basis was determined the social risk	Meta-analysis of previous studies, most of them have shown a positive relationship Negative relationship Negative relationship
Concentration degree and intensity of competition within the industry/ the market	Wernerfelt and Montgomery (1988) Capon et al. (1990)	Industry market share The share of marketing and R and D expenses on sales Concentration within industry Growth in sales and total assets	Positive relationship Meta-analysis of 320 previous studies

Growth in sales, diversification degree and distribution capacity Market share, market size, industry and barriers to entry Company's age	Yelih and Kaya (2013)	Study based questionnaires regarding the market where the company is acting (the market culture), the degree of flexibility and de-bureaucratization (adhocracy)	No significant relationship

Source: Author's construction, based on previously analyzed factors, 2021

3. MATERIALS AND METHODS

3.1. Research Design

According to (Cooper & Schindler, 2003), a research design is a plan the method by which the problem under exploration. The purpose of the study design is to ensure that the evidence obtained permits the study to answer the research question as unambiguously as possible. This exploratory study used secondary data from listed commercial banks' published financial statements for ten years. The study used panel data to study the behaviour of each bank over time and across space.

3.2. Study Population

The study population includes all cases about which the researcher can generalize. This study's target population was all the 12 listed banks in Kenya (CMA Report, 2020). The study targeted all listed banks in Kenya, which are 12 in number. All the listed banks have similar characteristics, and a majority of the banks included in the study were in Tier 1, while three banks were in Tier 2. The study population included Eleven banks. The NSE listed the bank of Kigali in 2018; therefore, excluded from the Bank of Kigali. Included in the study was the National Bank of Kenya since KBC has the majority shareholding. Therefore it operates as a commercial bank.

3.3. Sample Size

All the 12 listed banks in Kenya were involved in this study.

Table 3. Sample Distribution

	Sector	Observations
1.	Absa Bank Kenya	10
2.	Stanbic Holdings	10
3.	I&M Holdings	10
4.	Diamond Trust Bank Kenya	10
5.	HF Group	10
6.	KCB Group	10
7.	National Bank of Kenya	10
8.	NCBA Group PLC	10
9.	Standard Chartered Bank Ltd	10
10.	Equity Group Holdings	10
11.	The Co-operative Bank of Kenya	10
12.	BK Group PLC	10
	Total	**120**

Source: NSE Data 2020

The study collected data from all the 12 listed banks companies (NSE, 2020) in the Nairobi securities and exchange. The period for the study will be between the years 2009 to 2018. The range of 10 years will be enough to conduct a trend analysis of the different companies' profitability for different times of the years; thus, it will involve 120 company observations.

3.4. Data collection procedures

Before data collection, the researcher sought permission from the university. The university's introduction was sent to the National Commission for Science, Technology and Innovation (NACOSTI) for data collection authorization. After that, the research permit was presented to the Capital Markets Authority, The Nairobi Securities and exchange and the listed banks. The written authorization was vital because it enabled the researcher to have access to the informants from banks. Data collection used a pre-designed secondary data collection tool. The appropriate secondary data needed was collected from the financial statements of listed companies. The financial statements were available on the NSE website, while others were available at the listed banks' repository. The study will use secondary data obtained from published financial statements of listed banks in Kenya.

3.5. Data analysis and presentation

In quantitative analysis, the researcher used inferential statistics to present research findings. Inferential statistics computed included, Canonical correlation analysis to outline the mutual influences or relationship strength of two variables on each other correlation models, specifically Pearson correlation, to measure the degree of association between different variables under consideration. Canonical correlation analysis identified and measure the associations among two sets of variables. Secondly, the research used a multiple regression analysis to examine the relationship of independent variables with the dependent variable and know its effect. Multiple regression analysis preferred because of the researcher's interest in exploring the independent variables' influence on the given dependent variables. The researcher identified the significance of the explanatory variables, as well as the overall regression model.

3.6. Multiple Regression Model Specification

The research used a multiple regression analysis to predict the various predictor variables' effect on the dependent variable. A multiple regression analysis was vital in this research study because listed banks' financial performance is affected by more than two variables. Several assumptions fulfilled to check whether a regression analysis was suitable for the research. The assumptions included;

3.6.1. Assumptions of Regression Analysis

(i) **Normality:** Normality assumes that the data for multiple regression analysis is normal distributions and that a plot of the residuals' values will approximate a standard curve. The postulation is based on the normal distribution and gives the researcher knowledge about what values to expect. Data that not generally distributed with outliers can distort relationships and significance tests (Sevier, 1957).

(ii) **Linearity:** Multiple regression assumes the linear relationship of variables. It defines the predictor variable as having a linear relationship with the dependent variable. Violating the linearity relationship in all linear estimates of the standard error, then the significance value will be biased, which increases the of Type I and Type II errors

(iii) **Homoscedasticity:** The assumption of homoscedasticity refers to the equal variance of errors across all levels of the independent variables, which means that researchers assume

that errors are spread out consistently between the variables. Heteroscedasticity in the data marked can distort the findings and weaken the analysis's overall analysis and statistical power (Sevier, 1957).

(iv) Multicollinearity: They are used to check if variables positively correlate among themselves with Tolerance or the variance inflation Factor (FIV) used to investigate this phenomenon. A tolerance value of 0.2 or VIF of less than 10 is acceptable. Inferring that multicollinearity is not affecting our model.

(v) Independence of error Terms: Independence of errors refers to the hypothesis that errors are independent of one another, implying that subjects respond independently. Violating the independence of errors is violated, standard scores and significance tests will not be accurate.

Multiple regression analysis assesses the degree and character of relationships between a dependent variable and independent variables in an objective way. As a result of the analysis, estimated regression coefficients indicate each independent variable's relative importance in predicting the dependent variable. They show how much one unit increase in the independent variable would affect the dependent variable if all the other independent variables remain unchanged. The model summary of the study will be as shown below;

$$Y1_{it} = \alpha + \beta 1X1_{it} + \beta 2X2_{it} + \beta 3X3_{it} + \beta 4X4_{it} + \beta 5X5_{it} + \beta 6X6_{it} + \beta 7X7_{it} + \beta 8X8_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots 1$$

$$Y2_{it} = \alpha + \beta 1X1_{it} + \beta 2X2_{it} + \beta 3X3_{it} + \beta 4X4_{it} + \beta 5X5_{it} + \beta 6X6_{it} + \beta 7X7_{it} + \beta 8X8_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots 2$$

Where;

Y1 = First Dependent Variable – Return on Equity (ROE) - Measure its financial performance and gauge a company's profitability about total assets (Net income/Total assets) ROA replaced with Net Profit.

Y2= Second Dependent Variable – Net Profit (NP) or Net Income (NI) – This is the Gross profit you less all the operating expenses, computed by deducting the cost of goods sold from revenues. In this case, we will use NP.

X1, Long-term debt to equity ratio, X2= Log of Assets, X3, Capital adequacy, X4 = Growth in revenues (growth prospects) X5=Leverage, X6=Debt Ratio, X7 = Dividend Pay-out , X8= Dividend Yield

ε_{it} Error term in year (t)

it=time in years

1. Debt to Equity Ratio (Debt Capital Ratio) = Total Liabilities / Shareholders' Equity.
2. Log of Assets
3. Capital adequacy. The capital adequacy ratio (CAR) is a measurement of a bank's available capital expressed as a percentage of a bank's risk-weighted credit exposures;

   CAR= (Tier 1 Capital + Tier 2 Capital)/ (Risk – Weighted Assets)
4. Growth in revenues (growth prospects)

   Growth in Revenues = (Current Period Revenue - Previous Period Revenue) – 1
5. Leverage: Leverage results from using borrowed capital as a funding source when investing in expanding the firm's asset base and generating returns on risk capital. Leverage is an investment strategy of using borrowed money, specifically, using various financial instruments or borrowed capital to increase an investment's potential return. Leverage can also refer to the amount of debt a firm uses to finance assets. When one refers to a company, property or investment as "highly leveraged," it means that it has more debt than equity.

   Total liabilities/Total assets
6. Debt coverage ratio: This is a measurement of the cash flow available to pay current debt obligations. The ratio states net operating income as a multiple of debt obligations due within one year, including interest, principal, sinking-fund and lease payments.

   Debt Ratio = Total liabilities/Equity
7. Market Ratios: Market value ratios evaluate a publicly-held company's stock's current share price. Potential Investors use ratios to determine whether a company's shares are overpriced or underpriced.

   Dividend Payout = Dividend Per Share / Earning Per Share
8. Dividend yield*:* The dividend yield is the ratio of a company's annual dividend compared to its share price. The dividend yield represented as a percentage calculated as follows:

   Dividend Yield = Annual Dividend / Share Price

4. RESULTS AND DISCUSSIONS

This section of the research discussed the study's findings and results based on the panel, secondary data collected from listed banks. This research aimed at determining analysis determinants of the financial performance of listed banks in Kenya. The study used secondary data from listed banks for the period 2009-2018. Quantitative data analysis conducted, and findings presented used inferential statistics—different analysis techniques to analyze the data based on panel data principles, which has time.

4.1. Response Rate

The study targeted financial reports from the 12 listed banks in Kenya, Bank of Kigali excluded from the study since the Bank had published only financial statements for a year. Therefore the study collected data from 11 listed banks for ten years, making 110 observations for all banks under study.

4.2. Demographic Information

This section provides demographic information regarding banks concerning specifically chosen variables. The researcher's metrics of concern included bank assets, capital adequacy, leverage, debt ratio, growth in revenues, dividend payment, and dividend yield. The findings from the field presented as shown;

4.2.1. Bank size

The size of the banks presented about assets is shown in Figure 2;

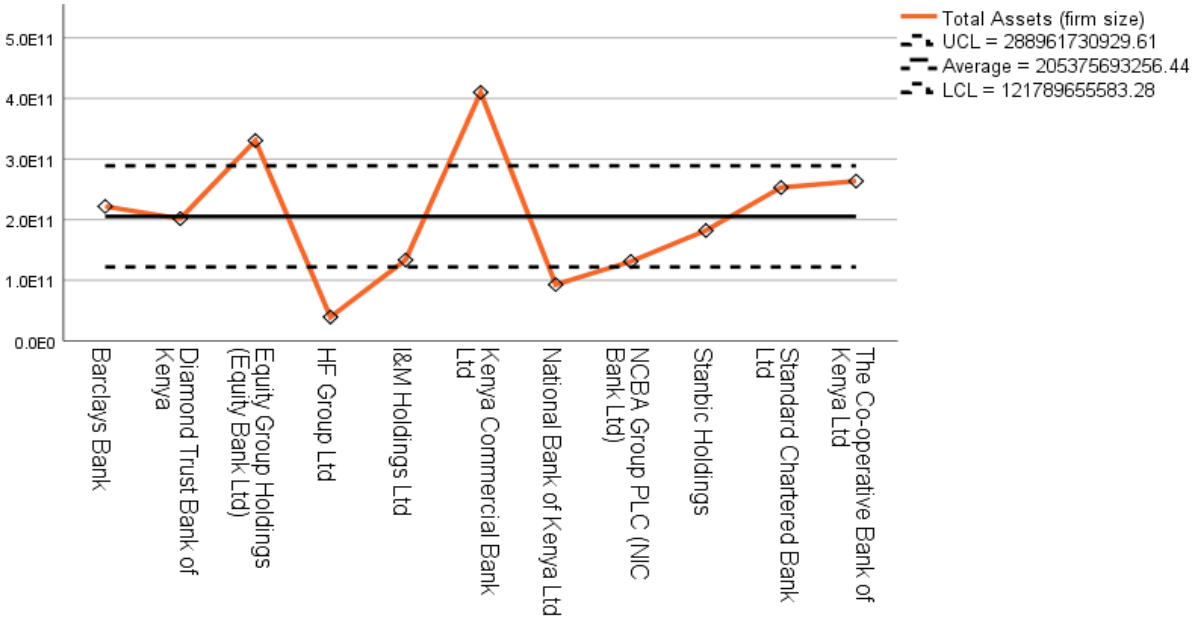

Figure 2. Bank size 2009-2018

Source: NSE Data on Listed Banks 2009-2018

Figure 2 shows the asset distribution of all listed banks over time. The study found out that Kenya commercial bank had the most assets among all the banks, followed by equity bank. They were the only banks that had assets above the upper control limit (UCL). Standard Chartered Bank and Cooperative bank had an almost equal amount of assents. From the year 2009 to 2018. Findings revealed an increase in some banks' assets while other banks had a constant growth in assets over time while others stagnated. Kenya's HF and national banks had a relatively small amount of assets below the lower control limit.

4.2.2. Total Assets

Figure 3 shows the total asset distribution for banks for the period 2009 to 2018. The findings from the financial statements are as shown below;

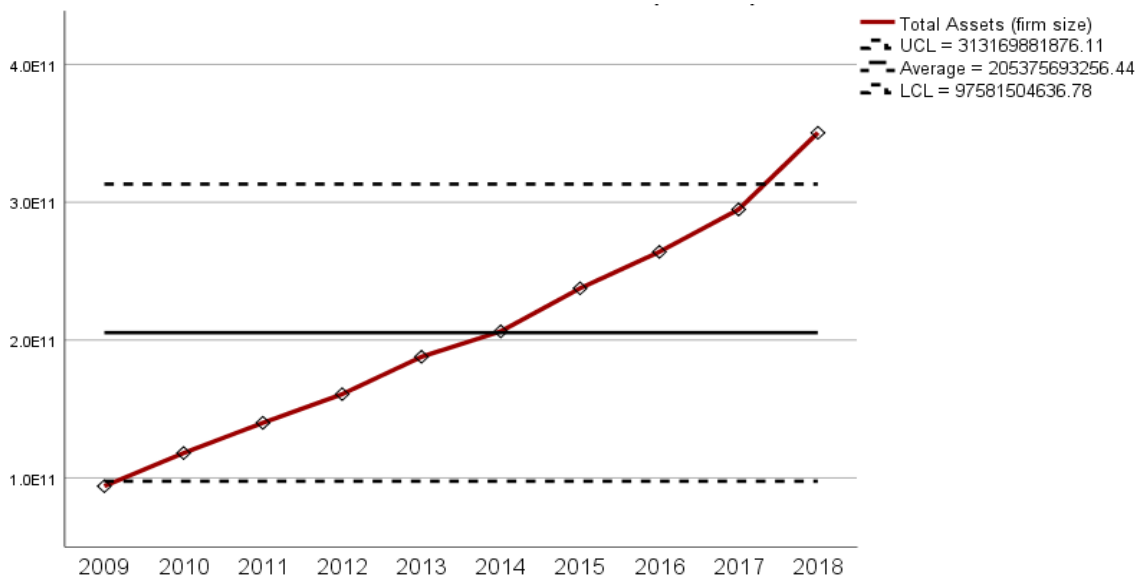

Figure 3. Total Assets

Source: NSE Data on Listed Banks 2009-2018

Findings from figure 3 show asset distribution over 10 years between 2009 to 2018. There has been a constant increase in the value of assets. The growth in assets slowed down in 2013 and 2014. Bank assets increased sharply between 2017 and 2018. A higher asset base for banking institutions enables them to offer more financial services at a low cost

4.2.3. Leverage

Leverage is using borrowed capital funding as a source to expand the firms' asset base. Bank leverage distribution as shown;

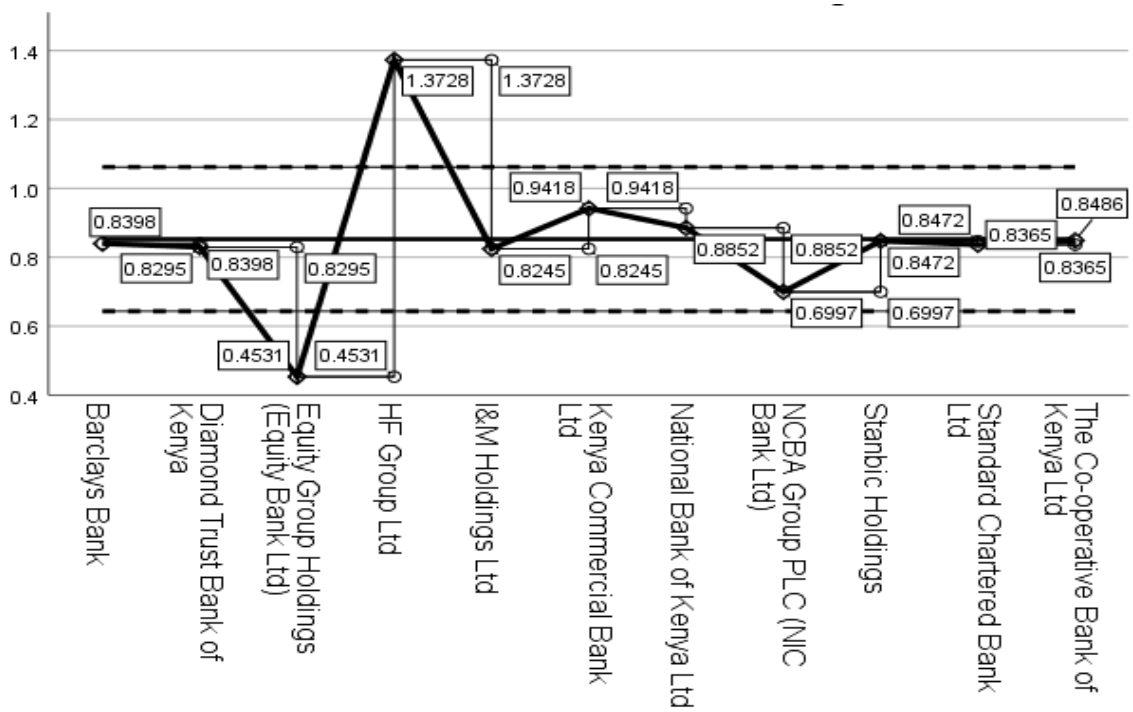

Figure 4. Leverage Ratio

Source: Authors Construction Based on NSE Data, 2009-2018

Findings from the study revealed that HF Bank uses more debt financing compared to other banks. This can be very dangerous for a bank since most of its operations financed by debt financing. Equity bank, which is second in terms of its asset base, uses the least leverage in its operations. Findings have revealed that banks with a high asset base tend to use less debt in financing their operations. Different scholars have established varying relationship between leverage and the financial performance of companies. Findings from past research supported these study findings. Similar findings by Chary, Kasturi and Kumar (2011) established a negative relationship between leverage and financial performance. Overlaveledged firms have a possibility of accumulating financial costs and systemic risk, therefore creating financial risk. In addition to that, Demirhan & Anwar (2014) established that leverage has an inverse relationship with company efficiency. Jaafar, Muhamat, Alwi, Karim, & Rahman (2018) also found out that leverage had an inverse relationship with business performance. Higher levels of debt expose the firm to bankruptcy risk. An increase in profitability is a kind gesture for firms as it is an indicator of enough capital for sustaining companies.

4.2.4 Capital Adequacy

This is a measure of the availability of funds by banks. Availability of funds protects depositors from losing funds by promoting financial systems' efficiency in banks and other financial institutions. Classification of the Banks in Kenya base on availability in terms of capital. Banks in Kenya classify as tier 1, tier 2 and tier 3. Findings regarding capital adequacy were as shown in figure 5;

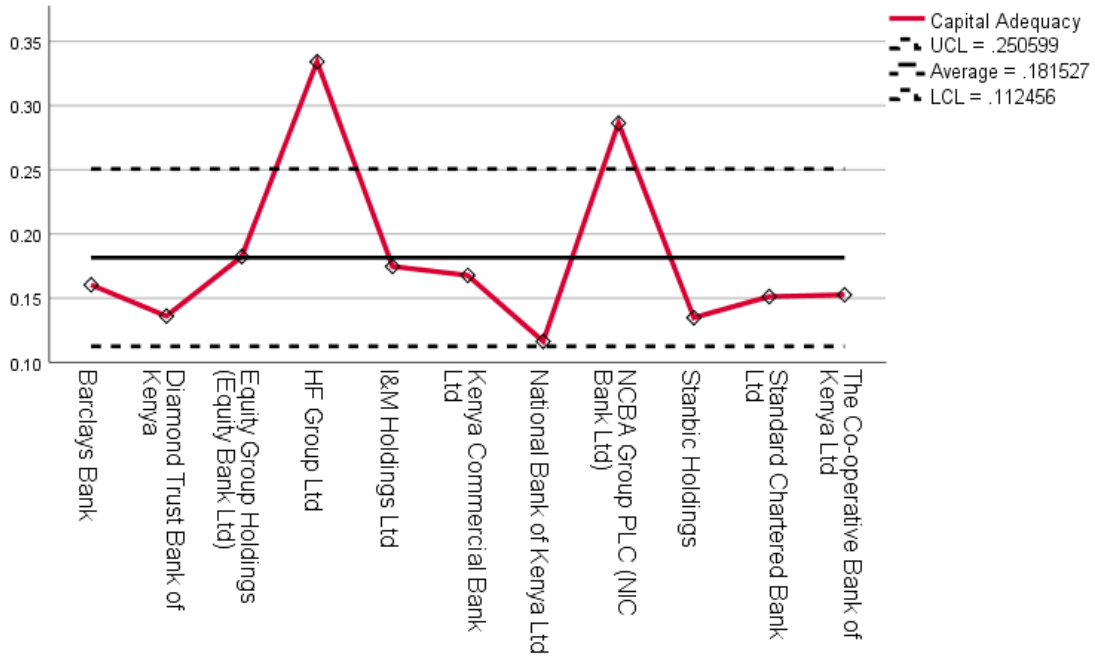

Figure 5. Capital Adequacy

Source: Author's Construction Based on NSE Data, 2009-2018

All banks involved in this study were under Tier 1. Findings revealed that HF bank and NIC bank had higher levels of capital adequacy. Stanbic Bank and standard chartered banks had lower capital adequacy values less than the LCL level. National Bank of Kenya had the lowest capital adequacy. A reason why it has been declaring negative profits over time. In a study seeking to establish bank success factors, Frederick (2016) established capital adequacy and management efficiency, asset quality, interest income as crucial drivers of bank performance in Uganda. Haidary & Abbey (2018) and (li & Akhtar (2011) used capital adequacy as an indicator for measuring the performance of banks.

4.2.5 Debt Ratio

The debt ratio for a given company indicates its debt and how much its assets are. It is a measure of how much someone owes compared to how much they own, with higher liabilities indicating greater debt-financing levels. Debt ratios determine an individual, business, or government's financial health. Analysts and investors consider the company's significant financial statements when calculating the debt ratio.

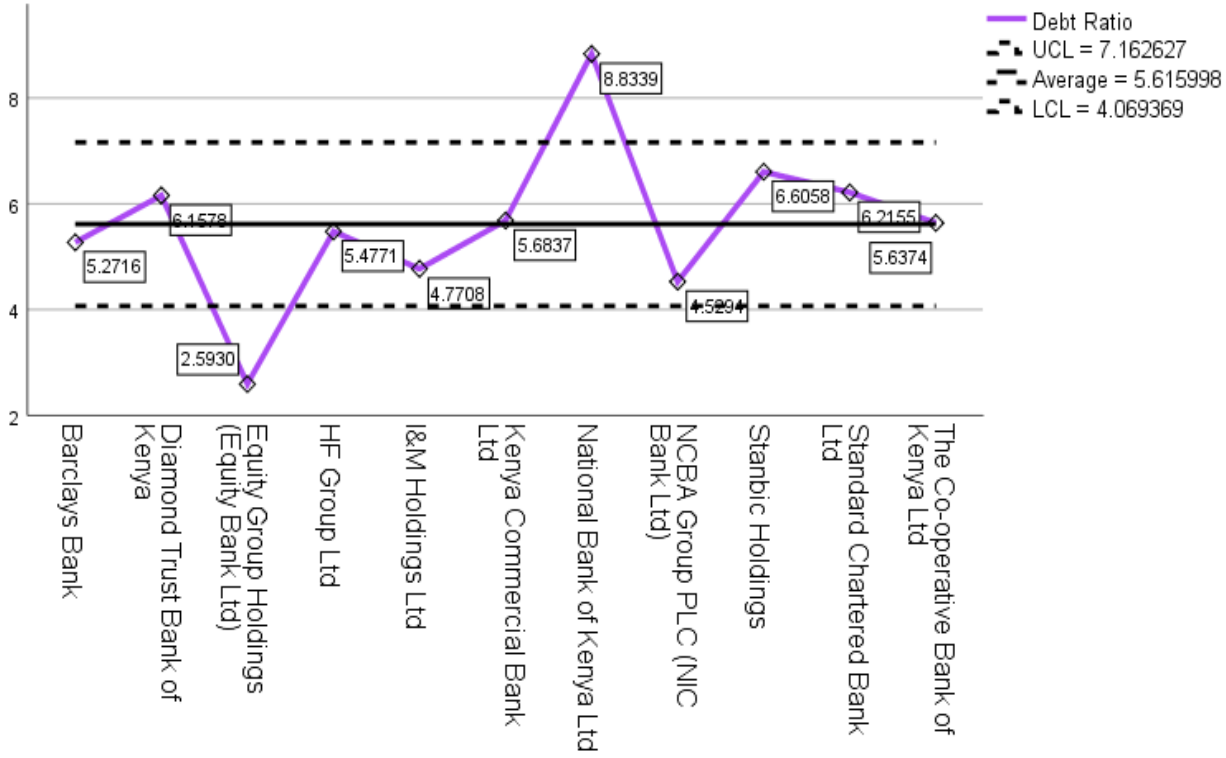

Figure 6. Debt Ratio

Source: Author's Construction Based on NSE Data, 2009-2018

The debt ratio shows the proportion of debt-financed by assets. The study's findings revealed that Kenya's National Bank has the highest Debt ratio at 8.8339 above the UCL. Stanbic Bank, Standard Chartered Bank and DTB bank have an average level of Debt Ratio. Equity bank uses the lowest debt in financing its operations, a possible reason it performs exceedingly well in terms of financial performance. A study by Ogachi, Ndege, Gaturu, & Zeman (2020) to establish bankruptcy predictors established an inverse relationship between debtors' turnover, debt ratio, and current ratio.

4.2.6. Growth in Revenues

This is the rate of increase in revenues over time. Figure 7 shows the revenue growth prospects in the banking industry for over ten years.

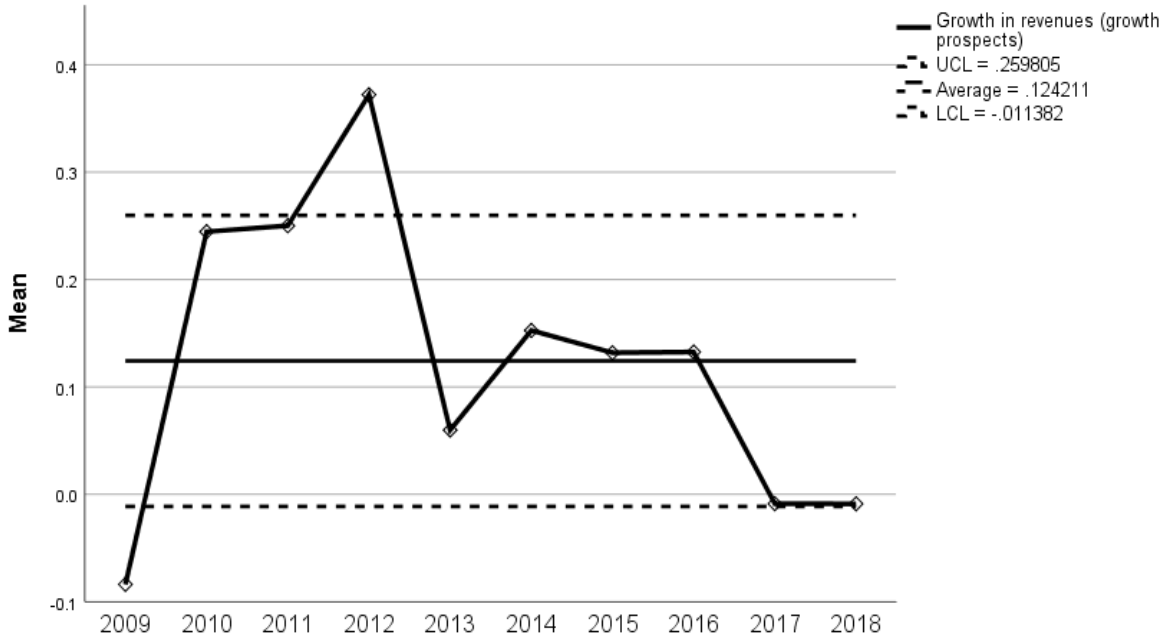

Figure 7. Growth in Revenues-Years

Source: Author's Construction Based on NSE Data, 2009-2018

Findings revealed that the growth rate in bank revenues for 2009 and 2010 increased at a higher rate. The growth in revenues stagnated between 2010 and 2011. Most of the banks experienced a higher percentage of revenues in the year 2010. In the other years, the growth was constant. The maximum growth in revenues for most companies attained in 2010. This could be due to the 2010 oil crisis. There was a negative growth in revenues between 2012 to 2013. 2014-2016 saw a decline in the growth prospects of banks. The growth rate in revenues for 2017-2018 was stagnant, possibly because of the elections held in Kenya marred by irregularities and chaos. Data concerning growth in revenues by banks is as presented in figure 8;

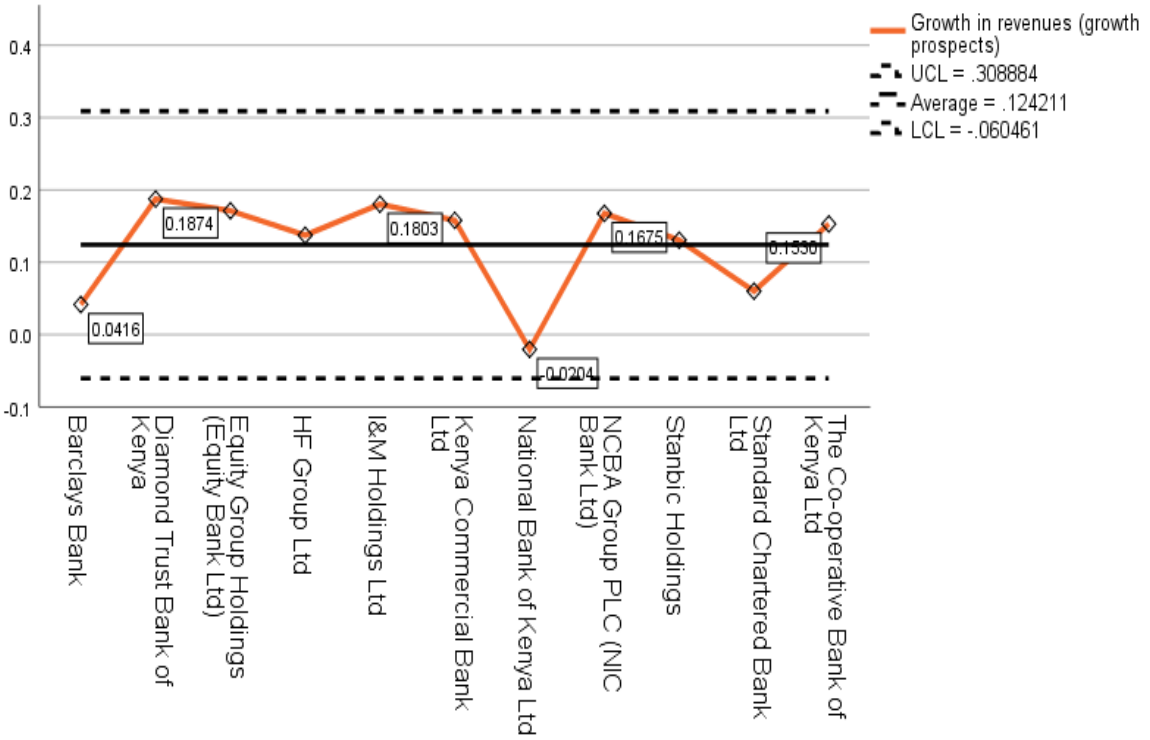

Figure 8. Growth in Revenues-Banks

Source: Author's Construction Based on NSE Data, 2009-2018

The findings from figure 8 showed that the National bank of Kenya had relatively low growth in revenues over time. Absa Bank Kenya and the Standard Chartered Bank also recorded low growth prospects rates below the average industry rates.

4.2.7. Longterm Debt to Equity

The long-term debt to equity ratio represents the amount of debt used by banks relative to equity. The greater the ratio, the more significant the bankruptcy risk rate. Findings from data regarding Longterm Debt to equity was as shown

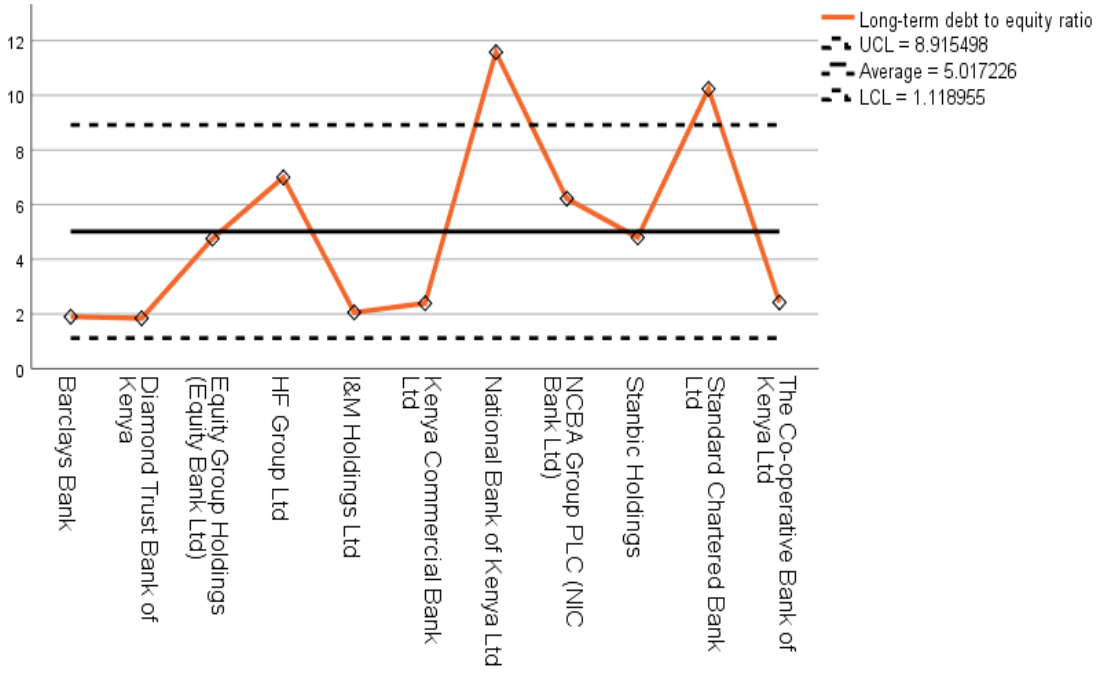

Figure 9. Longterm Debt to Equity Ratio

Source: Author's Construction Based on NSE Data, 2009-2018

Findings from figure 9 show the ratio of debt to equity of all the listed banks. The figure shows the first four banks that are heavily dependent on debt financing compared to debt financing. The national bank of Kenya finances its obligations through debt financing. The second position is Equity Bank Ltd, followed by I & M Bank and Stanbic Banks. The banks are heavily reliant on long-term debt as compared to Equity.

4.2.8. Dividend Payout

Dividend payout shows the number of dividends paid to shareholders relative to banks' income or revenue. Data from financial statements was as shown in figure 10.

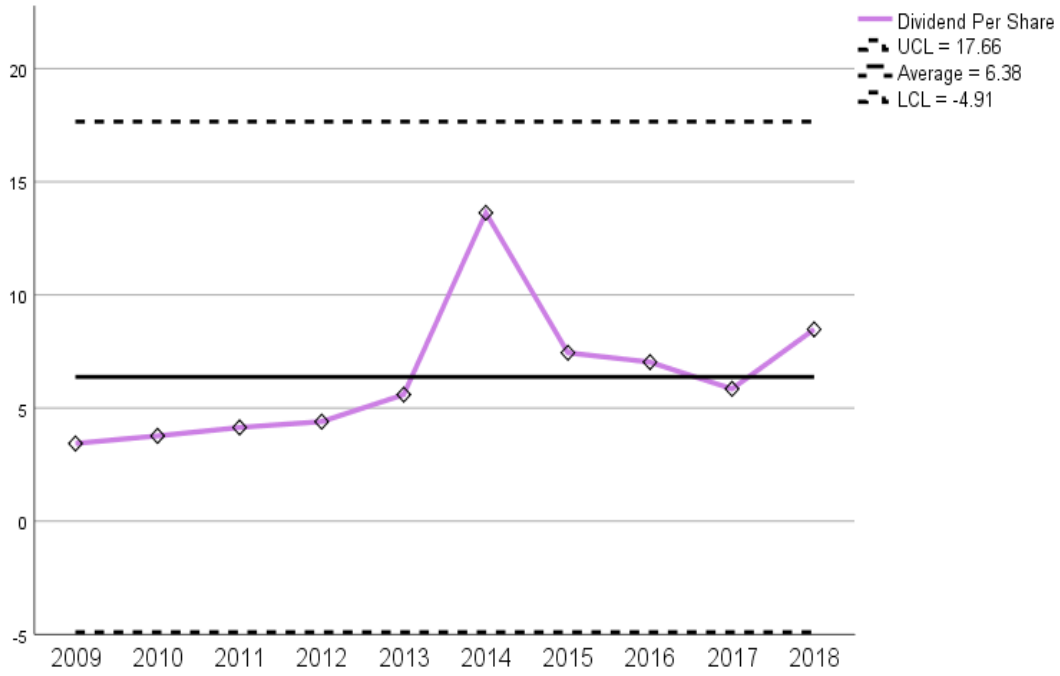

Figure 10. Dividend Payout-Year

Source: Author's Construction Based on NSE Data, 2009-2018

Dividend payment for the banks was highest in the year 2014. During the financial crisis of 2009 and 2010, shareholders saw minimum dividends declared by banks. 2013 to 2014 has a sharp increase in the dividends paid to shareholders. Dividend payout reduced drastically between 2014 to 2017, increasing again in 2018. The dividend payment ratio is the ratio of the total amount of dividends paid to the shareholders concerning its net income. It is the percentage of earnings paid to shareholders in the form of dividends.

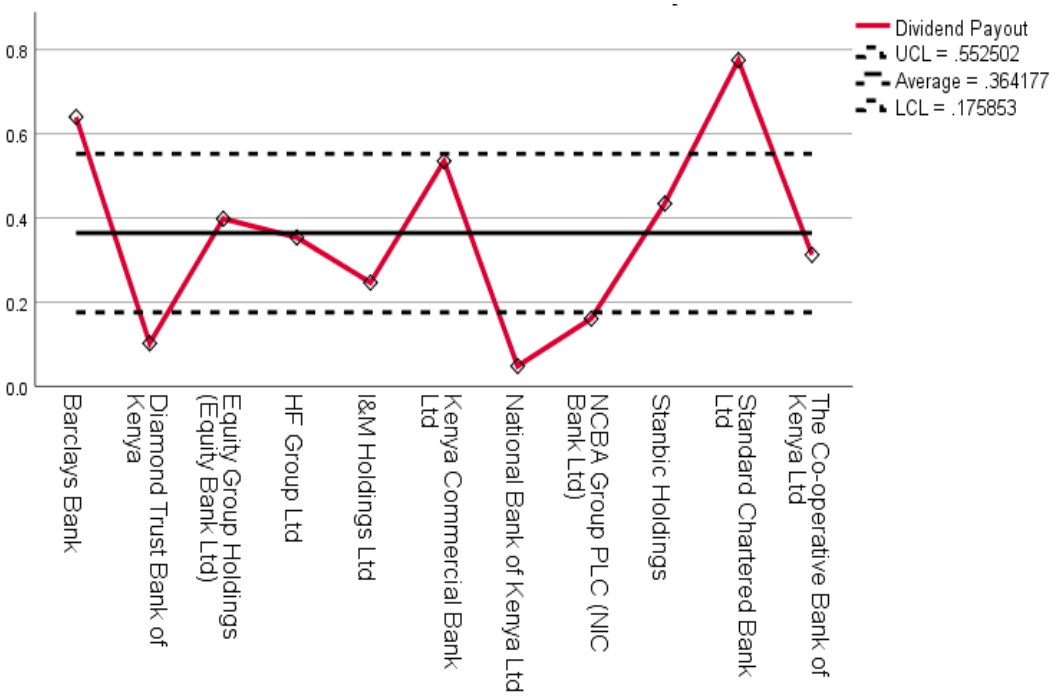

Figure 11. Dividend Payout-Bank

Source: Author's Construction Based on NSE Data, 2009-2018

Regarding dividend payment by banks in Kenya, the study found out that standard chartered bank Absa Bank Kenya was among the best banks in dividend payment. Mamaro & Tjano (2019) established a negative relationship between the dividend payout ratio of Top40 firms with profitability and liquidity and a positive relationship found on dividend payout with net profit margins (NPM), leverage (LEV), growth (GRO), and firm size (SIZE). The findings were in tandem with a study by Chinedu, Uchechukwu, & Ikechukwu (2015). The researchers' empirical results suggest that dividend payout ratio has a positive relationship with ROCE, ROA and ROE used for this study dependent variables. It further revealed that dividend payout ratio (DPR) has a statistical effect on Return on Capital Employed (ROCE) and Return on Assets (ROA) of quoted cement companies in Nigeria.

4.2.9 Dividend Yield

This is a financial ratio that shows how much a company pays dividends each year related to its share price.

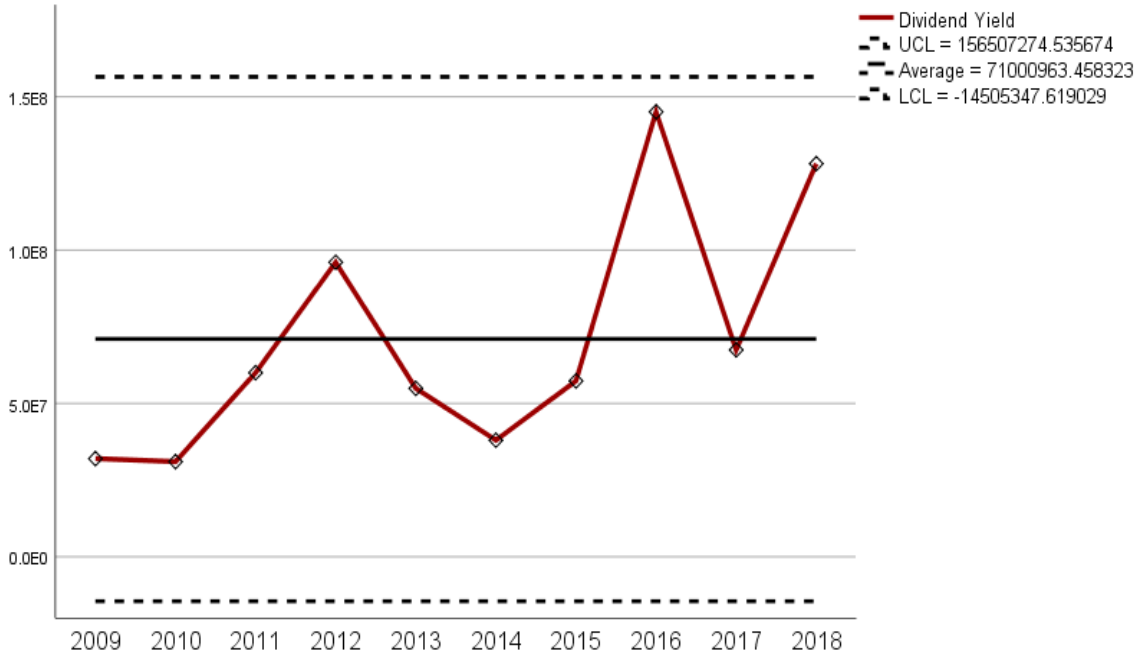

Figure 12. Dividend Yield

Source: Author's Construction Based on NSE Data, 2009-2018

The findings from figure 12 show a stagnating dividend payout during the financial crisis of 2009 and 2010. After the oil crisis, there was a tremendous increase until 2012 when companies reduced their shareholders' dividend amount. A tremendous increase also experienced between the year 2015 to 2016. The year 2016 was the peak year for shareholders since they received the maximum yield. During the 2017 electioneering period, the country experienced a low dividend yield for countries regaining further after the elections. It was evident also that there was a steady growth in dividend yield for the year 2018.

4.3. Canonical Correlations

This section presents the correlation analysis between the dependent variable and independent variables. A Pearson correlation analysis was performed between the predictor and independent variables to check the relationship's degree of relationship. A summary of the findings from the research shown in table 4.

Table 4. Correlations With ROE

		Size=Log (Assets)	Leverage ratio	Capital Adequacy	Debt Ratio	Growth in revenues (growth prospects)	Long-term debt to equity ratio	Dividend Pay-out	Dividend Yield
Leverage ratio	Pearson Correlation	-.326							
	P-Value	.001							
Capital Adequacy	Pearson Correlation	-.325	.468						
	P-Value	.001	.000						
Debt Ratio	Pearson Correlation	.010	.208	-.443					
	P-Value	.915	.029	.000					
Growth in revenues (growth prospects)	Pearson Correlation	.004	-.186	-.170	-.151				
	P-Value	.964	.052	.075	.114				
Long-term debt to equity ratio	Pearson Correlation	.010	.208	-.443	1.000	-.151			
	P-Value	.915	.029	.000	.000	.114			
Dividend Pay-out	Pearson Correlation	.274	-.062	-.099	-.054	-.081	-.054		
	P-Value	.004	.517	.302	.572	.400	.572		
Dividend Yield	Pearson Correlation	.483	-.060	-.055	-.146	.000	-.146	.237	
	P-Value	.000	.533	.569	.128	.998	.128	.013	
ROE	Pearson Correlation	.071	-.191	-.269	-.221	.248	-.221	.146	.074
	P-Value	.464	.045	.005	.020	.009	.020	.128	.444

Source: Owner's Construction Based on NSE Listed Bank Data

These were a multivariate analysis of correlation—the canonical correlation coefficients test for overall relationships between two sets of variables. The findings from the correlations were as

shown in table 4 below. The table shows the correlations using ROE as the dependent variable. The findings revealed that company size measured as a logarithm of the assets had a weak positive correlation with ROE (r=.071, with a corresponding P-value of .464 which is greater than the critical value of 0.05; we, therefore, fail to reject the null hypothesis and conclude that the weak positive association was not significant. The findings were contradictory to the study's findings, which was conducted by (Vintila & Nenu, 2015), which established a negative association between company size and listed companies' financial performance in the Romania stock market.

On the other hand, leverage had a significant negative correlation with ROE (r=-.191) with a P-value =.045). Findings revealed that the financial performance of a company increases as leverage decreases. Leverage involves using borrowed money to expand the operations of a company. The findings were similar to studies conducted by Burca & Batrinca (2014), Ilyukhin (2017), Jaafar et al. (2018), Elshaday, Kenenisa, & Mohammed (2018), who established that leverage was a significant contributor to the financial performance of listed companies. Contradictory research findings by Almajali, Alamro, & Al-Soub (2012) established a positive relationship between companies' leverage and financial performance.

Capital Adequacy has a significant negative relationship with the dependent variable at r=.269, and P-Value=.005). The findings were in tandem with researches conducted by Frederick (2016), who said that low levels of capital adequacy were desirable (Nuhiu et al. 2017) and (Haidary & Abbey, 2018). Capital adequacy gives assurance and comfort to investors and depositors: Nagaraju & Boateng, 2018 negative influence. Mempengaruhi, Bank, & Tielung, 2015 said that not important. Contradictory findings by Antoun, Coskun, & Georgievski, 2018) established that capital adequacy positively correlated with economic growth and bank concentration.

Debt Ratio had a significant negative influence on ROE with (r=-.221, P=.020); an increase in the debt ratio decreases the return on equity. The study, therefore, established an inverse association. None of the early researches in the literature review conducted a study to establish any level of association between this variable and financial performance. On the other hand, the study established a significant positive relationship between Growth in revenues or growth prospects and banks' financial performance supported by r=.248, and the P-value of 009 being a new ratio introduced in the study. No past research has focused on the company's growth prospects and its relationship with listed bank performance.

The study found an inverse relationship with bank financial performance (r=-.221, P=.020). Lastly, to determine the effect of market ratios on banks' financial performance, the study revealed that Dividend Pay-out and Dividend Yield had a positive relationship with the dependent variable with r=.146, P=.128 r=.074, P=.444, respectively. The association, however, was insignificant.

Table 5. Correlations with Net Profit

		Size=Log (Assets)	Leverage ratio	Capital Adequacy	Debt Ratio	Long-term debt to equity ratio	Dividend Pay-out	Dividend Yield
Leverage ratio	Pearson Correlation	-.326						
	P-Value	.001						
Capital Adequacy	Pearson Correlation	-.325	.468					
	P-Value	.001	.000					
Debt Ratio	Pearson Correlation	.010	.208	-.443				
	P-Value	.915	.029	.000				
Growth in revenues (growth prospects)	Pearson Correlation	.004	-.186	-.170	-.151			
	P-Value	.964	.052	.075	.114			
Long-term debt to equity ratio	Pearson Correlation	.010	.208	-.443	1.000			
	P-Value	.915	.029	.000	.000			
Dividend Pay-out	Pearson Correlation	.274	-.062	-.099	-.054	-.054		
	P-Value	.004	.517	.302	.572	.572		
Dividend Yield	Pearson Correlation	.483	-.060	-.055	-.146	-.146	.237	
	P-Value	.000	.533	.569	.128	.128	.013	
Net Profit	Pearson Correlation	.725	-.131	-.074	-.322	-.322	.301	.546
	P-Value	.000	.172	.445	.001	.001	.001	.000

Source: Owner's Construction Based on NSE Listed Bank Data

The second correlation used Net Profit as the dependent variable. Growth in revenues was omitted from the correlation analysis as that would amount to error since it has an element of profit in its computation. The variable was omitted from the computation to avoid double computation. Asset

and dividend yield have very-strong and significant positive correlations with net profit r=0.725 P-Value=0.000 for asset and r=0.546 P-Value=0000. A contradictory study by Javaid & Anwar (2011) found out that assets did not influence banks' profitability.

On the other hand, (Hoang et al. 2019) established a negative relationship between fixed assets and financial performance. Dividend Pay-out has a weak positive, but significant relationship with financial performance. Debt Ratio and Long-term debt to equity ratio has a significant inverse relationship with the bank's performance (r=-0.322 and p-Value=0.001) for the two variables—similar research findings established by (Ogachi et al. 2020b) to establish bankruptcy predictors. Leverage and capital adequacy have an insignificant negative correlation with the dependent variable.

4.4. Multiple Regression

Additional analysis conducted established the relationship's nature and predictor variables' contribution to the dependent variable. Multiple regression was, therefore, the best measure to establish this kind of relationship. The collinearity diagnostic was essential to establish if the regression model was affected by higher correlations among the variables. The findings are as presented.

Table 6. Collinearity Statistics Coefficients

Model	Tolerance	VIF
Size=Log(Assets)	.623	1.606
Leverage ratio	.536	1.864
Capital Adequacy	.427	2.344
Growth in revenues (growth prospects)	.886	1.128
Long-term debt to equity ratio	.523	1.914
Dividend Pay-out	.891	1.122
Dividend Yield	.714	1.401

Dependent Variable: ROE

Source: Owner’s Construction Based on NSE Listed Bank Data

All the VIF were below 10. The assumption of the model met. The study, therefore, concluded that the regression model was not affected by higher levels of multi-collinearity.

Table 7. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.512[a]	.262	.211	.0893554

Predictors: (Constant), Dividend Yield, Growth in revenues (growth prospects), Capital Adequacy, Dividend Pay-out, Leverage ratio, Size=Log(Assets), Long-term debt to equity ratio

Source: Owner's Construction Based on NSE Listed Bank Data

The R-value from the model summary in table 7 shows multiple correlation coefficients between the dependent and independent variable. It indicates the degree of correlation between the predictor and the dependent variables. A value of .512 indicates a lower degree positive of correlation. The R Squared indicates how much of the dependent variable's total variation can be explained by the independent variable. From table 7, 21.1% of the total variation explained by the independent variables. This value was too small; therefore, the regression model was not the best analytical tool for establishing relationships between the variables and a similar regression analysis was conducted using Net Profit as a dependent variable.

Table 8. ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.289	7	.041	5.171	.000[b]
	Residual	.814	102	.008		
	Total	1.103	109			

Dependent Variable: ROE

Predictors: (Constant), Dividend Yield, Growth in revenues (growth prospects), Capital Adequacy, Dividend Pay-out, Leverage ratio, Size=Log(Assets), Long-term debt to equity ratio

Source: Author's Construction Based on NSE Data, 2009-2018

The findings from the ANOVA table 8 shows how well the regression model fits the data. It reveals the relationship between the predictor and the dependent variables. The sig value of 0.000 is below 0.05. Therefore the regression model statistically and significantly predicts the dependent variable. It is a good fit for the data. The model, thus, predicts the dependent variable significantly very well.

Table 9. Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	.562	.352		1.598	.113
	Size=Log(Assets)	-.022	.031	-.076	-.706	.482
	Leverage ratio	.035	.023	.172	1.477	.143
	Capital Adequacy	-.357	.084	-.554	-4.254	.000
	Growth in revenues (growth prospects)	.063	.046	.122	1.347	.181
	Long-term debt to equity ratio	-.020	.005	-.478	-4.060	.000
	Dividend Pay-out	.033	.027	.108	1.197	.234
	Dividend Yield	-4.375-12	.000	-.005	-.051	.960

Dependent Variable: ROE
Source: Owner's Construction Based on NSE Listed Bank Data

Capital adequacy and Long-term Debt to Equity ratio have a significant inverse relationship with the dependent variable. Assets, too, had a negative relationship, although it was insignificant. On the other hand, Leverage Ratio, Growth in Revenues and dividend pay-out have an inverse relationship with the dependent variable; however, the relationship was not significant because all the corresponding P-Values were more outstanding than 0.05. The regression model from the analysis was as shown;

$$ROE = .562-.020X1-.022X2-.357X3+.063X4+.035X5+.033X7-4.375E-12X8+ \varepsilon_{it} .....3$$

Table 10. Excluded Variables

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance
1	Debt Ratio	.	.	.	.	.000

Dependent Variable: ROE

Predictors in the Model: (Constant), Dividend Yield, Growth in revenues (growth prospects), Capital Adequacy, Dividend Pay-out, Leverage ratio, Size=Log(Assets), Long-term debt to equity ratio

Source: Author's Construction Based on NSE Data, 2009-2018

The debt Ratio excluded from our model summary as it was not a good predictor of banks' financial performance. ROE was not a good measure for financial performance based on this regression analysis results. The study, therefore, conducted a further analysis using Net profit as a measure of financial performance.

4.5. Logistic Regression

The study introduced a dummy variable to measure bankrupt companies and those who were not bankrupt.

Block 0: Beginning BlockTable

Table 11. Classification Table

	Observed		Predicted ROE LOGISTIC		
			Bankrupt	Not Bankrupt	Percentage Correct
Step 0	ROELOGISTIC	Bankrupt	0	10	.0
		Not Bankrupt	0	100	100.0
	Overall Percentage				90.9

Source: Author's Construction Based on NSE Data, 2009-2018

Ten observations from the companies classified as being bankrupt while 100 observations as not bankrupt. Based on the findings from the classification table above. 90.9% of the companies were classified correctly as either being bankruptcy or not bankrupt.

Table 12. Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	2.303	.332	48.199	1	.000	10.000

Source: Owner's Construction Based on NSE Listed Bank Data

The Wald and sig in this table are significant values for testing whether the constant is zero or not. The Wald value of 48.199 and the p-value of 0.00 is smaller than the critical p-value of .05. Therefore, the study rejected the null hypothesis that the constant is equal to zero and concluded that the constant did not equal zero.

Table 13. Variables not in Equation

			Score	df	Sig.
Step 0	Variables	Size=Log(Assets)	8.467	1	.004
		Leverage ratio	7.539	1	.006
		Capital Adequacy	32.883	1	.000
		Debt Ratio	3.631	1	.057
		Growth in revenues (growth prospects)	12.353	1	.000
		Long-term debt to equity ratio	3.631	1	.057
		Dividend Payout	2.820	1	.093
		Dividend Yield	3.291	1	.070

Source: Owner's Construction Based on NSE Listed Bank Data

Block 1: Method = Enter

Table 14. Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	55.210	7	.000
	Block	55.210	7	.000
	Model	55.210	7	.000

Source: Owner's Construction Based on NSE Listed Bank Data

Table 14 shows the goodness of the model fit based on the chi-square test. This variable block contributes significantly to model fit shown by the sig value=.000, and the P-Value is less than .05. Therefore block 1 model is a significant improvement to the block 0 models.

Table 15. Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	11.810[a]	.395	.865

Source: Author's Construction Based on NSE Data, 2009-2018

From the findings, the Nagelkerke R Square value of 86.5% shows that the model is excellent and outstanding in explaining the relationship between the predictor and the dependent variable. From the Cox & Snell R Square, 39.5% of the probability of a company's financial performance explained by the logistic model.

Table 16. Classification Table

	Observed		Predicted		
			ROELOGISTIC		
			Bankrupt	Not Bankrupt	Percentage Correct
Step 1	ROELOGISTIC	Bankrupt	8	2	80.0
		Not Bankrupt	2	98	98.0
	Overall Percentage				96.4

Source: Owner's Construction Based on NSE Listed Bank Data

Table 16 shows the classification model's overall accuracy as 96.4%, not a wrong classification.

Table 17. Variables in the Equation

		B	S.E.	WALD	DF	SIG.	EXP(B)
Step 1	Size=Log(Assets)	.683	3.436	.040	1	.042	1.980
	Leverage ratio	-5.902	69.781	.007	1	.033	.003
	Capital Adequacy	-227.765	130.377	3.052	1	.001	.000
	Debt Ratio	-3.695	2.122	3.031	1	.082	.025
	Growth in revenues (growth prospects)	4.132	3.293	1.574	1	.000	62.272
	Dividend Payout	-7.043	8.855	.633	1	.526	1145.270
	Dividend Yield	6.080	.000	.286	1	.003	1.000
	Constant	55.555	74.739	.553	1	.457	13398.41333

Variable(s) entered on step 1: Size=Log(Assets), Leverage ratio, Capital Adequacy, Debt Ratio, Growth in revenues (growth prospects), Dividend Payout, Dividend Yield.

Source: Owner's Construction Based on NSE Listed Bank Data

Table 17 shows the logistics regression contributions of each variable to the dependent variable. Findings revealed that leverage ratio, Capital adequacy and Debt ratio have a significant inverse relationship with dependent variables. Dividend payment has a negative relationship with financial performance, through the relationship was not significant. So the effect could be due to chance. Therefore dividend payout is not an excellent variable to be used by investors intending to invest in banks while making investment decisions. Assets, growth in revenues and dividend yield have a significant positive relationship with banks' financial performance. Findings revealed that most of the banks that go bankrupt use more debt than equity financing

$$ROE = 55.55+6.83X2-227.765X3+4.132X4 -5.902X5-3.695X6-7.043X7+\varepsilon_{it} \ldots\ldots\ldots\ldots\ldots 4$$

4.6. Generalized Linear Models

This section highlights the relationship among variant generalised regression models and their effect on the dependent variable. The findings from the study presented;

Table 18. Case Processing Summary

	N	Per cent
Included	110	100.0%
Excluded	0	0.0%
Total	110	100.0%

Source: Owner's Construction Based on NSE Listed Bank Data

The Case Processing Summary simply tells us how many cases included in our analysis. From the findings, 110 cases included in the analysis representing 100%. There were no cases eliminated from the data.

Table 19. Goodness of Fit

	Value	df	Value/df
Deviance	67.020	109	.615
Scaled Deviance	67.020	109	
Pearson Chi-Square	110.000	109	1.009
Scaled Pearson Chi-Square	110.000	109	
Log Likelihood[b]	-33.510		
Akaike's Information Criterion (AIC)	69.020		
Finite Sample Corrected AIC (AICC)	69.057		
Bayesian Information Criterion (BIC)	71.720		
Consistent AIC (CAIC)	72.720		

Dependent Variable: ROELOGISTIC

Information criteria are in smaller-is-better form

The full log-likelihood function is displayed and used in computing information criteria.

Source: Author's Construction Based on NSE Data, 2009-2018

Table 20. Omnibus Test

Likelihood Ratio Chi-Square	df	Sig.
.000	.	.

Dependent Variable: ROELOGISTIC: Compares the fitted model against the thresholds-only model

Source: Author's Construction Based on NSE Data, 2009-2018

The omnibus test is a likelihood-ratio chi-square test of the current model versus the null (in this case, the intercept) model. The significance value of less than 0.05 indicates that the current model outperforms the null model. Therefore the findings suggest a new model explains more of the outcome's variance and improves the baseline model. So our new model is significantly better.

Table 21. Parameter Estimates

			95% Wald Confidence Interval		Hypothesis Test		
Parameter	B	Std. Error	Lower	Upper	Wald Chi-Square	df	Sig.
Threshold [ROELOGISTIC=Bankrupt]	-2.303	.3317	-2.953	-1.653	48.199	1	.000
(Scale)	1						

Dependent Variable: ROELOGISTIC

Source: Author's Construction Based on NSE Data, 2009-2018

Parameter estimates (also called coefficients) are the log odds ratio associated with a one-unit change of the predictor, all other predictors being held constant.

4.7. Auto-Regressive Moving Average (ARIMA) Model

ARIMA model was important in this study because it helped in modelling the time series data for our research. It was also crucial to provide a useful linear model of stationary time series data for our research. The findings from the analysis presented as shown;

4.7.1. Time Series Modeler

This section reveals the time series analysis based on past time-series data from the banks. The findings from the analysis shown,

Table 22. Model Description

			Model Type
Model ID	ROE	Model_1	ARIMA(0,0,0)
	Net Profit	Model_2	ARIMA(0,0,0)

Source: Owner's Construction Based on NSE Listed Bank Data

The ARIMA value of (0, 0, 0) is called a white noise model means that an ordinary regression moulded the model description. The model has a random equal intensity at variant frequencies, giving it a constant power spectral density.

4.7.2 Model Summary Chart

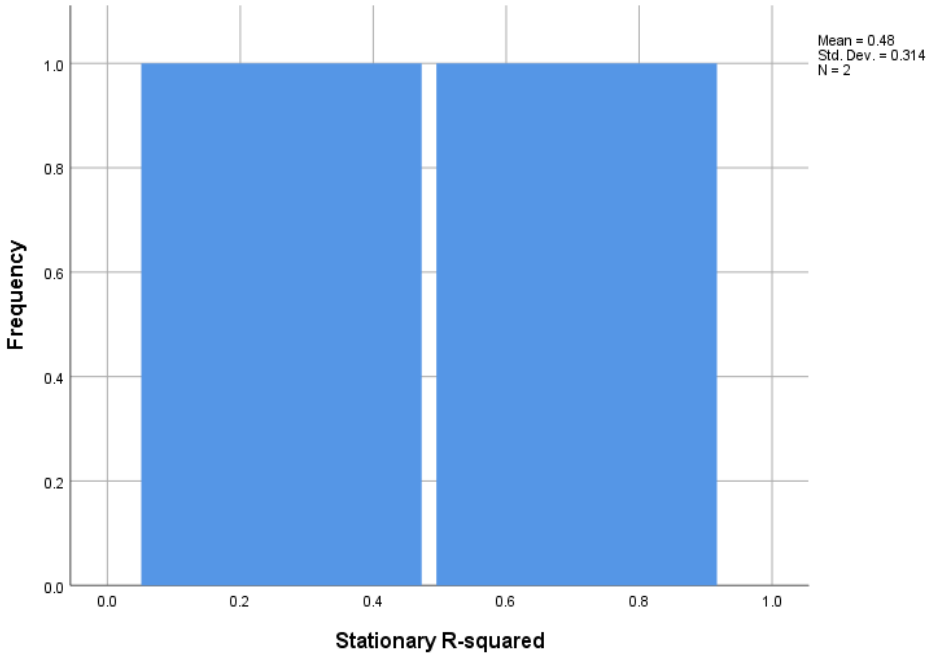

Figure 13. Stationary R-Squared Summary Chart

Source: Author's construction based on SPSS Version 25, 2021

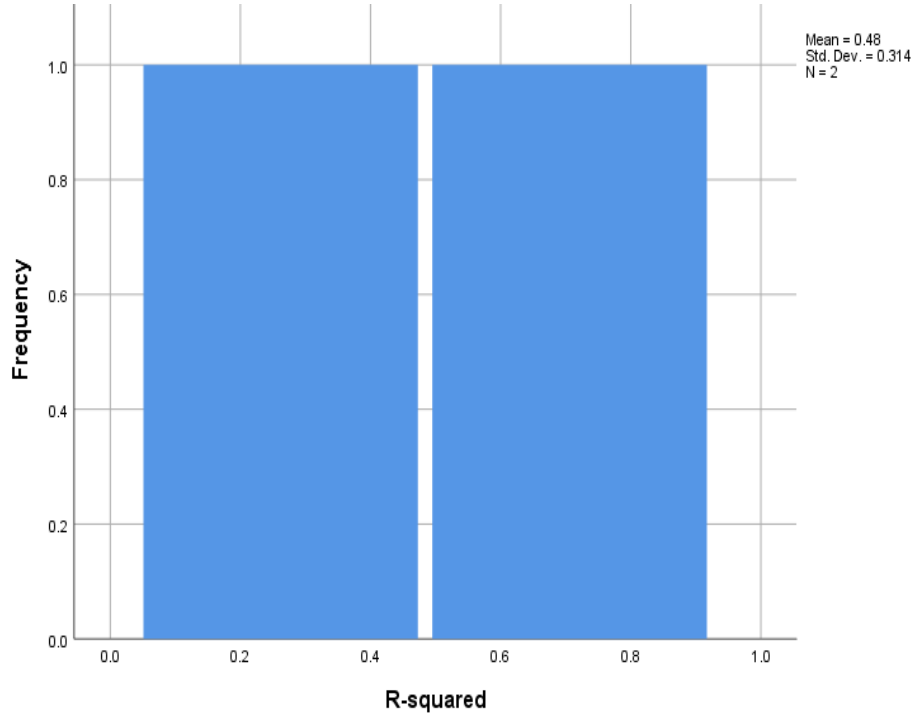

Figure 14. R-Squared Summary Chart

Source: Author's construction based on SPSS Version 25, 2021

4.7.3. Model Summary

The model summary presents findings for establishing predicting the accuracy of the forecasting model created by the study. Findings regarding the fitness of the model presented as shown in table 23;

Table 23. Model Fit

					Percentile						
Fit Statistic	**Mean**	**SE**	**Minimum**	**Maximum**	5	10	25	50	75	90	95
Stationary R-squared	.649	.248	.474	.824	.474	.474	.474	.649	.824	.824	.824
R-squared	.649	.248	.474	.824	.474	.474	.474	.649	.824	.824	.824
RMSE	.149	.104	.075	.223	.075	.075	.075	.149	.223	.223	.223
MAPE	34.380	46.515	1.488	67.271	1.488	1.488	1.488	34.380	67.271	67.271	67.271
MaxAPE	1207.491	1683.790	16.872	2398.111	16.872	16.872	16.872	1207.491	2398.111	2398.111	2398.111
MAE	.092	.064	.047	.137	.047	.047	.047	.092	.137	.137	.137
MaxAE	.910	.587	.495	1.325	.495	.495	.495	.910	1.325	1.325	1.325
Normalized BIC	-3.850	1.500	-4.910	-2.789	-4.910	-4.910	-4.910	-3.850	-2.789	-2.789	-2.789

Source: Owner's Construction Based on NSE Listed Bank Data

The Stationary R- Squared of +ve .849 means that the model under consideration is better than the baseline model. R squared shows the proportion of the total variation in the series that the model explains. The results showed that 84.9% of the dependent variable variance is accounted for by independent variables. The Root Mean Square Error (RMSE) of 14.9% measures how much ROE and NPM vary from its model-predicted level, expressed in the same units as the dependent series. Therefore, the model varies by 14.9%. Table 23, Mean Absolute Percentage Error (MAPE) as a measure of prediction accuracy of forecasting established as 34.38 while with a Maximum Absolute Percentage Error (MAXAPE) measure useful for imagining a worst-case scenario for your forecasts. In this case, findings established a value of 12.07, which is good forecasting based on (Lewis, 1962). On the other hand, the MAE is a measure of how much the series varies from its model-predicted level. In this case, a variance of 9.2%, which is not bad.

Table 24. Model Statistics

		Model Fit statistics	Ljung-Box Q(18)			
Model	**Number of Predictors**	**Stationary R-squared**	**Statistics**	**DF**	**Sig.**	**Number of Outliers**
ROE-Model_1	8	.262	51.982	18	.000	0
Net Profit-Model_2	8	.706	36.409	18	.006	0

Source: Author's construction based on SPSS Version 25, 2021

Net profit is the best estimator of financial performance since it contributes 70.6%. The higher the Model Statistics Stationary R-Squared, the better. P-Value of 0.06 is below 0.05 hence a significant modeller. ROE has a small value hence not a good predictor of financial performance in the study. The p-Value of 0.00 in ROE is also significant for the study. Both models are statistically significant with p-Values of .000 and .006. The summary captured in the residual volatility graph shown;

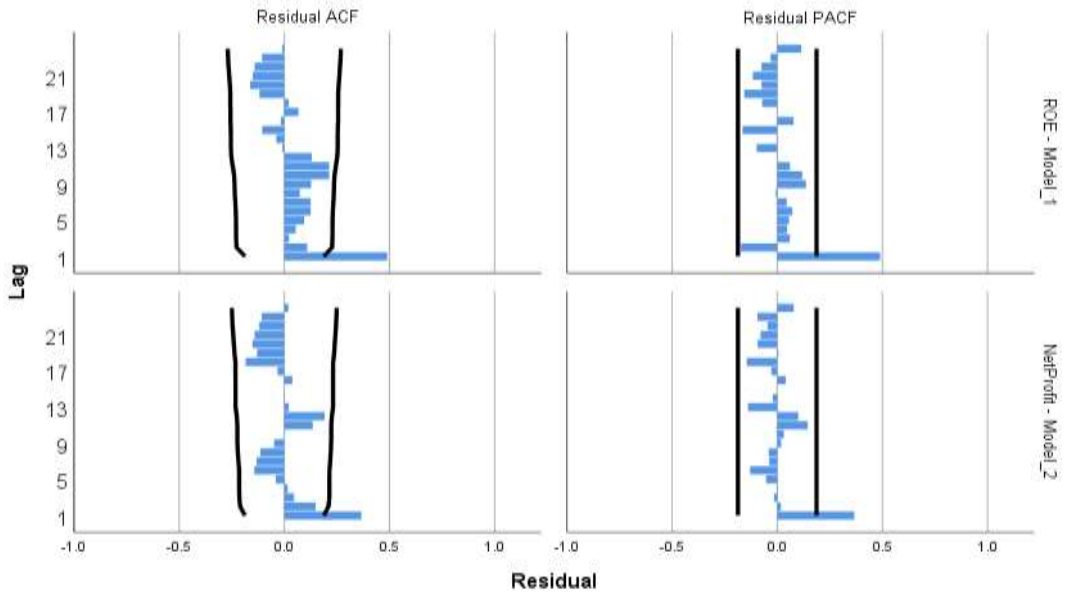

Figure 15. Residual of ACF and PACF

Source: Author's construction based on SPSS Version 25, 2021

The plots in figure 15 show the residual square of the first estimates. Results suggest that there is autocorrelation on the squares of the residuals.

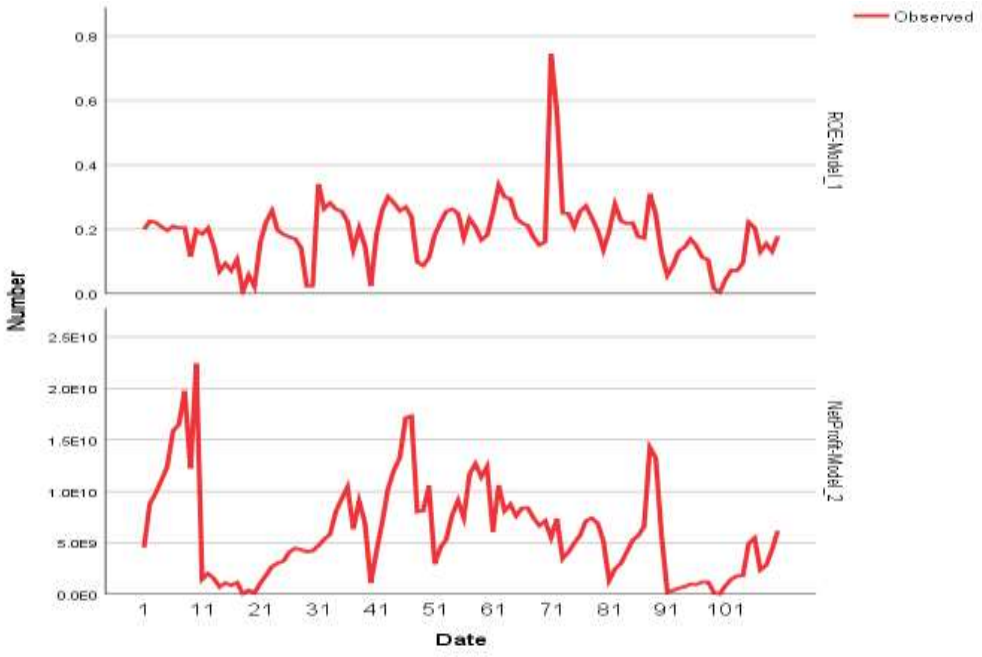

Figure 16. Observed ROE and Net Profit

Source: Owner's Construction using NSE Listed Bank Data

The plots in figure 16 show the volatility of the residual and the error term in time (t). The results show the non-constant conditional variance of errors. The Residual ACF and PACF attached as appendix 4 and 5, respectively.

4.8. Fixed Effect Regression Model

This section establishes the fixed and random effect on the regression model using the panel data for 2010 to 2019. Findings were as presented in table 25;

Table 25. Fixed Effect Regression Model Model Summary

Model	R	R Square	Adjusted R Square		Std. Error of the Estimate	Durbin-Watson
1	.760[a]	.578	.500		.0711656	1.208

Predictors: (Constant), Dividend Yield, Growth in revenues (growth prospects), Stanbic Bank, Leverage ratio, Stanchart, IM, Coop, Long-term debt to equity ratio, DTB, NIC, Absa Bank Kenyas, HF, Dividend Payout, Equity, Capital Adequacy, Size=Log(Assets), NBK

Dependent Variable: ROE

Source: Author's construction based on SPSS Version 25, 2021

Table 25 shows a strong positive correlation coefficient of 0.760 of the predictor variables on the dependent variables. According to the R-Square, 57.8% of the fixed-effect model's variance brought about by the dividend yield of banks, their growth prospects in terms of revenue, leverage ratio, Long-term debt to equity, dividend payout, capital adequacy and the size of the bank. A specific variable determined as being the key financial indicators in specific banks. For instance, dividend yield and bank growth prospects were critical financial performance indicators in Stanbic Bank. The leverage ratio was a critical financial indicator in I&M bank and the cooperative bank of Kenya. The findings revealed that the longterm debt to equity ratio was vital in determining the financial performance of DTB Bank, NIC Bank, Absa Bank Kenya and HF Bank. Dividend payout is a vital indicator at Equity Bank. Asset size is a significant performance indicator in the National Bank of Kenya. The close association between R-Square value and Adjusted R-Square shows a good fit for predicting the relationship. The Durbin Watson (DW) was used to measure the autocorrelation in the regression's statistical residuals. A value of 1.208 is between the required value of 0 and 4. Values

from 0 to less than 2 indicate positive autocorrelation. Therefore, the price of yesterday has a positive correlation with today's price. If there was a price fall yesterday, there is a likelihood that the price today will increase.

Table 26. ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.637	17	.037	7.404	.000[b]
	Residual	.466	92	.005		
	Total	1.103	109			

Dependent Variable: ROE

Predictors: (Constant), Dividend Yield, Growth in revenues (growth prospects), Stanbic, Leverage ratio, Stanchart, IM, Coop, Long-term debt to equity ratio, DTB, NIC, Absa Bank Kenyas, HF, Dividend Payout, Equity, Capital Adequacy, Size=Log(Assets), NBK

Source: Author's construction based on SPSS Version 25, 2021

The p-value of 0.000 in table 26 shows a significant difference between the predictor and dependent variables. The difference is not due to chance but is statistically significant.

Table 27. Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.263	.432		5.238	.000
NBK	-.178	.047	-.512	-3.782	.000
NIC	-.048	.020	-.276	-2.389	.019
Stanchart	-.008	.012	-.072	-.685	.495
Equity	-.005	.009	-.053	-.535	.594
Coop	-.003	.007	-.041	-.434	.666
Absa Bank Kenyas	-.001	.006	-.025	-.255	.799
IM	.004	.006	.088	.789	.432
DTB	-.004	.005	-.087	-.788	.433
HF	-.027	.006	-.708	-4.887	.000
Stanbic	-.012	.004	-.349	-3.289	.001
Size=Log(Assets)	-.175	.038	-.605	-4.619	.000
Leverage ratio	.008	.020	.042	.424	.673
Capital Adequacy	-.234	.071	-.364	-3.302	.001
Growth in revenues	.049	.039	.095	1.252	.214
Long-term debt to equity ratio	-.006	.005	-.156	-1.367	.175
Dividend Pay-out	.032	.028	.106	1.166	.247
Dividend Yield	-0.12	.000	.009	.092	.927

Dependent Variable: ROE

Source: Author’s construction based on SPSS Version 25, 2021

The findings in Table 27 show the contribution of individual banks to the decline in the banking sector. National Bank of Kenya, NIC Stanbic Bank and HF Bank has significant coefficients in the banking sector. The negative sign shows the inverse contribution of the corresponding P-Value 0.000, 0.019, 0.000 and 0.001 to the regression model. The company's size and capital adequacy have significant inverse relationships with the banks' financial performance. The relationship between the other predictor variables was not significant.

Table 28. Information Criteria

-2 Restricted Log-Likelihood	-225.264
Akaike's Information Criterion (AIC)	-205.264
Hurvich and Tsai's Criterion (AICC)	-203.020
Bozdogan's Criterion (CAIC)	-168.351
Schwarz's Bayesian Criterion (BIC)	-178.351

Dependent Variable: ROE.

Source: Author's construction based on SPSS Version 25, 2021

The -2 Restricted Log Likelihood is used here as the most basic measure for model selection while the other measure Akaike's Information Criterion (AIC), Hurvich and Tsai's Criterion (AICC), Bozdogan's Criterion (CAIC) and Schwarz's Bayeare modifications of San Criterion (BIC) the Log-Likelihood which penalises models which are so complex to be understood. An Akaike's Information Criterion (AIC) of -205.264 as the estimator of prediction error was preferred; therefore, the relative quality of statistical models for establishing the above relationship. Using the BIC as a measure for selecting and comparing models based on the smaller values of -178.351 indicates that the above analysis models are better and can be relied upon in making inferences. The AICC is the correction for the AIC when the sample size is small. Findings from Table 28 show a value AICC (-203.020<-205.264) of AIC; therefore, it provides better model selection than the AIC. Conclusively from the results, all the above numbers are too small; therefore, the model derived from the fixed effect regression model is a good estimator of the relationship between the predictor and dependent variable. Smaller values indicate better models than one with higher values, so these measures show that the model with repeated effects fits the data considerably better than the model without the repeated effects. Thus, the added complexity of modelling the covariance structure has paid off.

Table 29. Type III Tests of Fixed Effects

Source	Numerator df	Denominator df	F	Sig.
Intercept	1	73.025	753.783	.000

Dependent Variable: ROE.

Source: Author's construction based on SPSS Version 25, 2021

The p-value of 0.000 is less than 0.05. The small significance value, therefore, indicates that the fixed effect contributes to the model.

Table 30. Estimates of Covariance Parameters

Parameter		Estimate	Std. Error	Sig.
Repeated Measures	Var: [Year=2009]	.033999	.014512	.000
	Var: [Year=2010]	.019053	.008178	.006
	Var: [Year=2011]	.006094	.002649	.000
	Var: [Year=2012]	.005490	.002358	.001
	Var: [Year=2013]	.002432	.001077	.089
	Var: [Year=2014]	.002730	.001167	.009
	Var: [Year=2015]	.002970	.001278	.240
	Var: [Year=2016]	.006477	.002787	.007
	Var: [Year=2017]	.009423	.004164	.000
	Var: [Year=2018]	.012154	.005355	.954

Dependent Variable: ROE.

Source: Author's construction based on SPSS Version 25, 2021

Table 30 shows the interbank variance distribution between 2009 to 2018; the variance estimate for the intercept of the random effect with ROE used as a performance indicator in the banking industry. ROE, together with NPM, are used as financial performance indicators. The estimate values are relatively small, suggesting that the predictor variable can explain the variability in ROE/NPM not explained by the fixed effects. The standard error is insignificant concerning the actual size of this effect or relationship established in the model. From the sig-values above, 2013, 2015 & 2018 were not significant. The variances in the year 2009-2012, 2014 & 2017 were statistically significant.

Table 31. Random Effect GLS regression (ROE)

Random-Effects GLS Regression				Number of obs = **110**		
Group Variable: **Year**				Number of Groups = **10**		
R-sq:				Obs per group:		
Within = **0.1483**				Min = **11**		
Between = **0.8256**				Avg = **11.0**		
Overall = **0.2619**				Max = **11**		
				Wald chi2(6) = **.000**		
corr(u_i, X) = **0** (assumed)				Prob > chi2 = **.000**		
ROE	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
SizeLogAssets	-.0219889	.0311326	-.071	0.480	-.0830077	0.390299
Leverageratio	.0346408	.0234491	1.48	0.140	-.0113186	0.0806002
CapitalAdequacy	-3565589	.0838137	-4.25	0.000	-.5208308	-.192287
DebtRatio	-.0197542	.0048659	-4.06	0.000	-.0292912	-.0102171
Growthinrevenues	.0625967	.046458	1.35	0.178	-.0284594	.1536528
Longtermdebttoequityratio	0	(omitted)				
DividendPayout	.032747	.0273575	1.20	0.231	-.0208727	.0863666
DividendYield	-4.38e-12	8.63e-11	-0.05	0.960	-1.73e-10	1.65e-10
_cons	.5619757	.3517043	1.60	0.110	-.1273521	1.251304
sigma_u	0					
sigma_e	.08849106					
rho	0	(fraction of variance due to u_i)				

Source: Author's construction based on SPSS Version 25, 2021

The Prob > chi2 of 0.000 leads to the rejection of the null hypothesis and therefore concluding heteroscedasticity. The Wald chi of 0.000 was below 0.05, an F-test statistic showing that the model was okay and that all the coefficients were different from zero. A prob value of less than 0.05 from the table; therefore, the relationship is significant, and therefore, a fixed-effect model useful. The findings established that capital adequacy and debt to equity ratio with corresponding p-values of .000 significantly influenced the dependent variable (ROE). Company size (Assets), Leverage ratio,

company growth prospects, dividend payout, and dividend yield influence ROE though the relationship was not significant while Long-term debt to equity omitted from the model.

4.9. Dupont Model

DuPont analysis is fundamental to decompose the different drivers of ROE. This allowed investors to focus on key financial performance metrics individually to identify bank strengths and weaknesses. Three primary financial metrics used in determining their influence with ROE included operating efficiency represented by net profit margin or net income divided by total revenue, asset use efficiency measured by asset turnover ratio & financial leverage measured by the equity multiplier.

Dupont Analysis = Net Profit Margin x AT x EM

Where,

Net Profit Margin=Revenue/Net Income

Asset turnover (AT) = Average Total Assets/Revenue

Equity multiplier (EM) = Average Shareholders' Equity/ Average Total Assets

Table 32. DuPont Correlation Analysis

	ROE	NPM	TAT	EM	DER
ROE	1				
NPM	.889**	1			
TAT	-.131	-.214*	1		
EM	-.120	-.226*	-.440**	1	.901**
DER	-.221*	-.278**	-.257**	.901**	1

ROE=Return on Equity, NPM=Net Profit Margin, TAT=Total Asset Turnover, EM=Equity Multiplier and DER=Debt Equity Ratio

Source: Author's construction based on SPSS Version 25, 2021

Equity Multiplier had a perfect positive correlation with Debt Equity Ration (DER). Increasing the DER increases the EM. The higher the DER, the higher the bank risk indicator. Financing bank

operations through debt, therefore, increases risk in the banking industry. ROE, NPM and TAT have an inverse relationship with EM. Increasing ROE, NPM and TAT decrease EM.

Table 33. DuPont Analysis Metrics

Name of Company	ROE	NPM	L	AT	EM	DA
Kenya Commercial Bank	19.82	22.88287	94.17897	14.47373	6.20281	31192.12
National Bank of Kenya	9.63	9.77136	88.52198	13.02533	9.70750	11266.65
NIC Bank	15.59	21.92078	69.97009	12.13298	5.59917	18609.55
Standard Chartered Bank	21.44	28.74172	83.64778	10.87266	7.32353	26139.84
Equity Bank	20.92	23.56073	45.31052	15.98034	5.52214	17059.79
Co-operative Bank	21.35	23.14019	84.86493	13.94490	6.62879	27384.86
Absa Bank Kenya	21.77	21.04964	75.31847	15.19894	5.53377	24096.8
I&M Holdings Bank	32.79	47.75854	91.11532	13.40155	6.51161	58317.31
Diamond Trust Bank	21.69	35.64333	82.95031	8.28980	7.49495	24509.83
Housing Finance Bank	9.80	12.35705	137.28472	22.24568	5.84280	37738.33
Stanbic Holdings	13.07	17.20427	84.72134	9.74197	7.82614	14199.59

Return on Equity (ROE), Net Profit Margin (NPM), Leverage (L), Asset Turnover (AT) and Equity multiplier (EM)

Source: Author's construction based on SPSS Version 25, 2021

Table 33 shows that Absa Bank Kenya, Diamond Trust Bank, Standard Chartered Bank and Co-operative Bank have a higher ROE ratio than other banks, which shows the amount of after-tax net income generated concerning total shareholder equity. National Bank and Housing Finance generate the lowest return from stocks, while Housing Finance, Kenya Commercial Bank, I&M Holdings Bank and National Bank of Kenya are among the most significant four banks with a higher leverage ratio. Equity Bank, NIC Bank and Absa Bank are the lowest consumers of leverage. Housing Finance Bank, Equity Bank, Absa Bank Kenya and Kenya Commercial Bank efficiently use their assets to generate income. Banks with higher NPM tend to have a low asset turnover, evident in I&M Holdings Bank and DTB Bank.

National Bank of Kenya Stanbic Holdings Diamond Trust Bank and standard chartered bank have high equity multiplies, indicating that they use a higher debt to finance their assets. Equity Bank, Absa Bank and NIC Bank had lower EM values, indicating that they are less reliant on debt financing. The equity multiplier reveals how much of the total assets are financed by shareholders' equity.

4.10. New Scientific Results

1) Based on the different analytical methods, the asset value has a conflicting financial performance relationship. Hence, it recommended that assets be relied entirely upon in making investment decisions in the banking industry. Some established significant positive, while others established significant negative. There need, therefore, for investors to consider other ratios when making investment decisions.

2) Leverage has a significant inverse relationship with the financial performance of companies. Therefore, better-performing companies should have a decreasing level of leverage. Leverage entails using borrowed funds to expand the operations of the company. Therefore, this research concluded that the debt ratio was a significant variable for making listed banks' investment decisions. Ideally, companies with a lower ratio are preferable by investors. These are true also in this study. Therefore, best performing banks must reduce the debt ratio as it shows the value proposition financed by assets. Over time scholars have recommended equity financing rather than debt. Therefore, promoting the notion of using equity since debt must be refunded to the owners as an interest. It is, therefore, advisable to invest in banks that have reduced levels of debt funding. The lower the leverage, the better for a shareholder or investor.

3) Capital adequacy has a negative relationship with the financial performance of banks. There exist an inverse relationship. However, the inverse relationship was not significant. Banks, which have lower capital adequacy in their reserves, are better than those with higher amounts. Therefore, investors should invest in companies with a declining capital adequacy trend: the lower, the better investors.

4) Growth in revenues is a good measure of financial performance when regressed against the ROE. When using Growth in revenue as a performance indicator, it must be compared with

ROE to decide. Best performing banks have higher and increasing levels of growth in Revenues.

5) Findings from the different analytics, i.e. correlation regression and ARIMA, established that Dividend payment has an insignificant both inverse and positive relationship with bank performance. The dividend payment is not a good predictor of financial performance. Therefore, payment of dividend used as a basis for investing in bank stocks. Therefore, the findings from this research support Miller and Modigliani Theory, which attaches the insignificant contribution of dividend payment to companies' performance.

6) As a measure of how much a company pays out in dividends each year relative to its stock price, the Dividend Yield has a positive relationship with listed banks' financial performance. In summary, based on the ratios, the study concluded that Leverage, Capital adequacy, Debt ratio, and long-term debt to equity growth in revenues were the best determinant ratios of financial performance in listed banks in Nairobi.

5. CONCLUSION AND RECOMMENDATION

The banking industry's rapid changes have continuously caught growing attention among the banking sector's various stakeholders. Among the concerned party include the managers, the government, shareholders, competitors, the customers and the general public. Scholars are also not left out. Therefore, information concerning the financial performance or soundness of banks is crucial to the various actors. These form a strong basis for the need for the research to establish financial performance indicators using ratios. Therefore, this study's main objective was to establish determinants of banks' financial performance using ratio analysis. The study period was from 2009 to 2018, 10 years.

The Predictor variables of concern in this study included the Long-term Debt to Equity, company size using assets, capital adequacy, Growth in Revenues, Leverage Ratio, Debt Ratio, Dividend payout and the dividend yield. The variables were used as representative ratios to give a clear picture of their association's level in measuring banks' financial performance. Better financial performance is contingent on the profitability of the banks. It is the profitability factor among social and environmental considerations that make the bank sustainable to operate in the long term, serving the public, shareholders, government, and economy of the country and all stakeholders.

Banks play an indispensable role in the allocation of financial resources within a country. They act as a channel for the movement of funds from depositors to investors. However, they need to generate enough income to cover their operational costs for effective functioning, which means that banks need to be profitable for sustainable intermediation function. Moreover, the financial performance of banks has critical implications on the economic growth of countries. The study used correlation, Logistic regression and the time series ARIMA models to establish relationships between the predictor and the dependent variable.

5.1. Recommendations

Company size in terms of assets should never be considered a sole measure of banks' financial performance. For any investor seeking to invest in best-performing companies, there is a need to consider collecting other ratios and other external factors in making investment decisions.

1) The study recommends alternative sources of financing company operations apart from leverage. Therefore banks should try as much as possible to avoid leverage as their primary source of financing their business operations. Debt finance has a financial implication on the performance of banks as the banks must pay it back. Permanent sources of financing should be preferable to shorter modes.
2) The debt ratio has a significant negative relationship with financial performance. The study, therefore, concluded that debt ratio was a significant variable for making investment decisions on listed banks. Ideally, companies with a lower ratio are preferable by investors. These are true also in this study. Therefore, best performing banks must reduce the debt ratio as it shows the value proposition financed by assets.
3) There is a need for banks to work hard towards increasing revenue growth found to be a strong determinant of financial performance. Best performing banks have higher and increasing levels of growth in Revenues.
4) This research established that Dividend payment has an insignificant both inverse and positive relationship with bank performance. The dividend payment is not a good predictor of financial performance. Therefore, payment of dividend should not constitute a basis for investing in bank stocks. Therefore, this study's findings support the Miller and Modigliani Theory, which attaches the dividend's insignificant contribution to companies' performance.
5) With increased competition from banks, there is a need for the management of banks to be efficient in dispensing banking operations. They need to be dynamic, especially in the ever-changing business environment.
6) Investors in the banking industry should not use dividend payment to make investment decisions which may be misleading as not all banks paying dividends are doing well financially. Some banks are struggling with their finances. They declare dividends just to build up investor confidence.
7) The derivatives markets in the NSE has not been fully functional. Currently, the NSE has two traded derivatives, the Equity Index Futures and Single Stock Futures. There is a need to broaden the securities and exchange market by introducing other derivatives like options and swaps. Many companies and individuals have little information about their existence and way of operation. Therefore banks need to adopt the derivatives markets in order to increase the scope of their business. The study further recommends that the CMA involve commercial banks more

in the ongoing rollout of the derivatives markets as this will offer them a channel for managing their financial risks.

8) Based on this study's findings, the Central Bank of Kenya should enhance the commercial banks' managerial capacity by conducting seminars and workshops on the emerging financial risks management practices that can enhance the bank's profitability.
9) Listed banks should design more robust credit analysis policies and loan administration. These will allow the commercial banks to expand their lending activities to individuals and small businesses, overcoming the challenges experienced due to the interest rate caps. Furthermore, commercial banks should strengthen their loan monitoring practices and integrate digital applications in recovery processes. A further recommendation is for commercial banks to put in place measures for identifying and monitoring liquidity risks. The banks need to adopt a system that comprehensively monitors cash flows to ensure that the liquidity gap breached.
10) With increased competition, the need to be efficient in banking operation requires a continuous update of knowledge worldwide from the findings and the conclusions of this study. The following recommendations (Managerial and Policy-Based) presented to improve listed banks' risk management and financial performance at the NSE.
11) There is a need for the NSE and CMA to increase the Kenyan financial markets' integration with international markets that are doing well. These will help in making it competitive in the global market. There is also a need to broaden and deepen Kenyan financial markets to offer alternative investment options attractive to shareholders.
12) NSE should also work towards availing more and helpful sophisticated risk management tools and strategies to help businesses and banks to manage and mitigate risks.
13) There is a need to increase awareness on the financial derivatives market for investors to cushion them from increased volatility in asset prices in local and international financial markets;

5.2. Research Limitations for Future Research

This study used a dataset of banks for the years 2009 to 2018. The dataset could be, in future researches, be expanded backwards in order to capture more significant events of the past. There is a need to conduct a trend analysis for 20 years involving all listed companies. These will give a summary of the financial performance indicators of all listed companies in Nairobi. These are because the findings of this study only used by investors only interested in investing in banks'

stocks. The ratio determinants of financial performance may not be appropriate for other companies in different sectors. Many companies left out, especially non-listed financial institutions, which are also crucial economic development drivers. There is a need to include other non-listed companies in the study to evaluate if the ratios can also be applicable for making investment decisions.

Integrated reporting makes an entity more aware of its value drivers, and value maximization involves the interests of shareholders in financial terms and other stakeholders' interests. Therefore, future studies built on the current study by including non-financial performance measures and in an attempt to establish the extent to which the introduction of integrated reporting has helped the banks to consider value creation broadly and to the benefit of all stakeholders, not only shareholders.

There was a limitation on the number of independent variables used in this study, as only eight considered. Future researchers should use more independent variables and dependent variables to contribute or develop a broader literature scope in this field of study.

Earning management and corporate social responsibility are essential off the balance sheet variables key in studying financial performance in the banking industry. There is a need to establish statistics, especially on CSR costs, to establish a general influence on financial performance.

The study's primary purpose was to explore the relationship between loan default rate, interest income level, and forex traction volume on commercial banks' growth listed in Nairobi securities exchange, Kenya. It is essential to appreciate the study limitations. First, we cannot attribute commercial bank growth to the three studied variables (loan default rate, interest income level and forex traction volume) since other factors contribute to commercial bank growth. Secondly, the study utilized a smaller sample size and therefore, future research to consider using different sectors and larger samples may provide additional insights and add to the understanding of issues explored in this study. Finally, the study focused on a single industry; although this is one way of controlling for industry effects, the results may not represent other sectors, so we need to interpret the results with caution. Finally, it may also be fascinating to examine the establish the antecedents of interest rate volatility and the effect of interest rate volatility on commercial banks' growth to establish the indirect effect on commercial banks' performance.

The study suggested that further studies increase the span of the observation period after 2018 to see whether ROA and nonperforming loans are not affected by the decline in the value of the rupiah or

not. The negative effect of LDR on the probability of bankruptcy of a bank shows that banks' function in lending has not gone well, so that an idle fund occurs that can affect bank bankruptcy. Management can plan the marketing of bank service products and place idle funds in productive assets other than credit. To maintain liquidity to prevent banks from bankruptcy,

Further research should extend the research period and consider factors other than financial ratios, such as size, compliance aspects such as percentage violations of the Lending Limit, percentage exceeding the Maximum Lending Limit and Minimum Statutory Reserves. Listed banks should work hand in hand with the Central Bank is establishing the best ways of attracting foreign investors in the banking industry by designing attractive packages for investors.

5.3. COVID-19 and Financial Performance

The emergent Corvid-19, a global pandemic, has led to many effects in the way banks and other businesses dispense their services. In the banking industry, corvid-19 has the following impact. Firstly is the unrelenting revenue diversification. In following the guidelines established by the Central Bank of Kenya to cushion the citizens of Kenya from the effects of the COVID-19 pandemic, banks' non-interest income is likely to fall. Some measures, such as waiving all charges for the analysis of the balance through digital platforms, will allow banks to record lower revenues from the fees they charge. Banks have recorded a decline in profits since the waiving of all mobile transaction charges.

Corvid-19 has also led to depressed interest income. There has been a significant amount of restructuring and reclassification of loans in H1'2020, which resulted in lower interest income as a leading source of revenue for the bank. Loan interest payments have relaxed, along with the borrower's preference for long-term extensions on loan holidays, which reduces the bank's interest income.

Lastly, banks are also not lending aggressively as a result of higher credit risk. We predict slower growth in loans in the next quarter and then, if the pandemic continues, with banks turning to less risky investments such as government securities rising 25.9 per cent faster than the 14.5 per cent increase in loans H1'2020.

6. SUMMARY

The Kenyan stock market faces multiple challenges ranging from lack of knowledge, low-level capital market liquidity, low investor confidence, a low local competition to high vulnerability to shocks. In general, the sector is overwhelmed with inadequate information and awareness about the typical operations, functions, and roles of a stock exchange and CMA to the potential business entities and investors. The majority of Kenyans have little know-how about the NSE and CMA roles, and the market has not made significant efforts to market itself to reach potential investors or offer a variety of products that would attract different companies. These downsides attributed to financial and human limitations. Lack of awareness to the public presents a significant barrier to corporate and investor participation in the market.

The Kenyan stock market is highly vulnerable to market shocks, mainly because the techniques for determining share prices may cause a small-batch deal to affect the market capitalization severely. The people and enterprises exhibit little confidence in stock markets' performance and feel that corporate governance is low quality since there are no publicly available corporate governance reports from both the NSE and brokers. Consequently, there are only a few players in the market, and any efforts directed towards market innovation are never appropriately cultivated and end up creating other challenges like market inflexibility and limited access to capital. While other markets worldwide are continually developing new products like derivatives, securities and availing options for funding and risk management, the Kenyan market has been significantly slow to do the same, leaving companies to rely on short-term money markets.

Low-level capital market liquidity is also a significant challenge plaguing the Kenyan stock market. Despite being the most liquid and active market relative to other East African markets in the sub-Saharan Africa region, the NSE is significantly less liquid with unpredictable prices and returns when viewed through the lenses of international standards. Low liquidity is most profound in secondary bonds as well as equity markets. Additionally, high incidents of “buy and hold” have been recorded among the dominant institutional investors.

The NSE has very few listings, and this is even more evident in recent years. For the past fifteen years, the NSE has had only traded stocks from 55 quoted companies. Currently, the NSE has listed only sixty companies despite there being hundreds of companies in Kenya. Limited listings

negatively affect the supply of new equities and lead to the restricted use of the equity market as a financing source. With a history of failure to attract new equity, the NSE's biggest challenge is to increase the listings of medium-sized and large family businesses and state-owned companies in Kenya.

The general factors that limit share supply include the reluctance of the family business owners to dilute ownership, the costly and cumbersome process of making public offers and the tendency of eligible companies to feel that the risks associated with additional disclosure are never appropriately compensated through returns. High real short-term interest rates have surged the market, significantly reducing the demand for capital market tools and significantly overwhelmed domestic savings leaving behind short-term government securities. The effect was pronounced in 2001 when the treasury rate bill was at 12.6% and the inflation rate at 0.8%. The situation reversed, leading to a rise in demand for both equity and debt instruments. The NSE reports that the interest spreads are high with a current value of 13% with low deposit rates and high lending, a trend that has discouraged domestic savings and investment. Domestic savings valued at 10% of the GDP and insufficient to satisfy investment needs and generate significant demand for debt and equity instruments. The summary of this study was summarized as shown;

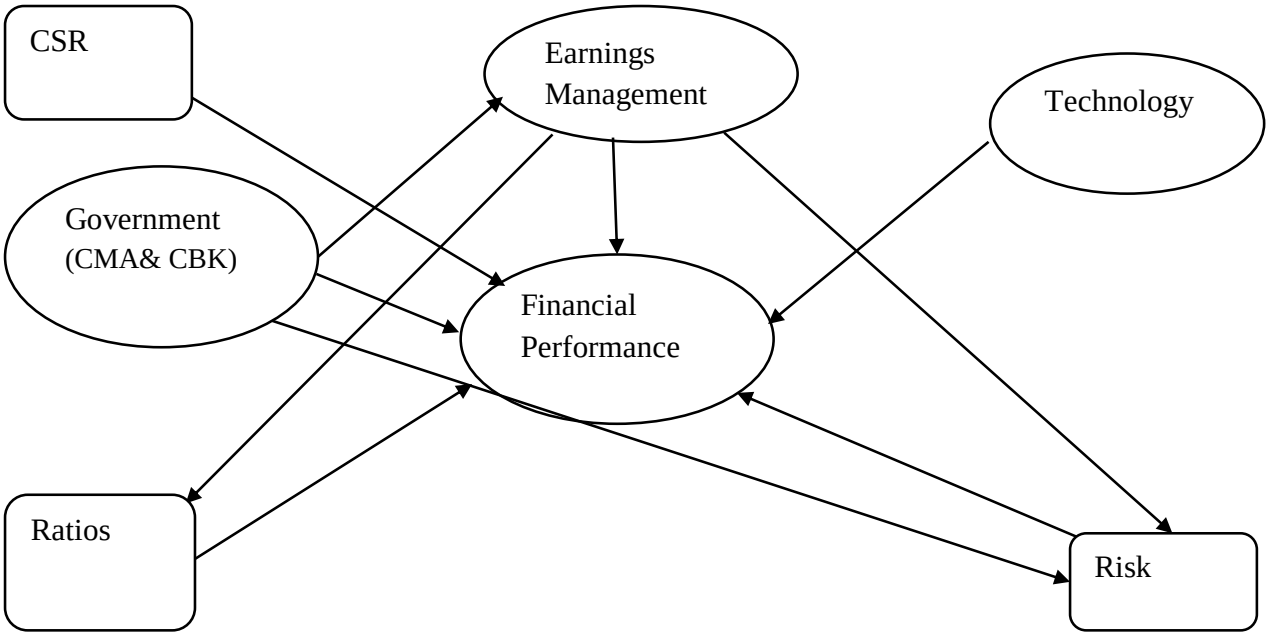

Figure 17. Study Summary

Source: Author Construction 2021

The figure shows a summary of all the factors that affect the financial performance of banks. Earnings management regulates the information displayed in the financial statements. It considers that the financial reports' information represents the fair value of the company's financial position. Earning management ensures that the company does not overstate or understate its financial position to deceive the shareholders and other potential investors. With the ever-changing global trends in technology and the internet, those companies or banks that successfully adopt new technology tend to have a competitive edge over applying traditional banking methods.

Through the CMA and the CBK, the Kenyan government plays an essential role in regulating banks and the securities markets. The CMA regulates listed companies and lays down procedures and requirements for a listed company in the stock exchange market. Similarly, CBK plays a role in overseeing and regulating business operations in the banking industry. In general, it deals with the regulations of the financial institutions in the country.

The other variable of concern in banks' financial performance is CSR's role in promoting banks' financial performance. Most companies, both listed and non-listed, engage in charitable activities to the community, which increase the community perception towards these specific companies. Companies with successful CSR activities creates confidence in the general public. As a result, they may attract or retain existing customers.

Lastly, banks operate in an environment full of risks. Both internal and external risks. Therefore banks that successfully develop a risk management plan can cushion themselves against any market shocks that may affect their operations.

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Appendix 1. Secondary Data Collection Guide

1. Name of the Bank
2. Annual Dividend
3. Total Market capitalisation
4. Total Assets (firm size)
5. Tobin's Q
6. Shareholders' equity
7. Total Debt
8. Dividend Per Share
9. Earnings Per Share
10. Total revenue
11. Size=Log(Assets)
12. Leverage ratio
13. Capital Adequacy
14. Debt Ratio
15. Growth in revenues (growth prospects)
16. Long-term debt to equity ratio
17. Dividend Pay-out
18. Dividend Yield
19. ROE
20. Net Profit

Appendix 2. Ratios Computations

Table 34. Ratios

Profitability ratios	
Net profit margin	Gross profit/Sales
EBITDA margin	EBITDA/Sales
EBIT margin	EBIT/Sales
Net profit margin	Net income/Sales
ROE	Net income/Equity
ROA	Net income/Total assets
Liquidity ratios	
Current liquidity ratio	Current assets/Current liabilities
Quick liquidity ratio	(Current assets–inventory)/Current liabilities
Absolute liquidity ratio (cash ratio)	Cash and cash equivalents/Current liabilities (immediately chargeable)
Activity ratios	
Receivable turnover rate	Sales/Receivable
Inventory turnover rate	Cost of goods sold/Inventory
Net-working capital turnover rate	Sales/ (Current assets–current liabilities)
Asset turnover rate	Sales/Total assets
Equity turnover rate	Sales/Equity
Fixed asset turnover rate	Sales/Fixed assets
Current assets turnover rate	Sales/Current assets
Debtors Turnover Ratio	Net Credit Sales/Average Accounts Receivable
Creditors Velocity	Total Purchases/Total Trade Creditors
Progress Ratios	
Assets growth rate	(Total assets–Total assets−1)/Total assets−1
Net profit growth rate	(Net income–Net income−1)/Net income−1
Sales growth rate	(Sales–Sales−1)/Sales−1
Asset structure ratios	
Share of current assets to total assets	Current assets/Total assets
Share of inventories to current assets	Inventory/Current assets
Share of cash and cash equivalents to current assets	Cash and cash equivalents/Current assets
Share of fixed assets to total assets	Fixed asset/Total assets
Debt coverage ratio	
Current liabilities ratio	Current liabilities/Total liabilities
Interest coverage ratio	EBIT/Interest
Debt ratio	Total liabilities/Equity
Leverage	Total liabilities/Total assets

Data Source: https://live.mystocks.co.ke/price_list/20121231

Appendix 3. Residual ACF Summary

Table 35. Residual ACF Summary

					Percentile						
Lag	Mean	SE	Minimum	Maximum	5	10	25	50	75	90	95
Lag 1	.428	.087	.367	.489	.367	.367	.367	.428	.489	.489	.489
Lag 2	.129	.029	.108	.149	.108	.108	.108	.129	.149	.149	.149
Lag 3	.035	.017	.022	.047	.022	.022	.022	.035	.047	.047	.047
Lag 4	.035	.027	.016	.054	.016	.016	.016	.035	.054	.054	.054
Lag 5	.027	.095	-.041	.094	-.041	-.041	-.041	.027	.094	.094	.094
Lag 6	-.009	.190	-.143	.125	-.143	-.143	-.143	-.009	.125	.125	.125
Lag 7	-.003	.182	-.132	.125	-.132	-.132	-.132	-.003	.125	.125	.125
Lag 8	-.020	.133	-.114	.074	-.114	-.114	-.114	-.020	.074	.074	.074
Lag 9	.040	.125	-.049	.128	-.049	-.049	-.049	.040	.128	.128	.128
Lag 10	.108	.149	.003	.213	.003	.003	.003	.108	.213	.213	.213
Lag 11	.174	.055	.135	.214	.135	.135	.135	.174	.214	.214	.214
Lag 12	.161	.043	.131	.192	.131	.131	.131	.161	.192	.192	.192
Lag 13	.006	.022	-.009	.021	-.009	-.009	-.009	.006	.021	.021	.021
Lag 14	-.021	.024	-.038	-.004	-.038	-.038	-.038	-.021	-.004	-.004	-.004
Lag 15	-.052	.075	-.105	.001	-.105	-.105	-.105	-.052	.001	.001	.001
Lag 16	.011	.039	-.016	.038	-.016	-.016	-.016	.011	.038	.038	.038
Lag 17	.018	.071	-.033	.068	-.033	-.033	-.033	.018	.068	.068	.068
Lag 18	-.082	.145	-.184	.021	-.184	-.184	-.184	-.082	.021	.021	.021
Lag 19	-.124	.008	-.130	-.118	-.130	-.130	-.130	-.124	-.118	-.118	-.118
Lag 20	-.156	.008	-.162	-.151	-.162	-.162	-.162	-.156	-.151	-.151	-.151
Lag 21	-.145	.006	-.150	-.141	-.150	-.150	-.150	-.145	-.141	-.141	-.141
Lag 22	-.130	.016	-.141	-.119	-.141	-.141	-.141	-.130	-.119	-.119	-.119
Lag 23	-.107	.001	-.107	-.106	-.107	-.107	-.107	-.107	-.106	-.106	-.106
Lag 24	.004	.021	-.011	.019	-.011	-.011	-.011	.004	.019	.019	.019

Source: Author’s construction based on SPSS Version 25, 2021

Appendix 4. Residual PACF Summary

Table 36. Residual PACF Summary

					Percentile						
Lag	Mean	SE	Minimum	Maximum	5	10	25	50	75	90	95
Lag 1	.428	.087	.367	.489	.367	.367	.367	.428	.489	.489	.489
Lag 2	-.078	.134	-.172	.017	-.172	-.172	-.172	-.078	.017	.017	.017
Lag 3	.022	.054	-.016	.060	-.016	-.016	-.016	.022	.060	.060	.060
Lag 4	.024	.031	.002	.046	.002	.002	.002	.024	.046	.046	.046
Lag 5	.001	.077	-.053	.055	-.053	-.053	-.053	.001	.055	.055	.055
Lag 6	.029	-.142	-.129	.071	-.129	-.129	-.129	-.029	.071	.071	.071
Lag 7	.003	.059	-.039	.045	-.039	-.039	-.039	.003	.045	.045	.045
Lag 8	-.024	.023	-.040	-.007	-.040	-.040	-.040	-.024	-.007	-.007	-.007
Lag 9	.078	.083	.019	.137	.019	.019	.019	.078	.137	.137	.137
Lag 10	.075	.062	.031	.119	.031	.031	.031	.075	.119	.119	.119
Lag 11	.102	.060	.060	.145	.060	.060	.060	.102	.145	.145	.145
Lag 12	.051	.069	.002	.100	.002	.002	.002	.051	.100	.100	.100
Lag 13	-.118	.029	-.139	-.098	-.139	-.139	-.139	-.118	-.098	-.098	-.098
Lag 14	-.009	.018	-.021	.004	-.021	-.021	-.021	-.009	.004	.004	.004
Lag 15	-.082	.117	-.165	.000	-.165	-.165	-.165	-.082	.000	.000	.000
Lag 16	.059	.026	.041	.078	.041	.041	.041	.059	.078	.078	.078
Lag 17	-.016	.018	-.029	-.003	-.029	-.029	-.029	-.016	-.003	-.003	-.003
Lag 18	-.109	.052	-.145	-.072	-.145	-.145	-.145	-.109	-.072	-.072	-.072
Lag 19	-.076	.114	-.156	.005	-.156	-.156	-.156	-.076	.005	.005	.005
Lag 20	-.084	.013	-.093	-.075	-.093	-.093	-.093	-.084	-.075	-.075	-.075
Lag 21	-.098	.026	-.116	-.080	-.116	-.116	-.116	-.098	-.080	-.080	-.080
Lag 22	-.060	.021	-.075	-.046	-.075	-.075	-.075	-.060	-.046	-.046	-.046
Lag 23	-.063	.044	-.094	-.032	-.094	-.094	-.094	-.063	-.032	-.032	-.032
Lag 24	.096	.025	.078	.114	.078	.078	.078	.096	.114	.114	.114

Source: Author’s construction based on SPSS Version 25, 2021

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National Commission for Science, Technology and Innovation
off Waiyaki Way, Upper Kabete,
P. O. Box 30623, 00100 Nairobi, KENYA
Land line: 020 4007000, 020 2241349, 020 3310571, 020 8001077
Mobile: 0713 788 787 / 0735 404 245
E-mail: dg@nacosti.go.ke / registry@nacosti.go.ke
Website: www.nacosti.go.ke

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