

**EFFECT OF ASSET LIABILITY MANAGEMENT STRATEGIES ON THE
FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN KENYA**

BY

**LENNA KIMINZA MWEU
D63/29818/2019**

**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF
MASTERS OF SCIENCE IN FINANCE, SCHOOL OF BUSINESS,
UNIVERSITY OF NAIROBI**

AUGUST 2022

DECLARATION

I, the undersigned, confirm that this study is entirely mine and has never been submitted to any institution or university for a degree or other honor.

Signed: Lenna Kiminza Mweu

Date: 22nd June 2022

NAME: LENNA KIMINZA MWEU

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

Sign 

Date: 26/09/2022

Supervisor: Professor: Josiah Aduda
Professor of Finance
University of Nairobi

ACKNOWLEDGMENTS

I first give thanks, honour, and glory to God for granting me the ability to begin and accomplish this undertaking. I want to thank my pastor, Rev. Wambui Mburu (CITAM Valley Road), for her assistance and support during the process.

I want to thank the business school's professors and facilitators for their numerous contributions to the project's successful completion. I want to thank my supervisor, Professor Josiah Aduda, for his thorough, insightful, and helpful remarks and recommendations that helped me finish my job.

I would especially like to thank my parents for their wise counsel and encouragement throughout the Master of Science in Finance course and for all my siblings, church members, friends, and coworkers.

DEDICATION

I dedicate this work, especially with love and respect, to my mother, Christine Mutile Kibinda.

TABLE OF CONTENTS

DECLARATION	ii
ACKNOWLEDGMENTS	Error! Bookmark not defined.
DEDICATION	iv
LIST OF TABLES	viii
LIST OF FIGURES	ix
LIST OF ACRONYMS AND ABBREVIATIONS	x
ABSTRACT	xi
CHAPTER ONE: INTRODUCTION.....	1
1.1 Background of Study.....	1
1.1.1 Asset Liability Management.....	4
1.1.1 Financial Performance.....	4
1.1.3 Effects of Asset Liability Management on Financial Performance.....	5
1.1.4 Commercial Banks in Kenya.....	7
1.2 Research Problem.....	9
1.3 Objective of Study.....	12
1.4 Value of Study.....	12
CHAPTER TWO: LITERATURE REVIEW	14
2.1 Introduction	14
2.2 Review of Theories	14
2.2.1 The Portfolio Theory	14
2.2.2 The Liability Management Theory.....	16
2.2.3 Market Power Hypothesis	17
2.2.4 Efficiency Structure paradigm.....	19
2.3 Determinants of the Financial Performance of Commercial Banks.....	19
2.3.1 Asset Liabilities Management	20

2.3.2 Capital Adequacy	20
2.3.3 Assets Quality.....	22
2.3.4 Liquidity Management	23
2.3.5 Management Efficiency.....	24
2.3.6 Diversification of Income.....	25
2.4 Review of Empirical Studies.....	26
2.5 Summary of Literature Review	26
2.6 Conceptual Framework	30
CHAPTER THREE: RESEARCH METHODOLOGY	32
3.1 Introduction	32
3.2 Research Design.....	32
3.3 Population.....	32
3.4 Data Collection.....	32
3.5 Data Analysis	33
3.5.1 Diagnostic Tests on the Secondary Data	Error! Bookmark not defined.
CHAPTER FOUR: DATA ANALYSIS, RESULTS, AND DISCUSSION	35
4.1 Introduction	35
4.2 Research Findings	35
4.2.1 Descriptive Analysis.....	35
4.2.2 Correlation Analysis of Asset Liability Management and Financial	55
Performance of Commercial Banks.....	55
4.2.3 Regression of Asset Liability Management and Financial Performance	56
4.2.4 Discussion of Research Findings.....	56
CHAPTER FIVE: SUMMARY, CONCLUSION AND	57
RECOMMENDATIONS	57

5.1 Introduction	57
5.2 Summary of Findings	58
5.3 Conclusion.....	59
5.4 Recommendations	60
5.4 Limitations of Study.....	62
5.5 Suggestions for Future Research.....	63
REFERENCES	63
APPENDICES.....	64

LIST OF TABLES

Table 4. 1: Aggregate Mean Scores of ALM factors between 2012 and 2021.....	38
Table 4. 2: Correlation Table on ALM factors	39
Table 4. 3: ALM Model Summary	38
Table 4. 4: ANOVA ^a	41

LIST OF FIGURES

Figure 2. 1: Conceptual Framework	31
---	----

LIST OF ACRONYMS AND ABBREVIATIONS

ALCO	Asset Liability Management Committee
ALM	Asset Liability Management
CAMEL	Capital Adequacy, Asset Quality, Management Efficiency, Earnings Performance, Liquidity
CBK	Central Bank of Kenya
CIR	Cost Insurance Ratio
FDIC	Federal Deposit Insurance Corporation
GDP	Gross Domestic Product
ES	Efficient Structures
LDCs	Least Developed Countries
MP	Market Hypothesis
NII	Net Interest Income
ROA	Return on Assets
ROE	Return in Equity
RMP	Relative Market Hypothesis
SBI	State Bank of India
SCP	Structure Conduct Performance
SSA	Sub-Saharan Africa

ABSTRACT

This study looked at how ALM (asset liability management) affected the financial health of Kenyan public financial institutions (commercial banks). Owing to the necessary data derived from the CBK annual reports, 28 domestically licensed commercial banks and 14 international commercial banks with branches, agencies, and other outlets throughout the country from 2012 to 2022 were chosen for this purpose. For the analysis, second-party data was gathered from the Federal Reserve Bank (CBK) annual reports. Descriptive statistics, correlation coefficient, and regression analysis were used to analyse the acquired data. The study established that Asset Liability Management is comprised of the CAMEL factors, i.e., Negative operational and financial issues like; reduction in investor trust, panic withdrawals, and problems with everyday operations, among others, can be caused by factors such as capital adequacy, asset quality, liquidity, operational efficiency, and income diversification. Therefore, commercial banks' balance cash banks and outflows introduction (asset reduce management factors). According to the regression analysis results, the CAMEL factors prove statistically significant on commercial banks' financial performance. The commercial observed that more significant Capital Adequacy, liquidity, and operational efficiency hurt on financial hurts but are statistically significant for their t-calculated values were higher than the t- critical in absolute of the threshold level of 1.96. Whereas Asset Quality and income diversification had a positive impact on the financial performance of the banks, and their t- calculated as well were more significant than the t-critical 1.96, thus proved to be statistically significant, not proving analysis findings led to the conclusion that asset liability management impacted Kenya's commercial banks' financial performance.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Bank operations have a substantial impact on every country's economic progress. As a result, every country's economic development depends on a stable banking system (Ayadi, Arbak, Naceur, & De Groen, 2015; Goodhart, 2004). Management of assets and liabilities abides in managing an economic institution's income statement to accommodate various income rates and readily available scenarios. Economic Financial institutions that accept deposits and loans provide services that expose them to failure payment on repayment, non-repayments due them, income rate risk, and cash risk, among other risks. Proper Assets-Liability management (ALM) is a method that provides Firms with a cover that makes such risk tolerable by controlling the danger inherent in the organization owing to differences between potential resources, benefits, and obligations. When commercial banks encounter various financial troubles, it is troublesome for them to concentrate on managing troubled assets and liabilities. ALM encompasses not only plan criteria of knowledge but also a method for quantifying and managing these risks, resulting in increased returns and profitability. The seamless operation of a country's financial system, through which monies are transferred from surplus units to deficit units for productive use, depends on profitability. With the inclusion of the worldwide coagulation of economic markets, failure of the banking system will have significant negative externalities for the rest of the economy, as well as grave consequences and a rippling effect on other countries. Banks can secure their continued existence by carefully managing their assets and liabilities.

One of the fundamental causes of a bank's downward slope has been noted to be a result of poor management of Assets and Liabilities (ALM), which entails the strategic direction of an institution's assets and obligations to optimize profitability, increase liquidity, and protect it from various bank risks. It is a substantial risk management category central to bank financial management. It takes an integrated approach to manage a bank's two sides of the income statement simultaneously rather than handling separate assets and liabilities

(Gap & Brooks, 1993). Banks' primary functions are to receive deposits (liabilities) and make loans (help) (Fama, 1980). To optimize banks' profits, efficient ALM is required.

Commercial bank performance can be examined from a variety of perspectives. The Economic performance of Kenyan Financial entities which accept deposits and lend loans to approved individuals will be the subject of this study. According to Aburime (2008), the importance of bank economic performance may be assessed at both particular and whole levels. Economic Monetary is a fundamental requirement of a competitive financial organization and the most cost-effective source of money.

A stable and prosperous banking industry, on the whole, economic level, can better oppose pessimistic astounding's and contribute to economic and financial stability. Bank profits are value inception of capital, particularly when re-invested in the company. As a result, safe institutions should emerge, and substantial profits may help to maintain financial stability. (Flamini and colleagues, 2009). However, progressive income earned is not always a good thing.

Uzhegova (2010) states that high profitability could indicate market power, particularly among large banks. This could stifle monetary interlink because public financial institutions with a lot of market strength may offer lower interest rates on deposits while excessive interest charges on loans. Low profitability, alternatively, may deter contributors and shareowners from carrying out banking activities, resulting in banks being unable to raise sufficient operational principal amounts. However, this can suggest that only public financial institutions with little capital interlink savings with the costs associated with long-term economic growth.

Commercial banks' profitability and overall financial success are thus critical to a country's financial system's smooth operation. The financial industry is regulated in the same way t all other countries' economic sectors. As a result, individuals in charge of policymaking and day-to-day operations are concerned about the sector's performance. Management of Asset and Liability (ALM) is the most substantial component that influences the economic performance of commercial banks. (Kosmidou, 2004).

The notion of anchoring is based on our propensity to attach or "anchor" our ideas to a starting point of reference, even when that point may not be logically relevant to the choice. However, commercial banks are dealing with new and novel concepts and ideas. In Traditional portfolio theory, the researchers focused on single security to determine the financial performance of commercial banks where gaps were realized. It didn't reflect the actual or accurate picture of bank performance. Thus, the introduction of the modern portfolio theory by Sharpe (1952) proved to be more realistic and statistically significant and set to establish an accurate picture of commercial banks' performance by integrating an index fund portfolio of several securities, which reduced the financial risks significantly.

Investors should seek broad diversity when choosing a portfolio. They should also be aware that both equities and corporate bonds carry risk, that markets will always change, and that their portfolio should reflect their willingness to endure both good and bad times. (Markowitz,2016) In the Liability Management Theory, commercial banks considered that there was no need for banks to loan self-selling loans to keep liquidity at ease for its various functions within the bank. Instead think, banks can from other commercial banks from the Central Bank and raise Capital by issuing shares to investors. (Emmanuel, 1997).

The Market power hypothesis Theory states that the market structure of the industry influences the performance of commercial banks market with moderately fairly distributed firms and strong constraints for access will indulge in pricing, which is high pricing through market collusion and price leadership, which will yield higher profits than the competitive norm. However, this theory was ineffective in determining the performance of commercial banks. Thus, the Relative market power hypothesis (RMP) was considered much more efficient and effective in deterring product differentiation and improving service quality, achieving significant profitability and hindering the performance of commercial banks. (William 1952).

Besides a standard indicator of market power, index fund management, we promote a relatively new measure of bank-level market power which is the Competition-efficiency frontier that helps to control for the specificity of index fund portfolio and makes results robust to a choice of market power measure (Bolt and Humphrey,2010). In the Efficient structure paradigm theory, markets with efficient operating strategies win the competition

and grow significantly, becoming more prominent and obtaining a more significant market share and high profits. (Athanasoglou et al,2006).

1.1.1 Asset Liability Management

The governance of potential resource benefits and obligations (ALM) is defined by intellectuals such as Gap and Brooks (1993) as a systematic process of budgeting, arranging, collaborating, and administrating potential resource benefits and obligations, as well as their integration, capacity, maturations, outcomes, and expenses to obtain a particular net of income gain/profitability. The governance of Asset and Liability (ALM) is a substantial aspect of risk management in which the firm's or Economic institution's vulnerability to various risks is reduced while maintaining the right asset and liability mix to meet the firm's or Economic institution's goals. Hence, there is a growing trend toward dangerous governance as a whole. Asset-Liability Management tackles the risks associated with favorable asset-liability scenarios caused by differences in liquidity or interest rate movements. Given the institution's acceptance and other limits, there is a constant process of creating, implementing, monitoring, and changing asset and liability strategies to meet financial objectives. (Abbott and colleagues, 2003).

Credit, liquidity, market, and operational risk are the hazards of a financial firm. Manage Modern risk management employs an integrated risk management strategy for enterprise-wide risk management, which assumes that various dangers, such as profitability rate and cash risk, are interconnected. Some of these risks may occur endogenously (for example, operational risk), exogenously (for example, market risk), or as a result of the interaction of exogenous and endogenous factors. ALM is a banking response to potential threats from the inside and the outside that tries to lessen the bank's overall impact. Tactical risk management, on the other hand, is required for client adoption of ALM because short-term risks must be controlled. ALM is a strategic field with a long-term orientation (Choudhry, 2007). ALM provides numerous benefits, including the ability to visualize an organization's entire organizational structure in terms of duties, quantify risks and risk preferences, improve planning and risk management, and improve practical and overall

performance. As a result, developing a robust ALM model that meaningfully integrates various systems is difficult.

Tektas and Gunay (2005) agreed that ALM management mitigation was by addressing financial analysis in an economic crisis. Their research demonstrated how changes in market perceptions could cause problems during an emergency. They stated that effective asset-liability management entails increasing bank profit and controlling and lowering various risks.

Treasury Services Division IFAD (TRE) (2020) started several initiatives to operationalize ALM, which incorporated distinguished consultancy entities, defining the ALM strategies to be observed, integrating mathematical instruments into the current and future systems, recruiting ALM and investment management senior consultants and maintaining high-tech governance attributing to efficient and effective responsibility strategies. ALM requires people with highly advanced technical skills and particular professional experience to support the set-up phase and the ongoing management of the function.

Deirdre (2021) suggested that clear, complete, effective and efficient data should be readily available from a centralized source for ALM analysis. Robust data are needed to avail the required analysis and produce periodic reporting for micro and macro stakeholders. Technological resources for incorporating model-related data for balance and off-balance sheet data and timing of cash inflows and outflows are significant.

The operationalization of ALM by previous scholars was ineffective and resulted in gaps in achieving efficient bank performance and management of Asset Liability strategies. Thus, a robust framework had to be sought. I found that CAMEL factors were much more effective and efficient in achieving and measuring an excellent bank performance and managing the Asset –Liability structure.

1.1.2 Financial Performance

Economic performance is achieving a niche and obtaining the financial objectives of commercial banks for a given term protecting the gathering and allocation of money measured by primary fund adequacy, cash flow, solvency, effectiveness, leverage and

profitability. It is the process of using accounting and economic statements to determine a company's operating and financial characteristics. This study aims to determine a company's managerial efficiency and performance as evidenced by financial records and reports. The researcher assigned by the bank measured the firm's cash availability income and other specimens to ensure that the firm is run sensibly and regularly, with enough returns to stakeholders to preserve its market value at the very least. (Abbott and colleagues, 2003).

To begin, a financial institution must be able to generate income to stay in business. It must then be substantial, which means it must be able to accumulate payment from given potential benefit resources and gain and change its income to reduce diverse various such as credit risk. Conclusively, it must be able to upgrade its outcome through how its operation estimate goal of financial performance maximizes shareholder or owner wealth through efficient resource management (Panwala, 2009). Profitable analytical strategies can help you get there.

The financial performance of banks serves as a reference for analyzing and measuring the economic effects of a company's policies, performance, efficiency, and effectiveness. The firm's return on investment, return on resourceful potential benefits, and interest earning reflect these results. It also focuses on how a financial institution makes money by properly utilizing its financial and other resources. Economic achievement evaluation is a personal check of a firm's resourceful potential benefits utilization and income production from its original business mode. This metric also assesses how well a bank uses its assets and other resources to generate revenue. It confirms the company's overall financial health over time and can be used to compare industries. Most commercial banks' profitability and stability are mainly determined by the perspective of finance and its function. (Flamini and colleagues, 2009).

The above ratios were calculated using the financial statements listed below. A statement that summarizes a company's sales, expenses, and earnings over a given period is known as a financial income statement. The money flow statement, divided into operating, investing, and financing operations, captures how the income sheet and income statement

activities affect cash flow. An Annual Report- is a document that discusses the business activities and economic situations and often incorporates the documents indicated above, as well as other accurate and deep understanding knowledge from substantial company executives.

1.1.3 Effects of ALM on (ROE) Financial Performance

- 1 (ALM) management of Assets and liabilities is a method used by economic organizations to limit economic risks brought about by internal and external causes, thereby mismatching assets and obligations. Alper and Anbar (2011) and Ramlall (2009). Financial institutions can improve their financial performance and income while reducing risk by strategically aligning assets and liabilities. ALM is a method for actively managing Net Interest Margin (NIM) within the context of overall risk. It encourages decision-making that is integrated in terms of type (demand/time maturities), size (portfolios), mix, and turnover. (Amounts of economic obligations and resource benefits that could be realized economically).

- 2 The accomplishment of ALM depends on matching potential economic resources and resource obligations in terms of rate and maturity to maximize return and maintain/improve NIM, improving the bank's financial performance. The primary purpose of managing potential economic resource benefits and economic monetary on financial performance, according to Schoeb (2006), is to provide a super-quality, stable, significant, and expanding flow of net profitability. A bank's assets and liabilities constantly change, affecting interest costs and income. Because micro-level asset and liability management is impossible, the bank uses ALM to group potential economic resource benefits and financial obligations by maturity, rate, risk, and size to control imbalances. While eliminating gaps caused by mismatches is impossible, ALM aims to reduce gaps because they are risky and affect the NIM. Through deliberate strategies and judgments, ALM will enable the financial institution to protect and, if feasible, improve the Net Interest Margin. The interest rate movement outlook, asset and risk pricing, assessment of foreign exchange operations investment,

liquidity risk, NIM, balance sheet ratios such as (ROE), budget formulation, and operational planning management are all part of a solid ALM system for the bank.

- 3 According to Hester and Zoellner (1966), there was a substantial important link between asset liability management and economic outcome, and the researchers rejected the null speculation; thus, there was no link. On the other hand, Kosmidou et al. (2004) discovered that financial obligations and governance involvement play a key role in determining the increase of income of public economic institutions.

3.1.4 Commercial Banks in Kenya

The Nation has 42 commercial banks currently, with 28 local and 14 international commercial banks with branches, agencies, and other outlets throughout the country. Effective corporate governance is critical, and the CBK acts as the sole regulator to ensure that the banking sector and financial institutions function properly, including cash availability, liquidity, and the correct operation of a mature market-based banking system, as well as consumer protection and the economy as a whole. Financial institutions play a substantial duty in the economy by ensuring the transfer of funds from savers and depositors to activities that support business and generate economic growth. The unscathed and acceptable effectiveness of the public financial institutions in Kenya are critical to economic stability, and how they conduct business is, therefore, critical to financial health. The controlling legislation is the Banking Act, Cap 488 of the Laws of Kenya; captioned in section 19 of the Banking Act in Kenya, organizational be fervent on the merest of available cash investments as the Federal Reserve Bank (CBK) may from time to time establish an organization nearest 20% of Its deposit economic obligations with the Federal Reserve Bank (CBK). (2010 CBK).

Banks have banded together and established a forum under the Kenya Bankers Association to discuss issues that impact the banking sector in Kenya. Kenyan banks have experienced significant expansion in the last ten years and spread throughout East Africa. The two primary characteristics of a commercial bank in Kenya are; lending and borrowing. ALCO is a decision-making unit in charge of risk-return balance sheet planning and the focused

governance of profit rate and liquidity dangers in the Kenya commercial banks. Each financial institution must determine the function of its ALCO, its responsibilities, and the decisions that it will make. The bank's business and risk management plan should ensure that the public financial institution operates within the Board's criterion/ framework (Kamau,2009).

To better address the problems that globalization increasingly complicates their customers, the banking sector in Kenya has moved away from traditional banking and invested in automation. Increased competition has come from domestic and foreign banks, some markets Customers and shareholders have gained the most from this, which has helped the Kenyan economy (Karumba and Wafula 2012). Despite the Even been 42 commercial banks since 2012, several efforts, such as the rapid growth of telephone-based money transfers and electronic mobile banking services, have improved the standard of financial services and broadened access. Kenyan innovators created the MPESA mobile phone-based payment system, which is currently being examined for adoption by many nations worldwide. Similar to this, the M-pesa banking and M-SHWARI lending services give the underprivileged the chance to borrow and save as little as USD 1.20 at any one time.

Research Problem

Asset liability management decisions have eccentric/peculiar empowerment on a financial institution's profitability, thus, having an effective AML strategy that promptly monitors and equalizes both potential economic resource benefit and economic obligations management is prudent. Commercial banks must establish a performance strategy that balances risk, profitability, liquidity, and security while reducing credit, liquidity, and interest-rate-related concerns. (Flamini and colleagues, 2009).

Managers should always consider the influence of each ALM decision on the bank's liquidity position, which has proved over time to be a research problem. It affects the bank's financial performance, generating a research challenge and a problem. In the banking sector, banks should be able to pay its liabilities obligations and interest their depositors

and maintain withdraws, pay off current debt obligations without raising external capital, and have deposits in the commercial bank vaults. Management of assets and liabilities variables like ALM policy, maturation lapse analysis, and potential resource benefit vis-a financial obligations committee activities all affect cash availability risk. Liquidity risk influences financial performance in several ways, which are influenced by ALM decisions: Any alterations in the stable framework of potential resource benefits and obligations can affect money requirements and flows; savings or borrowing promotions, as well as changing the ALM mix, can hurt cash availability if not closely monitored by the committee, while interest rate changes can affect liquidity and the banks' financial performance. Customers may withhold their funds if savings rates fall, gearing into a liquidity shortage. The sheer scale and difficult encampment of financial governance emphasizes the relevance of this topic, emphasizing the need to consider it (Vossen 2010).

Commercial banks recently had a poor performance. The banking industry's overall primary fund adequacy ratio averaged 1%, compared to a regulatory requirement of 14.5 percent, indicating poor operational performance in Kenya (Kenya Financial Sector Stability Report, 2016). In terms of pretax earnings, the public financial industry performed below the overall average, with cumulative audited pre-tax profits falling by 5% over the same period (Kenya Economic Sector Stability Report, 2016). According to a research by KPMG (2016), public financial institutions profitability has decreased as a result of the legislation, thus the great challenge in maintaining assets ensuring loans given out are assessed by credit worthy clients and stringent measures are put in place in order to achieve the statutory regulation requirement.

Citi Research (2012) emphasized the effect of ALM on the liquidity of Kenyan commercial banks. It was discovered that there was a growing liquidity gap as a result of the funding and asset risk duration mismatch.

Heretofore, economic public financial institutions have an ALM (asset liability management) committee that regularly and methodically evaluates the beneficial resource-

obligation management policy across the banks' activity areas, Muchangi (2013) ruled that a strong correlation between liquidity risks of economic public financial institutions and resource benefitable-obligation management policies existed.

In the UK, local and foreign banks' asset-liability management was evaluated by Kosmidou (2004). According to the findings, high profit banks have significantly lower cost of liabilities for the majority of their funding sources, which can offset any losses resulting from the lower rate of return on assets they enjoy in comparison to lower profit banks.

Asset and liability management was reviewed by Tektas and Gunay (2005) while there was a financial crisis. They claimed that in order to effectively manage assets and liabilities, it is necessary to increase bank profits while also reducing various risks. Their research also demonstrated how shifting market views can be problematic during times of crisis.

2019 (Mugo et al.). To appropriately choose the applied measurement or component when determining the performance of those banks by utilizing economic ratios, one must properly understand the structure and framework of the banks as well as the causes for which their performance is being evaluated. This is accurate with the claim that comparing performance dimensions to those of other banks or to earlier periods allows for a more objective comparison using ratio product data. Numerous factors or indications can be used to determine how well the banks are performing. The worth of the bank will increase if its performance improves.

Various researchers revealed that there was a lack of truth on the genuine impact of commercial banks' financial performance. The studies' inconsistency prompted this study to concentrate on the effect of resource benefitable-obligation Governance Strategies on the Economic achievement of public financial institutions in Kenya, focusing on conceptual variables (CAMEL) as a strong indicator of determining the economic performance of public economic institutions in Kenya.

Asset quality conceptual facts incorporate loan to deposit ratios, performing and non-performing loans, capital adequacy ratios, return on asset, return on equity, and efficiency

ratios, as well as macroeconomic indicators (gross domestic product, lending rate, and inflation rate), all of which produce reports on gaps at both the individual /particular (micro levels) and worldwide levels (macro levels) of commercial banks. (Abbott and colleagues, 2003.)

This study clearly addressed/mitigated the research problem that is integrated in the conceptual (CAMEL) aspects that form the basis of our conceptual framework, as well as methodological and contextual deficiencies observed in ALM management, hence motivating research in this study. In analyzing bank financial performance, the CAMEL criteria have been demonstrated to be statistically significant in evaluating the economic performance of monetary public institutions. (Bain & Baumol, 1982).

1.2 Objective of the Study

The study's goal was to look into the impact of asset liability management on the financial performance of Kenyan commercial banks.

1.3 Value of the Study

The significance of ALM is that it allowed an economic organization to control its economic obligations and responsibilities strategically so that it will better plan for future risks. ALM frameworks help a monetary institution to understand and quantify the dangers on its balance sheet, in addition to decreasing the risks related to asset and liability mismatches. Monetary groups can boom performance and profitability at the same time reducing danger by using strategically aligning resourceful potential benefits and liabilities. As an end result, it is going to be high-quality for me to enlarge my understanding of coping with the potential useful resource advantages visa- vis the economic methods, functions, and impact on business financial institution economic performance.

Available cash is crucial within the dynamic of monetary crisis, and size measurement of cash availability is essential in determining and dealing with systemic hazards, in line with

policymakers like Kenya's significant financial institution and lecturers. This examination ought to make contributions to and serve as a foundation for future studies into the deployment of latest legal responsibility and capability resource benefit control techniques inside the context of hard cash issues through equal macroeconomic gamers.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This section's topical literature is highlighted. The finality or conclusion from the biography review identifies the areas the study is addressing and the particular contribution it will make to the sphere or field in general. This section also discusses asset liability control theories and economic overall performance.

2.2 Theories Reviewing

Different researchers have examined financial performance in various contexts, studying various variables and proposing various theories to explain financial performance in various financial organizations. The asset allocation theory, commonly known as the Portfolio Theory, has contributed to a better understanding of bank financial performance (Nzo gang and Atemnkeng, 2006) and the evolution of Asset Liability Management Greuning (2003).

2.2.1 The Portfolio Theory

Traditional index fund management theory first arose at the turn of the twentieth century, and it dominated the financial world until the release of Harry Markowitz's "index fund management Selection" paper in 1952, the theory's creator. From the turn of the century until 1933, there are two periods in Traditional index fund management theory: individual skills and capacities and the emergence of professionalism. It was distinguished by a very subjective approach focused on subjective judgment, with no scientific or analytical foundation, at the outset of professionalism (from 1934 to 1952) by isolating individual stocks rather than making investment decisions in the context of index fund management. They also ignored the return correlation on individual securities in the portfolio. It stressed individual security examination while ignoring index fund management characteristics study. In other words, the correlation of return on particular stocks in the index fund was

ignored. This was seen as a thought that the market was incompetent and that prudent researcher's users might take advantage of this inefficiency by analyzing the company's internal financial accounts. They also ignored the return correlation on individual securities in the portfolio. Because investors preferred higher returns over lesser returns, the index fund management included stocks with the best achievement or projected return. The fact that most investors spread their money across multiple securities implies that there are factors other than return to consider. Return is preferred over risk by investors. Simple or naive diversification is a traditional strategy for expanding the number of assets in a portfolio to minimize overall risk. Using this method, a financing in 100 diverse securities has ten times the chance of investment in ten similar assets. As a result, investing in a massive collaboration of stocks is sufficient if investors want to reduce risk. TPT needed to understand that a single investment's risk is insignificant compared to its contribution to overall index fund management risk. TPT also overlooked the relevance of correlation, or the degree of the link between the returns on particular stocks, while putting together an index fund management

The book of Markowitz's paintings, "index fund control selection" in the "Journal of Finance" in March 1952 marked the emergence of MPT (current index fund control concept) and the advanced monetary economy being popular, with contributions from Sharpe, Treynor, Lintner, Mossin, Roll, Ross, and others (March 1952). MPT is a calculated framework for maximizing return and chance ratios that goes one step further than TPT in that it modifies the focus from character securities to index fund control characteristics., Markowitz promotes efficient reallocation of investment in preference to mere individual stocks.

In relevance to our study, the focus was on integrating several index fund securities of the bank i.e. shares, stocks, performing and non-performing loans, current assets and both long term and short-term obligations, and also the CAMEL factors in the published and audited financial statements to acquire an efficient, effective genuine picture of the performance of the bank. Stage The coefficient and correlation percentages achieved, the betas realized when all factors considered as the independent variables are incorporated to conform into

an integrated fund index while holding the ROE (financial performance) constant (*Ceteris paribus*) which will generate results that are reliable and valid determining an efficient frontier of the financial performance of commercial banks in Kenya. In understanding MPT's theory, the researcher, to avoid the major flaws of MPT and in relevance to our study: selecting a super index fund management is considered as a one-time selection in preference to a continuous process of tracking changes and changing the index fund control over time, which is the best option of the researcher who had to collect data over time achieving an efficient hypothesis for determining the strategies of ALM. Many studies and vital managerial alternatives are based totally on this theory. In its authentic shape, it became a conceptual framework that grew over time into an imperative tool for cutting-edge index fund control.

2.2.2 The Liability Management Theory

In the 1960s, the theory was refined into the classic Malkiel (1965) bank portfolio allocation model. This idea states that banks are not required to loan self-selling loans and maintain fluid resources because they can obtain cash in the currency advertised at any time. A bank can save by accumulating additional liabilities against itself from numerous sources. Issuing time declarations of the store, acquiring from other commercial banks, obtaining from central banks, generating primary funds by issuing shares, and furrowing back of advantages satisfying the financial institution's needs by borrowing in the money and capital markets are some of these sources. It was to provide a theoretical and modeling overview of the topic.

In relevance to this study, a financial institution's number one issue is the bank's inability to raise the funds it needs to satisfy current and future liabilities, both anticipated and unanticipated, without disrupting its daily operations or financial health (Rosen and Zen iOS, 2006), The bank needs to pay its liabilities, interests to its depositors and having liquid working capital, i.e. being able to pay off current debt obligations without raising external capital and maintain the statutory requirement required by the CBK in the Central bank's

vault, meeting an organization's financial goals, taking into account risk tolerances and other constraints" (Abbott et al., 2003) the shape and fitness of its balance sheet in phrases of asset and liability maturity profiles, hobby rate publicity of property and liabilities, and the impact on the macroeconomic variables consisting of GDP, inflation, and currency prices. The goal of (ALM) is to preserve structural balance in the balance sheet, with optimal asset investment and temporal equilibrium, to jointly evaluate risks and benefits associated with assets and liabilities, and meet present and future goals. A financial firm's hazards are credit, liquidity, market, and operational risk. Modern risk management employs an integrated risk management strategy for managing enterprise-wide risks, which assumes that various risks, such as interest rate, market risk, and liquidity risk, are all interconnected.

The benefits of ALM are widely recognized, but implementing an ALM framework can be difficult because each institution's objectives are unique and differ from others in terms of constraints, risk tolerances, and other contextual factors. Additionally, expressing changing risk preferences mathematically is far from being straightforward, and developing an optimization system for asset allocation decisions that consider all bank-specific criteria is complex. Finally, developing projections for long-term strategic decisions is difficult since they are influenced by highly dynamic aspects that may not be readily available to the bank.

2.2.3 Market Power Hypothesis

Market power has long piqued the interest of economists and political leaders. Economists have considered a corporation to have market power if it can affect its pricing by determining output since Cournot's (1934) original work on oligopoly. Lerner demonstrates in his essential 1934 analysis that a corporation with market dominance would charge above marginal cost and obtain economic customers' expense in the form of deadweight loss. Within the MP theory, there are two distinct approaches: Bain (1951) and Baumol (1982) proposed the Shape-Conduct-Performance (SCP) hypothesis, which states that markets with few agencies and sturdy obstacles to entry will lead to a behavior of pricing geared toward accomplishing joint profit maximization through collusion, rate

leadership, or other tacit pricing arrangements. This pricing behavior results in higher profits and fees than the competition. Bain (1951) proposed the structure-conduct-performance (SCP) hypothesis, which states that markets with few groups and robust entry limitations will endeavor to press forward on pricing geared toward accomplishing joint earnings maximization through collusion, rate leadership, or different implicit pricing arrangements. This pricing behavior should result in higher income and charges than the competition.

However, as a criticism of the Market power hypothesis in keeping with a version of MP referred to as relative-market-power hypothesis (RMP), the transmission mechanism from marketplace shape to performance happens through product innovation and more desirable carrier high-quality, which are frequently associated with dominant companies instead of collusive conduct. In opposition to each of the MP and RMP hypotheses, Berger (1995) claims that increasing performance can impact financial institution profitability and performance. Individual market shares accurately discover marketplace sharp changes and marketplace defects under the RMP principle. The RMP speculation is empirically verified in evaluating market percentage, which must be positively and significantly linked with charge and profitability. At the same time, concentration is discovered to be non-substantial in the explanatory equations of overall performance. Even though using marketplace structure in those equations is not clear, it yields clean outcomes, a bank with a robust marketplace role can either preserve its dominance or improve its efficiency. Unlike the SCP, the RMP speculation claims that market percentage impacts financial institutions' overall performance. It assumes that the most effective essential banks with differentiated merchandise have the power to influence prices and earnings margins, thus using their market position to generate non-competitive income (Tregenna, 2009). The market percentage is used as a proxy for efficiency through Smirlok (1985), who believes in compelling inside performance speculation. While there may be an extensive high-quality association between marketplace proportion and profitability, performance speculation wins. This approach implicitly assumes that the essential supply of market power is a higher marketplace awareness. Shepherd (1986) criticises this technique, arguing that the direct source of marketplace strength is members' dominance over person markets, no

matter the last assets of such dominance, leading to the improvement of the Relative market strength (RMP) hypothesis. Banks with a large marketplace percentage and various product portfolios are the most effective ones who can use their marketplace power to set costs and earnings.

As relevant to this study, banks incorporate other relevant products cohesively with other banks to enhance the financial performance of the banks. Incorporating innovative products such as Bancassurance, Mpesa, and Mshwari, pay bill accounts for customers to pay their essential bills like electricity, water bills, interest ceiling rates, floor rates and so on. High efficiency is an essential factor in the performance of commercial banks, whereby efficient objectives and goals are looked into to ensure that the bank is performing efficiently and effectively. Income diversification, therefore, is significant in enhancing the financial performance of commercial banks.

2.2.4 Efficiency Structure paradigm

The efficient structure hypothesis (from now on, the ES hypothesis), offered with the aid of Demsetz (1973), predicts that beneath the pressure of market place opposition, green firms will win and flourish, turning into large, gaining extra market proportion and earning a higher income. In step with the efficient structure paradigm, market structure is determined by the operating firms' efficiency. (Demsetz and Athanasoglou, 2006) (1973).

In relevance to this study, the variance within the structure- conduct overall performance paradigm (SCP), which says that a market system (e.g., the number and relative size of competitors) determines how they behave ("conduct") and that behavior, in turn, affects market outcomes ("performance"), such as quantities and prices, the Efficient Shape (ES) hypothesis claims that organizations perform better than their counterparts simply because they are more economical (use of much less high priced inputs to supply outputs). This ends in accelerated marketplace share and comprehensive income. As a result, unlike the SCP hypothesis, which specializes in collusive pastimes to set better prices and benefit

from greater profits, the hypothesis believes that increasing sales resulting from increased production efficiency drives profitability. As a result, they will benefit from economies of scale, allowing them to sell at lower expenses while still making a profit. This argument will be supported by a positive link between estimated efficiency scores and profitability measures. Thus, a conclusion indicated that an efficient bank structure having an eff with an efficient operational management regulation was paramount in determining the performance of commercial banks in Kenya, whereby they can have lower interest rates and still increase in profits and be able to run the bank effectively.

2.3 Determinants of the Financial Performance of Commercial Banks

Commercial banks play a crucial role in the continual distribution of financial resources from depositors to investors, creating the required income to pay their operating costs; their performance has a significant impact on the economic development of nations. Determinants of financial performance are multidimensional and are influenced effectively by Camel factors in terms of ALM. The CAMEL framework will be considered in order to determine the essential components influencing the commercial financial performance in Kenya. CAMEL is a popular method for assessing financial institution performance in phrases of ALM.

2.3.1 Asset Liabilities Management

Asset-legal responsibility management is how a monetary institution keeps its balance sheet to accommodate various income charges and liquidity situations. (M. E. Francis, 2007, vol. 30, no. 2) Banks and other monetary organizations give offerings that endanger them to credit score threat, hobby risk, and liquidity threat, among other things. Asset-liability control efficiently manages the dangers that arise from mismatches between belongings and liabilities. (Vol. 1, no. 1, 2006, D. Rosen and S. A. Zen iOS.)

Resource potential benefit and economic obligations management is a strategy for protecting institutions and making such risk tolerable. Financial organizations, banks, economic businesses, charter companies, underwriter firms, and others should focus on

potential economic resource benefit-economic obligations management when faced with various financial risks. Asset-legal responsibility control encompasses a formalization of this idea and a technique of quantifying and dealing with those risks, resulting in multiplied returns and profitability. Furthermore, even supposing an institution does not have proper asset-liability management software, comprehending those thoughts is beneficial since it ensures an authentic photograph of the danger/reward trade-off in which it's miles worried. (Fabozzi, F.J., and Konishi, A., 1995.) financial institution profitability is vital every day. It's the proper jogging of a rustic's economic machine. Despite the truth that critical banks regulate the monetary quarter in Africa, it plays a widespread role in the economy's health. As a result, the profitability of the arena is a prime issue for the ones in fee of policymaking and operations (k. Kosmidou, F. Pasiouras, and J. Foday-to-daypoulos, 2004). They highlighted asset-liability management as one of the in all likelihoods daily affecting financial institution profitability. As a result, if banks can appropriately fit their liabilities daily property, they will be able to improve profitability. Although some researchers have looked into the day-to-day effects of asset and liability management on bank profitability (M. L. Kwast and J. T. Rose vol. 6 1982) and (. B. k. Asiri, vol. 6 2007), the issue of bank profitability and asset-legal responsibility governance in developing countries has received little attention. (B. Tamiru, 2013, vol. 4, no. 10) commercial bank profitability has also been investigated, and it's been discovered that both internal and external daily impact financial institution profitability. In contrast, outside determinants daily reflect the monetary and felony surroundings that affect commercial banks' process and overall performance. Industrial banks' sound economic performance relies on the green composition of their belongings and liabilities. (I. Ramall, vol. 34, 2009) (D. Alper and A. Anbar vol. 2, 2011).

2.3.2 Capital Adequacy

Onoh (2002), stated that a bank's capital reserve is deemed appropriate if it can cover operational costs, satisfy dual-needs clients, and guard depositors against the total or partial loss of funds in the event of a bank's dissolution or other loss. Well-capitalized banks have fewer difficulties obtaining external funding and incur lower insolvency and funding

expenses, which results in profitability, according to Abreu and Mendes (2002) and Naceur (2003).

At a five per cent stage of significance, capital adequacy has a statistically great effect on the economic achievement of deposits' monetary public economic institutions' overall performance. In step with sure research, capital adequacy has a great impact on commercial banks' economic performance (Musyoka, 2017). An increase in capital adequacy results in high-quality increases in business banks' ROA and ROE. This is because capital is important in minimizing the number of financial institution disasters and depositor losses when a financial public institution fails, as pretty leveraged businesses are more vulnerable to anticipate immoderate risk to increase stakeholder economic price at the expense of credit givers (Kamau, 2009). Despite the fact that the majority agree that statutory capital limits are important to keep away from ethical risk, there may be a confrontation on how much capital is enough. In keeping with Beckmann (2007), excessive capital results in low profitability because danger-averse banks forget about possible (unstable) funding opportunities, and as an end result, buyers expect a lower go back on their capital in exchange for a lower risk, but, Gavila et al. (2009) recommend that, whilst primary fund is high-priced in terms of anticipated return, extraordinarily capitalized banks have decreased risk of insolvency and require much less outside investment, in particular in emerging international locations where outside borrowing is elaborate. As an end result, properly-capitalized public economic institutions are more profitable than banks with little capital because the minimal regulatory requirement changed into an upped KS 1 billion in 2012.

2.3.3 Assets Quality

Any other financial institution-particular objective that affects a bank's profitability is its asset. Cutting-edge ability monetary aid benefit, credit index funds, fixed benefit potential resources, and other accumulated resources are most of the public financial economic assets. Often a worthwhile asset (length) on the subject of the bank's age (Athanasoglou et al., 2005). Loans and advances are the most common financial institution property that requires a thorough assessment of assets. A financial institution's loan is a constant key ability financial aid gain that creates the majority of the bank's sales. The most significant

asset for commercial banks is the administration of their loan index funds, from which they make money. Poor investment aspects and diminished liquidity levels are the two main reasons for financial institutions to collapse. Early in the 1980s, Kenya saw a number of economic and financial disasters due to poor asset quality. 37 banks declined throughout that time period as a result of the 1986–1989, 1993–1994, and 1998 banking crises (Mwega, 2009). Waweru and Kalani (2009), observed that a significant portion of the public economic institutions that failed in 1986 did so as a result of non-performing loans (NPLs), and the majority of the larger bank failures featured significant insider lending, frequently to politicians. Low nonperforming loans as a per cent of overall loans suggest that a financial institution's portfolio is in good shape. The smaller the ratio, the extra successful the bank is achieving (Sangmi and Nazir, 2010). Asset good value, then again, had a bad impact on bank financial overall performance, suggesting that an increase in asset excellent in phrases of non-appearing loans might bring about a fall in both ROA and ROE for commercial banks.

2.3.4 Liquidity Management

Another significant decision that commercial bank executives make is particularly the measurement of their liquidity requirements in the deposit and loan process. The necessity of liquidity extends past the individual financial institution, given that liquidity scarcity could have systemic results (CBK 2009). Its miles stated that once banks keep big accumulations of cash available flows, at a fee (opportunity cost) of creating a saving that might yield huge income (Kamau, 2009). The standard alternate-offs between go back and the available cash flow threat are verified by the reality that going from current assets to fixed securities or loans boosts an economic public financial institution return while simultaneously increasing its liquidity risks, and vice versa. As an end result, an excessive liquidity ratio shows a financial institution that is much less risky and worthwhile (Hempel et al, 1994). In regards to this, the management faces a liquidity and profitability conundrum. Extended liquidity has a bad impact on financial institutions, in line with Levine (1998).

The legislative minimal available cash requirement in Kenya is 20%. Consistent with the CBK bank Supervision Annual record (2018-2019), Kenya's banking device remained robust and resilient in 2019, with a total primary fund adequacy ratio of eighteen-point seventy-nine percent (18.79%) in December 2019, which became higher than the minimal of 14.5 percentage. within the equal period, the arena's liquidity changed into over the statutory requirement of 20%, with a median liquidity ratio of forty-nine-point Seventy-four percent (49.74%). From KSh. 4,408 trillion in December 2018 to KSh. 4,809 trillion in December 2019, general internet belongings expanded via 9.1%. From Ksh.3.259 trillion in December 2018 to Ksh.3.53 trillion in December 2019, consumer deposits improved by means of 8.22%. How banks could withhold such significant quantities of money in a credit-starved financial economy like Kenya has baffled many financial experts (Kamau, 2009). The CBK attributes this to the public economic sector's preference for less erratic government securities, whereas Ndung'u and Ngugi (2000), as cited by Kamau (2009), blame industrial banks' rules at the cut-price window, as well as a small interbank market, a high reserve requirement, and a preference for government securities, for this problem with available cash flows. Given the preceding studies, the Kenyan banking machine gives an interesting case look at for comparing the effect of liquidity on profitability.

2.3.5 Management Efficiency

Management decides the strategy and policy for enhancing financial performance and maximizing wealth for stakeholders (Saunders, et al 2004).

To achieve efficiency, banks should adhere to capital requirements, maintain appropriate and optimal liquidity, and take advantage of emerging technological options. Similarly, improved management efficiency boosts both ROA and ROE. The economic system, through economic institutions, plays a continuous significant role in directing economic resources to the most yielding uses in the economy, including providing structures for making and settling economic transactions, connecting increasing and depreciating financial units (savers and borrowers), and risk and uncertainty management (Bloor and Hunt, 2011). As a result, if these deeds are properly fulfilled, economic growth will be achieved through an economic system stability, in which case the economic system will be

considered effective; otherwise, ineffectiveness will be achieved. Poor spending management is the primary cause of low profitability (Sufi an and Chong 2009). According to Mathuva (2009), local public financial institutions CIR is great as compared to other nations, and local banks must lower their functional costs to remain resilient globally. An overview of the overheads revealed that they were catapulted by staff salary expenditures that were significantly greater than those of other SSA public economic institutions.

2.3.6 Diversification of Income

According to Baele et al. (2007), revenue diversification improves the value of a bank's franchise, whereas banks that diversify more have superior market betas and hence higher systematic risk, and as a result, the financial intermediation system is heavily reliant on commercial banks. Diversification reduces risk while also reducing the drain on compounding returns. Diversification minimizes the likelihood of a commercial bank failing by reducing the systemic risk it faces. Commercial banks in Kenya have been variegating their businesses by introducing new product services like mobile banking, agency banking and integrating microfinance into their banking systems. The necessity for public economic institutions to diversify is based on the desire to improve economic achievement. This is mostly due to the banking industry's multiple regulatory frameworks, which have impacted these firms' financial performance over time. In line with Chiorazzo et al. (2008), interest diversification contributes to increased performance in banking businesses because of economies of scale and scope prompted via blended manufacturing of economic operations. Additionally, they asserted that diversifying product mix lowers overall risks because profit from non-interest activities isn't correlated with profit from fee-based activities, or at least isn't perfectly correlated with it. Innovative non-interest income generating activities aid the company in reducing risk and improving financial performance (Baele, 2006). Income diversification aids in lowering idiosyncratic risk, which is the shock to the net interest margins brought on by shifts in lending rates. chung (2012).

2.4 Review of Empirical Studies

The empirical examination's main objective is to apply CAMEL evaluation to evaluate the financial performance of scheduled industrial banks. Capital adequacy, asset quality, management efficiency, earnings overall performance, and liquidity are all known as CAMEL. This study aims to determine the high-quality asset and legal responsibility mix for financial institution profitability and make recommendations to assist industrial banks in improving their fund's position. The banking industry needed to pay close interest to the variables relating to asset legal responsibility management. All banking corporations ought to take the desired movements to enhance the banking sector's universal overall performance.

Mihail (2009) investigated how asset liability management affects bank profitability. The fundamental motive was to examine asset-liability management responsibility control in banks from 2004 to 2011, utilizing a panel of over 30 EU banks. They had a look at the study and said that asset and liability management in banks ought to consider or be efficient in the financial, economic institutions; the governance of assets and obligations must take into thought the earnings, profits, and the level of loans and deposits to be powerful.

Haslem et al. (1999) employed canonical analysis evaluation and the interpretive framework of asset /liability management inscriptive framework to perceive and analyze large U.S. banks' overseas and domestic balance sheet techniques inside the context of the "crisis in lending to LDCs." massive public economic institutions have the very best quantity/proportion of international borrowed obligations (foreign loans). Still, their intent was on asset/liability matching approaches.

According to his key conclusions. A reduction in asset value results in a rise in banking profitability. The value of the bank's assets and liabilities had a direct impact on the bank's profitability. An increase or a decrease in liability directly affects an organization's profitability; further, the fee of inflation has an immediate impact on profitability; better inflation ends in increased profitability; a decrease in inflation ends in a reduction of the earnings/ income margins.

Kamau (2009) studied Kenya's commercial banks to see how capital sufficiency impacts the banking sector's profitability. He found that financial institutions' (banks') capital structures are extensively regulated since capital was essential in minimizing bank failures and losses to depositors in the event of a failure. Companies and organizations with high levels of debt are more prone to take unwarranted risks to increase shareholder value at the expense of the financing sources. In this sense, he came to the conclusion that banks with enough capital outperformed those who had trouble achieving the statutory capital adequacy requirements.

Odhiambo (2006) found that most banks routinely and methodically examine their asset liability management policies. This resulted from a study he conducted on liability management practices in Kenyan commercial banks. The majority of banks also stated that the management board, a cross-functional group that oversees all of the primary departments in the bank, created policies for their asset liability management systems.

Muhammed (2007) looked into various liquidity management strategies and how they affected Kenyan commercial banks' profitability. According to the researcher's results, asset liability management theory and commercial loan theory are bankers' two most common theories. Weak findings supported the notion of projected income and shift ability. One bank, though, used a hybrid technique that combined expected lending with commercial loan theory.

According to Kamau's (2013) analysis of the determinants influencing the liquidity level of public financial institutions in Kisumu, Kenya, fluctuations in the liquidity level were influenced by both internal and external factors. Contingency plans, profitability, the banks' obligations, and management practices were all significant internal variables in determining commercial banks' liquidity level in Kisumu. In keeping with the writer, the findings will serve as a foundation for future studies to push the boundaries/frontiers of liquidity in financial markets.

However, board meetings are not the only crucial component of being vigilant; other factors include being prepared before meetings, staying aware during meetings, contributing to conversations, and following up to ensure that the issues mentioned are addressed. Despite these assertions, the link between board involvement and a firm's

profitability is vague. However, several studies have found that shareholders value board meetings, mainly the frequency of these meetings. For example, Zahra and Pearce (1989) hypothesized that constructive meetings are necessary for the board to fulfil its responsibilities. Similarly, Vafeas (1999) claimed that increasing board meetings map the intensity of board activity and found a link between board meetings and an organizations' profitability. The more frequently a board meets, the more likely it is to carry out its responsibilities rigorously to defend stockholders' interests. "The typical concern for directors is a lack of time to accomplish their jobs," according to this survey. In addition, Beasley et al. (2000) found that organizations with fewer audit committee meetings have more fraud records.

However, given the nature of the investment banks' financing and investing activities, credit risk is not the only high-risk activity concentrated within these institutions. To keep such institutions profitable, they must take credit and market risks.

Anjichi Davis Anjili (2008), did a cross-sectional survey on the 43 certified commercial banks in Kenya, that operated from 2008 to 2012, and secondary records (data from 2004 to 2013) received from the commercial banks'-the audited economic statements and information were obtained. A linear regression mode was used to investigate the information. The research observed that resource benefitable-obligation management becomes positively related to profitability and that profit stockholder's liquidity of public economic performance institutions had an unfavorable courting.

The researchers' flaw was that they failed to investigate how economic organizations affected commercial bank profitability or the relationship between financial risks and company profitability. His study's primary goal was to identify and assess, using the CAMEL framework, acts of property and obligation management on the financial performance of Kenyan commercial banks. ALM is the most critical element determining the economic performance of public financial institutions in Kenya; it was determined using the multiple linear regression method. All of the ALM was shown to have a statistically significant impact on financial performance, according to the investigation. According Michael Mwangi Muguchia's research findings show a correlation between financial management techniques and financial performance. This was corroborated by

research, which established a strong correlation between public economic management practices and financial performance, including monetary management practices and financial practices, for two of the three variables.

2.5 Summary of Literature Review

A research deficit on the empirical studies was found from the literature review. The monetary services industry's panorama has become increasingly competitive, with growing intermediation charges. Asset-liability control is the continuing system of developing, implementing, monitoring, and converting asset and profitability plans for the public economic institution to meet a corporation's monetary dreams while staying inside its risk tolerance and different obstacles. The intention of asset-legal responsibility control is to maximize income by means of allocating finances efficaciously within an acceptable risk framework.

Because ALM has a focused effect on a financial institution's monetary performance, having a powerful AML framework integration that will intently display units and equalizes each asset and legal responsibility management is recommended. The studies referred to above will try to hyperlink how asset legal responsibility control impacts profitability making use of numerous variables. This research will also, consist of greater variables which are relevant to an economic institution's standard financial fulfillment. As an end result, asset-liability management specializes in matching property and liabilities in phrases of stability and interest fee sensitivity with the intention to reduce interest quotes and growth income.

Asset-obligation governance has historically focused on the risks associated with income rate and said to change. Each internal and external variable can stymie financial institution overall performance. The GDP, inflation price, marketplace interest rates, and ownership are all main market uncontrollable factors that have an impact on bank gain. The statistical price accounting (SCA) version could be used within the aforementioned research to research the impact of asset-legal responsibility management on financial institution profitability, but, different researchers no longer considered extra market uncontrollable

variables; the disagreement is that there are other macroeconomic factors that affect bank profitability in exercise. The usage of a linear asset-legal responsibility version in public sector banks has been found to obtain the exceptional asset-liability control positions, because they have a sturdy brief-time period liquidity role. As a result, while evaluating the influence of asset-liability governance on public economic institutions profitability, it is able to be stated that resource benefit properties impacted profitability undoubtedly while liabilities impacted profitability negatively. This structure the primary hypotheses are based in this fundamental assumption.

Asset and liability committees are anticipated to be crucial. Their mission can be to increase a holistic, integrated view in their group's asset and legal responsibility hazard. Asset and liability management face significant problems within the evolving financial panorama. With tougher legal guidelines and reporting necessities, the modern economic turbulence has positioned a stronger emphasis on liquidity management. To meet these converting needs, treasury and risk managers, as well as asset legal responsibility committees (ALCOs), require a robust and complete stability sheet management answer.

A cross-sectional survey was conducted among 42 certified commercial banks in Kenya that operated from 2008 to 2012 (Andaji davis 2008) and secondary records received from the commercial banks' audited economic statements and information was obtained. A linear regression mode was used to investigate the information. The research observed that resourceful benefitable-obligation management become positively related to profitability and that profitability and liquidity of commercial banks in Kenya had a negative relationship. The researcher's shortcoming was that they did not check out the impact of economic leverage on industrial bank profitability or the connection between monetary risks and corporation profitability.

2.6 Conceptual Framework

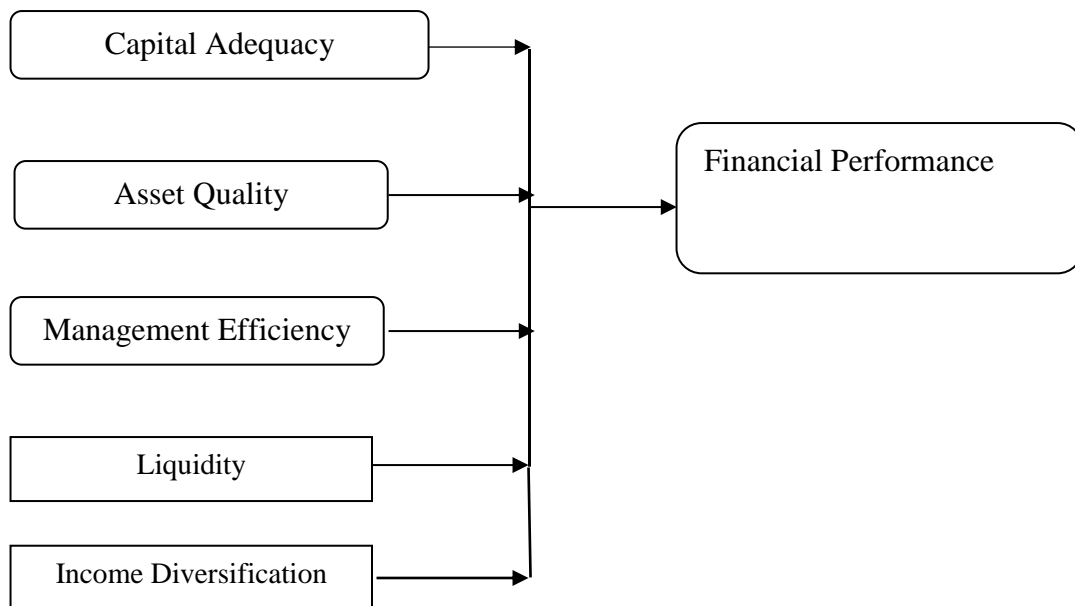
The core objective of this study was to analyze the determinants of economic performance for public economic financial institutions in Kenya. A conceptual network/structure is a set

of interconnected elements and variables that aid in the solution of an actual-international hassle. Its miles the final lens applied to have a look at the deductive resolution of trouble (Imenda, 2014). The development of a conceptual structure begins with the deductive assumption that a hassle exists, and that it can be solved by the usage of tactics, processes, purposeful procedures, models, or theories (Zackoff et al., 2019). The CAMEL approach strategies are our independent variables on the dependent variable, Financial Performance, in our conceptual framework on the effect of potential economic resource benefit (assets)-Liabilities Management Strategies on the economic performance of financial commercial banks in Kenya. The economic performance of public financial economic institutions listed on the NSE is prompted by CAMEL factors.

FIGURE 2. 1: CONCEPTUAL FRAMEWORK

Independent Variables

Dependent Variable



Source: Author (2022)

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This research chapter described the researcher's overall research methods for the study. The research design, population, data collecting, and data analysis was covered all.

3.2 Research Design

A descriptive research design examines individuals, events, or conditions in their natural setting to describe them. The researcher does not change any of the variables; instead, the sample and/or variables are described. Its significance stems from the fact that it can investigate numerous or single variables. The study will employ a descriptive design (mugenda 2003). When an examiner wants to learn about the current situation of an individual or an object, they utilize descriptive research design.

3.3 Population

A study's populace is the collection of all potentially key facts, events, or measurements (Mason et al, 1999). The precise target that acts as the study's focus can be focused on by determining the intended population for the research topic. For the purposes of this study, the 42 public financial economic institutions in Kenya as of January 2012 to December 31, 2021, a period of ten years as a decade there of, shall be the study population. Consequently, a census will be conducted. An easily accessible regulatory need by banks and other financial institutions makes it possible to justify this population.

3.4 Data Collection

Secondary data will be used in the investigation. From 2012 thru 2021, information could be accrued from the significant primary financial institution of Kenya, posted monetary statements of banks, and the Banking Survey. Even as the relevant financial institution of Kenya publishes annually, the public economic Survey is a yearly publication that discloses

yearly economic statements of all Kenyan banks over a ten-year period, while the Federal Reserve Bank of Kenya publishes annually. The study will cover a ten – year period from the years 2012 to 2021. (publication of the CBK supervisory record).

3.5 Data Analysis

The data was analyzed using the Statistical Package for Service Solution (SPSS) version 26.0 computer program. The researcher used ROE, a measure of profitability, to determine how well the banks were performing. The independent variables in the study were aspects of asset liability management, while the dependent variable was financial performance. Because the sample size was greater than 30, the researcher used a two-tailed t-test with a 5% significance level. The study assisted the researcher to determine whether the hypothesis of Asset Liability Management has an Alternate or Null relationship to the financial performance of banks and a conclusion was achieved that Asset Liability Management had an alternate relationship that was statistically significant thus the Null hypothesis was rejected

Linear regression model, that I will use incorporating the indicators or the independent variables (CAMEL) factors of this study.

$$\text{Financial Performance ROE} = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e$$

Where:

Y denotes the dependent variable (Financial Performance) measured as Return on Equity (ROE)

is the intercept's value.

The X variable's explanatory coefficient is.

The epsilon/error term, e, is thought to have a mean of zero and be independent across time.

Ratio of total equity to total risk-weighted assets (X1), also known as capital adequacy.

Ratio of non-performing loans to total loans (X2 [asset quality]).

Term liquid assets as a percentage of all liabilities and deposits (liquidity)

Operating cost to net operating income X4 (Operational Management).

Ratio of non-interest income to total income, expressed as X5 (Income Diversification).

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

The effect of asset liability management on public economics' financial performance, and financial institutions from 2012 to 2021 is presented in this chapter. The variables used to quantify financial performance were capital sufficiency, Asset quality, liquidity, management and operational effectiveness, diversity of income, and return on equity.

4.2 Research Findings

This study sought to determine the five CAMEL approach elements and the overall financial performance trend in the Kenyan banking sector from 2012 to 2021.

4.2.1 Descriptive Analysis

Table 4.11 reports the mean scores of ROE from 2012 to 2021. In 2012 the mean score was 30% and declined to 14% in 2020, showing a decrease of 22.72%. However, there was a continuous sharp decline from 2017 to 2020 due to the invasion of Corvid -1,9, which affected the banking sector adversely, but an increase was realized and gained a rise of 22% in 2021.

The sector's financial performance decreased but gradually increased and gained above 20% from 2012 to 2021. On the economic front, the world economy recovered when Covid-19 measures were implemented, causing the economies to reopen—report on Bank Supervision every year (2021). A ROE higher than 20.00% in the banking sector implies substantial success (CBK, 2013). This means that the sector's performance was on par with global standards. This is crucial for the country's prosperity because banks are crucial for financial intermediation.

From 2012 through 2021, the sector's average asset quality was 3.26%. In 2021, the entire value of bank assets in Kenya will be slightly more than six trillion Kenya shillings (KSH), or around 50 billion US dollars. It climbed by around 11% over the previous years. The increase was attributed to an increase in loans and advances, according to the source. Overall, assets from the banking sector have been rising in the country after a period of steady decrease. The banking sector in Kenya experienced a rise in return on assets (ROA), calculated at 3.3%. As a result, Kenyan banks' earnings from investments increased from 2020, when ROA was 1.7%, to the present.

The sector's average capital adequacy score was 19.81%. In December 2021, Kenya's banking sector had a total capital adequacy ratio of 19.5%, higher than the required level of 14.5%. Being able to endure a financial downturn, capital adequacy is an improvement in the banking sector. A ratio between capital volume and risk-weighted credit exposures is measured by the CAR. The ratio increases with the likelihood that banks will absorb losses before they face collapse.

The average mean value of liquidity was 43.36%, which stood above the minimum statutory level of 20% at an average liquidity ratio of 48.8% in the same period in December 2021. This proved that banks could pay their liabilities, effectively handle their debt obligations and interests to their depositors, and have at their disposable liquid working capital, maintaining withdrawals without raising external capital. They regained a positive trend in being able to deposit the required amount by the CBK in the bank's vaults.

The operational Efficiency mean was 61.38%. Banks have become more efficient, as indicated by the ratio of overheads to total earnings and the ration of staff costs (director's emoluments) to total earnings. Both these ratios have increased considerably since their peak in 2012; there was a drastic peak in the years 2017,2018,2019, and 2020, being the benchmark of efficiency in commercial banks.

The ability of banks to create income from various sources is gauged by the mean score of income diversification, which was 25.35%. A gradual increase was observed, indicating that over the years, the commercial banks invested in income diversification of their

products which declined slightly because of the invasion of Covid-19 in 2021 from 26.6% in 2019 to 25.6 % in 2021.

Additionally, it was shown that larger banks tend to have higher returns and are more diversified than smaller banks. A finding that implies non-interest revenue might not be used to stabilize total operating income is the apparent positive association between net interest and non-interest income. The advantages of the transition toward non-interest income do not appear to completely balance the rise in risk brought on by fee-based income. Therefore, adding fee-based activities to the bank's financial product offering does not lessen the variability of its earnings stream.

The study evaluated the cyclical nature of the two main revenue streams and investigated whether non-interest income could maintain total operational income. The results showed unequivocally that, as seen during the study period, non-interest income is substantially more erratic than interest income. Given the rise in fee-based income, Kenyan banks can anticipate higher earnings volatility and fewer advantages from income diversification. The results also strongly correlate lending rates and net interest income. Since the relationship is negative, lending increases when interest rates are low. Low lending rates are frequently linked to high levels of diversification. The CBK's policy appears to be supported by this conclusion. Therefore, lowering or reducing lending rates benefits banks as it leads to higher net interest income and more diversification, per this research.

The results showed that income diversification significantly and favorably impacted Kenyan banks' financial performance. Firm age and lending strategy had adverse effects, while the firm size and other control variables had mixed results. Relevance in practice: The essay provides the regulator and bank managers with insights. Managers should first consider the best level of diversification to offset declining interest income. Second, the regulator has to loosen regulations that restrict how much banks can diversify their sources of income. Originality/value: This study, in contrast to earlier ones that concentrated on developed and emerging economies, focuses on a developing country, and the results are congruent with the ideas advanced by modern portfolio theory.

TABLE 4.1: AGGREGATE MEAN SCORES OF ALM FACTORS BETWEEN 2012 AND 2012

	Mean	Std. Deviation	Maximum	Minimum
Return on Equity	22.72	5.90	30	14
Asset Quality	3.26	1.00	4.7	1.7
Capital Adequacy	19.81	1.30	23	18.8
Liquidity	43.36	4.23	48.8	37.8
Operational Efficiency	61.38	18	93.1	43
Income Diversification	25.35	1.54	26.6	21.7

Source: Research Findings 2022

According to the capital adequacy statistics, shareholders' money accounted for around 19.81% of the bank sector's total assets, with deposit liabilities covering the remaining 80%. The enormous leverage is not new, given that the goal of banking is to increase customer deposits. According to CBK regulations, banks must maintain core capital of at least 8% of total deposits. This suggests that Kenyan banks generally perform above the minimum legal requirements.

The mean ratio of assets quality of 3.26% implied that less stringent credit risk management practices were adopted in lending, as it had significantly increased from a low of 1.7% in 2020 to a high of around 3.3% in 2021, in regards also to the CBK regulations, being the sole regulator of commercial banks, having averaged and mitigated the rules to boost the economy after the onset of Covid- 19 that ravished the economy. The country's banks favor investing in secure, short-term investments over credit loans, as seen by the excellent liquidity ratio. The average operational efficiency ratio was 61.38%, which shows that local

banking industry overheads are considerable. In 2021, the global economy is predicted to rebound and expand by 5.4 percent. However, it is anticipated that the COVID-19 outbreak and the shrinking fiscal window will slow economic recovery.

Kenya's financial sector, supported by sufficient capital and liquidity buffered to withstand the harmful effects of Covid-19, remained strong and resilient in 2020. A robust regulatory framework, as well as a dependable and effective financial market infrastructure, complemented these. However, the financial sector's stability may be jeopardized by the COVID-19-induced economic slowdown, rising credit risks, declining profitability, and capital market concentration risk. The regulators and other stakeholders remained vigilant and took the necessary precautions to reduce risks and protect stability.

4.2.2 Correlation Analysis of Asset Liability Management and Financial Performance of Commercial Banks

TABLE 4.2: CORRELATION TABLE ON ALM FACTORS

		Return on Equity	Capital Adequacy	Asset Quality	Liquidity	Operational Efficiency	Income Diversification
Return on Equity	Pearson Correlation Sig. (2-tailed test)	1.000	.004 .024	-.217 .954	.128 .187	-.719** .000	.237 .017
Capital Adequacy	Pearson Correlation Sig. (2-tailed test)	-.840* .017	1.000 .185	.044 .044	.000 .000	.000 .000	
Asset Quality	Pearson Correlation Sig. (2-tailed test)	.236* .026	-.340 .044	1.000 .158	.009 .009	.011 .011	.175 .175
Liquidity	Pearson Correlation Sig. (2-tailed test)	-.90* .0191	.387 .009	-.372 .006	1.000 1.000	.000 .000	.000 .000
Operational Efficiency	Pearson Correlation Sig. (2-tailed test)	-.544** .000	.795 .011	-.843** .000	.157** .000	1.000 1.000	.000 .000

Income Diversification	Pearson Correlation Sig. (2-tailed test)	.476*	-.176	.077	-.174	-.072**	1.000
		.969	.158		.006	.000	.040

*. Correlation is significant at the 0.05 level (2-tailed test).

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

Source: Research Findings 2022

The results of Table 4.12 show correlations between ALM factors and financial performance of commercial banks while maintaining the correlation coefficient (r) value between one and one-and-half (-1.00 and +1.0). The study used a two-tailed test with these parameters, five degrees of freedom (df), and an alpha level of .05 (95% confidence interval).

The findings confirmed that a negative relationship existed between Capital Adequacy (-.840), liquidity (-.90), and operational/management efficiency (-.544) to the financial performance of commercial banks (ROA) measured in an average of ten years and that income diversification was statistically insignificant for its 2-tailed significance level was higher or surpassed the threshold of 0.05 which was 0.969. , But Capital adequacy, Asset quality, liquidity, and operational efficiency were statistically significant for their significant 2-tailed tests were lower than the threshold of 0.05 significance level, which was 0.017, 0.026, 0.0191, and 0.000, respectively. Results also showed a positive relationship between Asset quality (.236) and income diversification (.476) to the financial performance measured in an average of ten years. A conclusion was observed that asset quality was statistically significant, whereas income diversification was statistically insignificant.

4.2.3 Asset Liability Management and Financial Performance Regression Analysis

The Regression coefficient metric analyses the goodness of fit of the resource benefit able-obligation management factors variables in forecasting changes in the bank’s economic performance. With a minimum variance of 26% that will depend on other factors, the study's CAMEL components may predict 74% of the financial performance of commercial

banks, according to correlation coefficient (r) and coefficient of determination (r²) values .871 and .741, respectively. The correlation between asset liability management and commercial bank financial success is statistically significant at 0.741, indicating a strong positive relationship.

TABLE 4.3: ALM MODEL SUMMARY

R	R Square	Adjusted R	Df	Sig
.871 ^a	0.741	0.443	5	0.2

Source: Research Findings 2022

TABLE 4.4: ANOVA

Model	Sum of squares	df	Mean square	F	Sig.
Regression	.268	5	.08934	3.786	.028b
1 Residual	.026	1	.26		
Total	.294	6			

a. Dependent Variable: Return on Equity

b. Predictors: (Constant), Income Diversification, Capital Adequacy, Liquidity, Operational Efficiency, Asset Quality

Source: Research Findings 2022

The F statistics investigate whether the Null or Alternate hypothesis has a significant impact on the economic performance of public financial institutions, i.e. whether the independent variables jointly influence the dependent variable. Table 4.4 shows that The likelihood of receiving a result greater than or equal to 3.786 is less than 0.05, as evidenced by the significant value of 0.028, which is less than the critical value at the 5% level in a 2-tailed test. The F statistic for a F distribution is 3.786. (5,1). This shows that the developed regression model is statistically significant, and the variation in the results is insignificant, implying that changing the study units (population) would have little impact. As a result, the model can be relied on to explain how various factors influence the

performance of Kenya's public financial and economic institutions. The economic performance of public financial institutions is not influenced by all of the independent variables. The table indicated that the ANOVA test of ALM on the economic performance of banks was statistically significant, which yielded a result of 0.028; thus, a significant value of 0.028 which is lower than the threshold of 0.05 significant level., which gives a statistically significant level, thus we reject the null hypothesis.

Table 4.5 Coefficient and t-statistic Table

Model	Unstandardized Coefficients	Unstandardized Coefficients	Standardized Coefficients	p-values and t-statistic values	correlations
	B	Std. Error	Beta		Zero-order
(Constant)	143.874	52.154		0.000 (2.759)	
Capital Adequacy	-.840	.312	-.553	0.017 (-2.692)	.274
Asset Quality	.236	0.076	.158	0.026 (3.105)	-.393
Liquidity	-.90	.439	0.85	0.0191(-2.050)	.100
Operational Efficiency	-.544	.0392	-.978	0.000(-13.878)	-.675
Income Diversification	.476	.187	.364	0.969(2.545)	.307

Source: Research Findings 2022

Table 4:5 shows that capital adequacy (-.840), liquidity (-.90), and operational efficiency (-.90) hurt financial performance, but they were significant predictors of the economic performance of the public finances and economic institutions in Kenya. Asset quality

(.236) and income diversification (.476) positively influenced the economic performance of public economics and financial institutions in Kenya.

When all other variables are held constant, the above model predicts a return on revenue of 143.874. Keeping all other variables constant, a unit increase in asset quality increases financial performance by 0.236 units. With all other variables held constant, a unit increase in income diversification improves economic performance by 0.476 units. A unit increase in liquidity with other regular factors reduces the return on revenue by 0.90. On the other hand, a unit increase in operational efficiency would reduce the return on income by 0.544 units. Finally, a unit increase in capital adequacy reduces the return on income by 0.840 units while holding all other variables constant.

4.2.4 Discussion of Research Findings

The study's objective was to determine the impact of asset liability management on the bank's financial performance from 2012 to 2022.

Asset According to multiple regression analysis, asset liability management has a substantial impact on the financial performance of commercial banks in Kenya, found a significant link between the two ($R^2 = 0.741$). They demonstrate that asset liability management policies effectively predict 74% of the liquidity risk for commercial banks with only a minimum discrepancy of 26%, which could be covered by macro and micro factors that can be systematic or unsystematic. Investigation showed that operational efficiency is the most vital decisive, most significant element influencing economic performance in the sector. The findings indicated that a (-13.878%) decrease in financial performance could arise from a 1% increase in operational inefficiency. At 5% This was statistically significant at 5% (0.000) and the t-critical threshold of 1.96 absolute (13.878) confidence levels same findings were also made by Flamini et al. (2009) and Neceur (2003) for SSA and Tunisian banks, respectively.

According to the report, capital adequacy has significantly impacted financial performance. According to the findings, financial performance could fall by (-.840%) for every 1% rise in capital adequacy. At a 5th, This was statistically significant at a 5% (0.017) level of confidence t-statistic, which was more than the 1.96 t-critical three thresholds (-2.692) absolute. The conclusion is that banks should concentrate on raising their capital levels to enhance their economic performance. This will protect banks from exogenous shocks and fully seize any commercial opportunities that arise, improving their financial performance.

A 1% increase in the asset quality ratio resulted in a 0.236% gain in financial performance. Asset quality exhibited a low positive effect of (.236), statistically significant at the 5% level (0.026). These findings concurred with earlier research by Kosmidou (2008) and Flamini et al. (2009). Banks must therefore enhance their procedures for vetting credit applicants and keeping track of credit risk. This is a significant signal since banks have historically struggled with non-performing loans, resulting in numerous institutions' failures. An increase in bank assets indicates that the bank's loans are being repaid with appropriate interests gained over the agreed stipulated periods. A thorough check of credit worth customers is looked into before loans are granted.

Following the quality of the assets, income diversification is a crucial discovery. This variable had a positive effect of 0.476 with a t-statistic of (2.545) which is higher than the t- critical threshold of (1.96), thus being statistically significant, where we rejected the null hypothesis and statistically insignificant at (0.969), which is higher than the considerable level of (0.05) confidence level. Researchers that looked into the relative impact of resourceful-beneficial obligation management on banks' economic performance also discovered that income diversification boosts performance.

Finally, the effect of liquidity was (-.090), and a t-statistic of (-2.050) was statistically significant at the absolute level of the t-critical threshold of (1.96) at the (0.0191) 5% significance level, indicating that low liquidity hurts profitability. This finding implies that

investing in short-term, less risky securities such as government bonds and weekly treasury bills, rather than long-term fixed treasury bonds, leads to increased profitability.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The summary of findings, conclusion, and recommendations are presented in this chapter. Additionally, it identifies the study's limitations while offering proposals for future research projects.

5.2 Summary of Findings

The study assessed the liquidity of the banks for the period specified. The mean value was 43.36%. This means that most of the banks had liquidity levels of less than 43.36 %, which was moderately up to standard with the statutory regulations, whereby the banks could be able to manage withdraws and pay interests without a crisis affecting the banks day to day operations. These findings support the belief that financial performance improves with increased liquidity. This backs up the argument that illiquid banks are compelled to borrow expensive funds from the market or prematurely liquidate their long-term investments at disadvantageous discounts to meet urgent liquidity needs, which lowers economic performance. The correlation of liquidity to the financial performance was high at 0.90, meaning it influenced much on the economic performance of public financial institutions, the t –calculated (-2.050) considered absolute was more significant than the t -critical threshold of (1.96), indicating that the liquidity is statistically significant to the financial performance of commercial banks; thus, we rejected the Null hypothesis.

The banks deal with loans and lend money to generate income from the interest rate. This study measured the quality of assets by relating the amounts of NPLS with total loans. The mean value was 3.26 % of the total loans. This is safe since default cases would not hurt the bank loan total by a more significant proportion. This signifies that banks that fail to keep an eye on their credit loans typically have lower profits than those that pay close

attention to the quality of their assets. This is in line with the belief that a rise in credit risk is typically accompanied by a decline in bank profitability (Kosmidou, 2008). This means poor asset quality leads to the lower economic performance of public financial institutions. The correlation of asset quality to financial performance was common, meaning it does not influence the economic performance of public financial institutions much. However, the t -calculated (3.105), which had a positive influence on the financial performance of commercial banks, was more significant than the t -critical threshold of (1.96), indicating that the liquidity is statistically significant; thus, we rejected the Null hypothesis.

The efficiency of an operation saves on time and cost and could increase on production of a bank. In this study, the researcher estimated efficiency by comparing the cost of sales and revenue costs. The study found a mean efficiency value of 61.38 %, which is higher than 50 %, indicating that prices were lower than the volume of sales, profits, and interests the banks gained during that period. This led to the conclusion that the banks had efficient operational management. However, the t -calculated (-13.878) considered absolute is greater than the t -critical threshold of (1.96), indicating that the operational efficiency was statistically significant to the financial performance of commercial banks; thus, we rejected the Null hypothesis.

The level of diversification of a bank could help reduce the level of risk. In this study, the level of diversification was determined for the period 2012-2022. The mean value was 25.35 %, implying that, on average, the banks got 25% of their income from non-interest operations. The minor income diversified bank had a value of 21.7%, and the highest had 26.6%. Which denoted that the banks operated on a status quo of operation across the period and that most banks got their income from non-interest bank operations. The sector's revenue diversification is average. The correlation also showed that banks' economic performance improved as they engaged in more diverse revenue-generating activities. The correlation between income diversification on financial performance was moderately low and below average but positively influenced the financial performance of commercial banks. However, the t -calculated (2.545) was more significant than the t -critical threshold

of (1.96), indicating that the income diversification was statistically significant; thus, we rejected the Null hypothesis.

Capital adequacy had a 19.81% variation between 18.8% and 23% among the banks. These findings support the view that financial performance improves with increased capital levels. The banks maintained an average of about 20%, which was generally accepted by the statutory regulations in that the banks were able to handle losses and credit exposures and withstood a financial downturn before being at risk of insolvency. The correlation of asset quality to financial performance was moderately low; earning does not influence the financial performance of commercial banks much. However, the t -calculated (3.105), considered to control the financial performance positively, was more significant than the t -critical threshold of (1.96), indicating that asset quality was statistically significant. Thus, we rejected the Null hypothesis.

The findings made it abundantly clear that, at least at the 5% test level, the CAMEL factors significantly affected the financial performance of banks over the research period. This implies that asset liability management considerably impacts the economic performance of public finance and economic institutions.

5.3 Conclusions

The primary goal of this study was to identify and assess, using the CAMEL framework, the effects of resourceful beneficial-obligation management on the economic performance of public economics and financial institutions in Kenya. The 42 commercial banks' data from 2012 to 2021 were examined using the multiple linear regression approach. The most vital and significant factor affecting financial performance is operational efficiency. A significant drop in profitability could result from a minor decline in operational effectiveness. This is out of proportion to the other components. Increased financial success is a result of income diversification. Performance was also significantly influenced by capital sufficiency. However, regarding how they affect economic performance, they are not as substantial as operational inefficiencies.

According to the findings, Kenya's commercial bank industry has an X-efficiency level of 18%. This suggests that Kenya's commercial banks should cut their expenses by 18% to operate at the efficient cost frontier. The ability to increase bank cost efficiency was a vital benefit of this discovery for bank managers and policymakers. The banks are operating more away from the efficient cost frontier than before since the level of X-efficiency is rising over time. This was analyzed to be a worrying trend.

Banks with various income streams in their portfolios typically outperformed those with few or fewer income streams. However, compared to operational inefficiencies and capital adequacy, this factor did not significantly impact the financial performance of banks within the industry. Compared to less liquid banks, those that were more liquid performed better financially. Even though all public financial and economic institutions in the sector maintained the required seldom level of liquidity, several were barely above it, which had a detrimental influence on their financial performance.

The study concluded that asset quality positively and significantly impacted bank performance. Asset quality management ensured that loans were only given to dependable borrowers with good credit.

Additionally, it was shown that commercial banks' financial performance was adversely correlated with the coefficient of capital adequacy. The bank's capacity to meet its obligations and protect itself from historical losses is measured by capital adequacy. Capital adequacy aims to safeguard customers' money held in deposits in case of an impending bank failure. Through avoidance and hedging, capital sufficiency is a safety net to guard depositors if the bank fails or exits the market.

The study also concluded that the financial performance of commercial banks was negatively yet significantly correlated with the operational efficiency coefficient. Operational effectiveness refers to the bank's capacity to allocate resources efficiently to earn revenue. A bank running efficiently can allocate its resources wisely, enhancing

income output. The solvency status of a bank is determined by operational effectiveness. The study also concluded that the relationship between liquidity risk factors and bank financial performance was influenced by the amount of money in circulation in the economy. A vital indicator of the effectiveness of fiscal measures was the amount of money in circulation in the economy. By increasing commercial banks' cash reserves due to CBK's acquisition of the securities, more loans are now available for award.

5.4 Recommendations

Based on the study's findings, the researcher suggests that commercial banks enhance asset quality by decreasing the percentage of non-performing loans, using revenue diversification strategies rather than focused ones, and maintaining the appropriate level of liquid assets to achieve superior financial performance. As a result, it can be concluded that asset liability management significantly contributes to the economic success of Kenya's banking sector.

It is clear that to increase financial performance in the banking industry; significant improvements must be made to operational efficiency. Operational efficiency significantly impacts banks' ability to pass on all their operating costs to consumers, which may signify their competitiveness. A high level of operational efficiency must be encouraged and promoted by bank management by establishing rules and procedures. Banks might spend money on financial technology to increase their operational effectiveness. These findings suggest that bank management should pay attention to, monitor, and ensure improved operational efficiency. The regulator must ensure that operational efficiency regulations are followed to safeguard investors' interests.

Banks must enhance their credit client screening procedures and risk monitoring to increase asset quality. This is a significant signal since banks have historically struggled with non-performing loans, resulting in numerous institutions' failures. This will protect banks from exogenous shocks and fully seize any commercial opportunities that arise, improving their financial performance.

The report suggested that commercial banks in Kenya should diversify their investments into other economic sectors to increase revenue. The study also indicated that commercial banks might need to use caution when allocating and using their resources to meet the demands and goals of their client's businesses. Before making a loan award, banks must critically evaluate each applicant's capacity to repay it to reduce the incidence of highly nonperforming loans. Commercial banks must design and practice loan policies that align with their expected profit levels and business goals.

According to the report, CBK should regularly examine the state of the money market to determine when to inject additional funds into the economy or withdraw them to maintain the banking system's liquidity.

Commercial banks must have adequate capital since it boosts business profitability. To increase depositor confidence, banks should have a sizable capital base. If a bank fails or exits the market, deposits are safeguarded by capital sufficiency. The bank's credit operating system needs to be reviewed regularly to ensure it keeps up with the evolving business environment posed by the development of financial technologies.

Furthermore, given that large banks benefit from economies of scale, the study suggested that commercial bank management invests in more assets to ensure their institutions grow in support. To ensure that customers' deposits are given to worthwhile company investments and customers with a greater chance of repaying the principal amount and interest accrued, bank management may need to develop credit policy frameworks.

Additionally, clients need to be educated about money management and advice on how to use their borrowed money to build a healthy credit culture. Improper credit risk management mechanisms restrict a bank's capacity to increase interest income from loans made out, hurt asset quality, escalate loan losses, and increase NPLs, all leading to financial difficulty among the afflicted banks. The report also suggested using financial technology, such as predictive modeling, to assess borrowers' creditworthiness to reduce the high value

of non-performing loans. Commercial banks should also work harder to increase business diversification to minimize credit risks. Unsuccessfully managing credit risks leads to increased loan defaults and non-performing loans, negatively influencing commercial banks' profitability margins. To control the movement of money throughout the economy, commercial banks must collaborate closely with CBK. For instance, when the Central Bank purchases assets on the open market, it boosts Commercial banks' reserves, enabling them to raise their loans, which expands the amount of money available.

5.5 Limitations of the Study

Due to monetary and time limitations, the inquiry was only open to the Kenyan public financial and economic institutions. The study should have covered a broader field to generalize the findings to a larger population. This study area might have hidden other parts of the nation or different economic sectors. There was little information in published financial accounts because poor record-keeping made it impossible to obtain historical bank records. Even though it took longer than anticipated, the researcher employed other relevant materials to collect the essential data (CBK Annual Reports).

The study only concentrated on banks. This represents only one sector. Findings could be different in other sectors. The model's relationship between ALM and financial performance in other sectors has yet to be discovered.

In this study, the control variables were not featured, as the researcher had the independent variables that significantly influenced the dependent variable; the financial performance of commercial banks.

5.6 Suggestions for Future Research

The study was done in Kenya from 2012-2022, but the investigation has yet to benchmark the findings with other countries. Thus, a similar analysis is suggested to benchmark the results with other banks in other countries. The study only concentrated on banks representing only one sector of the economy. This left other sectors uncovered. A similar

study in other sectors is desired to ensure full disclosure of the relationship between ALM and financial performance.

The purpose of the study was to look at the variables that affect Kenya's commercial banks' financial performance. The study's variables weren't all-inclusive, however. Future studies might include macroeconomic factors like GDP, inflation, and currency rates. Additionally, a survey of the variables affecting the liquidity position and asset quality of public financial institutions in the nation could greatly enhance academic research and regional banks' performance.

This study aimed to explain and offer the CAMEL system for assessing the public financial institutions appraisal in Kenya. However, the methods and goals of this framework may differ amongst nations, businesses, and banks. All Kenyan banks were chosen to discuss how the CAMEL criteria affected banks' financial performance. The question of whether or not the CAMEL model can be employed as a tool for banking supervision in Kenya may be explored further by other scholars. As a result, one would see this research as a reference to broaden the research's reach and enhance its findings.

REFERENCES

- M. Dash, & R. Pathak (2011). A Linear Programming Model for Assessing Asset-Liability Management in Banks, *"IUP Journal of Financial Risk Management, vol. 8, no. 1, pp. 50-67, "A Linear Programming Model for Assessing Asset-Liability Management in Banks," IUP Journal.*
- B. Tamiru (2013). and Commercial Bank Profitability in Ethiopia," *Research Journal of Finance and Accounting, vol. 4, no. 10. "Asset Liability Management and Commercial Bank Profitability in Ethiopia."*
- B. Charumathi (2008)."Asset Liability Management in Indian Banking Industry with Special Reference to Interest Rate Risk Management in ICICI Bank, " *in World Congress on Engineering, London, UK. "Asset Liability Management in Indian Banking Industry – with Special Reference to Interest Rate Risk Management in ICI*
- S. Tanna, K. Kosmidou, and F. Pasiouras. (2005) Money Macro and Finance (MMF) Research Group Conference 45, Money Macro and Finance Research Group, *"Determinants of profitability of domestic UK commercial banks: panel evidence from the years 1995-2002. "*
- A.W. Kamau (2009). The Banking Sector's Efficiency: *An Empirical Investigation of Financial Markets, Institutions, and Money* 7, 28–59.
- Abbott et al., (Sept. 2003). *Auditing A Journal of Practice and Theory* 22(2):17-32.
- De-Andres & Vallelado (2008), Ghosh & Sirmans (2003), Bhagat & Black (2000). *'ALCO Management and Efficacy of Board Management,'*
- Alper, D. and Anbar, A. (2011). Bank Specific and Macroeconomic Determinants of Commercial Bank Profitability: *Empirical Evidence from Turkey, Business and Economics Research Journal* 56,45-85.

- Choudhry, (2007). Asset Liability Management Empirical Evidence from Turkey,
Business and Economics Research Journal 56,45-85.
- B. Charumathi (2008). *World Congress on Engineering, July 2–4, London, UK, Asset Liability Management in the Indian Banking Industry – with special reference to Interest Rate Risk Management in ICICI Bank.*
- B. E. Gap and R. Brooks (1993). *Irwin Professional Publishing, Burr Ridge, published Interest Rate Risk Management.*
- B. K. Asiri (2007). *India Journal of Economics and Business* 5, 120–210, Assets-Liabilities Management in banks.
- B. k. Asiri (2007)" Assets-liabilities management in banks: A case of Kuwait," *Indian Journal of Economics and Business, vol. 6, no. 1, pp. 103-115*, "Assets-liabilities management in banks: A case of Kuwait," *Indian Journal of Economics and Banks.*
- Vafees (1999), Koch (1995) and Beckmann (2007). A case of Kuwait. 'Board Management,'). '*Capitalization of Asset Liability Management.*'
- Sufi & Qaisar, Bizuayehu (2016). '*Credit Risk Management.*'
- D. Alper and A. Anbar (2011) "Bank Specific and Macroeconomic Determinants of Commercial Bank Profitability: Empirical Evidence from Turkey," *Business and Economics Research Journal, vol. 2, no. 2, pp. 139-152*, "Bank Specific and Macroeconomic Determinants of Commercial Bank Profitability: Empirical Evidence from Turkey,"
- D. Mathuva (2009). The Kenyan Scenario: Capital Adequacy, Cost Income Ratio, and Commercial Bank Performance 4(12), 82-93, *International Journal of Applied Economics and Finance.*

- DeAngelo, H., DeAngelo, L., & Stulz, R. M. (2006). Dividend policy and the earned/contributed capital mix: A test of the life-cycle theory. *Journal of Financial Economics*, 81, 227-254.
- Chung & Pruitt (1996), Palia & Lichtenberg (1999), Brickley et al (1998). 'Directors shareholders Management: A discussion Series Paper no;7.
- F.M. Mwega (2009). Kenya and the Global Financial Crisis: A Discussion Series Paper no. 7
- Fabozzi, FJ, and Konishi, A. (2003), (1995). *Management of assets and liabilities*. S Chand & Co., New Delhi
- Oloo Olweny and Shipho (2011), Memel and Scherteler (2010). 'Financial Deposit Management,' *Factors Affecting Commercial Bank Performance in Kenya*.
- G. Baum (1996) *Asset-Liability Management (3rd Edition)*, G. Baum, Von Pensionsfonds VerlagKarsruhe, India.
- G. H. Hempel, D. G. Simonson, and A.B. Coleman (1994). John Wiley & Sons, New York, 4th edition of Bank Management.
- Gyekyi (2011). 'Goal Programming in Asset Liability Management,'.
- Goodhard, (2004) ' Ayadi, Arbak, Naceur, and De Groen (2015).,' *Economic Deviations of Nations*.
- H. Demsetz (1973). *Journal of Law and Economics*, 16, 1-9. *Industry Structure, Market Rivalry, and Public Policy*.
- H. M. Markowitz (1959). Wiley, Yale University Press, (1970), Basil Blackwell, (1991), *Portfolio Selection: Efficient Diversification of Investments*.
- H. Markowitz, Portfolio Selection, (1952). *The Journal of Finance*, vol. 1, no. 1, March 1, pp. 77-91.

- I. Ramlall (2009), "*Bank-Specific, Industry-Specific, and Macroeconomic Determinants of Profitability in Taiwanese Banking System: Under Panel Data Estimation*," *International Journal of Finance and Economics*, vol. 34, pp. 160-167. I. "Bank-Specific, Industry-Specific, and Macroeconomic Determinants of Profitability in Taiwan.
- J. Aduda and J. Gitonga (2011). *Unpublished Master's Thesis, University of Nairobi, The Relationship Between Credit Risk Management and Commercial Bank Performance in Kenya.*
- J. Bain (1951) and J. Baumol (1982), Berger (1995). *Quarterly Journal of Economics* 65, 293-324, Relation of Profit Rate to Industry Concentration.
- K. J. Baral (2005). Commercial Banks' Health Check in the CAMEL Framework: A Case Study of Joint Venture Banks in Nepal *Journal of Nepalese Business Studies*, vol. 8, no. 2, pp. 211-298.
- K. Zawalinska, (1999) CASE, Warsaw: Centre for Social Science Research, Asset liability management: The institutional approach to ALM by commercial banks in Poland, with a special focus on risk management.
- K.M. Ashok (2009). An Empirical Investigation of Scheduled Commercial Banks in India 22,3563-3594: Kenya's Central Bank. *Annual Report on Bank Supervision 2009. Nairobi, Kenya's Central Bank.*
- L. Golbert and A. Rai, (1996) "The structure-performance link for European banking," L. Golbert and A. Rai, *Journal of Banking and Finance*, vol. 20, pp. 745-771.
- M.E. Francis (1988): Determinants of Bank Profitability in Sub-Saharan Africa, M. E. Francis, *Journal of International Finance* 88, 26–51.
- N. W. Gikonyo (2011). The impact of credit risk management on the financial performance of Kenyan commercial banks listed on the Nairobi Stock Exchange (*Doctoral dissertation, Kenyatta University*).
- Cournot's (1934). 'Oligopoly Economists, Firm Management,'.

- P. Athanasoglou et al., S. Brissimis, and M. Delis (2006). Determinants of Bank Profitability: Bank-Specific, Industry-Specific, and Macroeconomic. *International Financial Markets, Institutions, and Money* 7, no. 28–59.
- Uzhegova (2010). 'Profitability in Market Power Management,'
- R. DeYoung and C. Yom (2008). Evidence from US Commercial Banks from 1990 to 2005 on Asset and Liability Independence. 1440–1485. *Journal of Financial Stability*, vol. 29.
- Torstein & Simeon Vossen, (2010). *Ruhr Economic Papers* 165, RWI - Leibniz-Institute für Wirtschaftsforschung, Ruhr-University Bochum, TU Dortmund University, University of Duisburg-Essen, "Demographic Change and the Labor Share of Income," *Ruhr Economic Papers* 165, Ruhr-University Bochum, TU Dortmund University, University of Duisburg.
- S. Choi and J. Kotrozo (2006). A Cross-Country Comparison of Diversification, *Bank Risk, and Performance*. A Thesis Submitted in Partial Fulfillment of the University of Kuala Lumpur's Master of Science Degree Requirements.
- S. Elyor (2009). *Factors Affecting Foreign Bank Performance in Malaysia* a Thesis Submitted in Partial Fulfillment of University Utara Malaysia's Master of Science Degree Requirements (Banking).
- S. Gavila and D. Santa Barbara (2009). *What Explains Chinese Banks' Low Profitability/* P 30.
- S. Gyekyi (2011). The Impact of Asset Liability Management on Profitability: *A Case Study of the National Investment Bank in Ghana's New Juabeng Municipality* A thesis presented in partial fulfillment of the requirements for the Doctor of Masters of Business Administration degree at Kwame Nkrumah University of Science and Technology.
- S. Naceur (2003); Panwala (2009). Panel Evidence on the Determinants of Tunisian Banking Industry Profitability. Nairobi University. *'Shareholders Wealth and Financial Resources,'*

- T. Beck and M. Fuchs (2004). *Improving Competition and Access in Kenya's Financial System: Structural Issues 3363 W/P*
- Tregenna, F. (2009). The fat years: *The structure and profitability of the US banking sector in the pre-crisis period, 609-663 in Cambridge Journal of Economics [online].*
- D. D. Hester and J. F. Zoellner, (1966). The link between bank portfolios and earnings: *An econometric analysis, Review of Economics and Statistics, vol. 48, pp. 372-386.*
- John Linter, Jan Mossin, Richard Roll, Stephen A. Ross, Kane Malkiel (1965). *The Quarterly Journal of Economics, vol. 79, issue 1, 113-134.*
- Torstein Schmidt and Simeon Vossen, (2010). *Ruhr Economic Papers 165, RWI, "Demographic Change and the Labor Share of Income."*
- U. Abu rime (2008) and A. Al- Tamimi (2010). *Bank Profitability Determinants: Evidence from Nigerian Companies.*
- V. Flamini et al., McDonald, C., and Schumacher, L. (2009). *Commercial Bank Profitability in Sub-Saharan Africa: Determinants.* Colorado State University.
- B. Tamiru, (2013) *Vol. 4, No. 10. Research Journal of Finance and Accounting, vol. 4, no. 10, "Asset Liability Management and Commercial Bank Profitability in Ethiopia."*
- W.O. Odhiambo (2006). *A survey of Kenyan commercial banks' liability management practices. Nairobi University.*
- Zen iOS, (2006) *vol.1no.i, University of Cyprus, The Wharton Financial Institutions Center Rosen & S.A.*

APPENDICES

Raw data

YEAR	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	MEAN	MEDIAN	SD	MIN	MAX
ROE	30	29.2	26.7	27.9	24.6	20.8	17	15	14	22	22.72	23.3	5.90	14	30
CA	23	21	20	19	19.5	18.8	19.5	18.8	19	19.5	19.81	19.5	1.30	18.8	23
AQ	4.6	4.7	4.4	2.9	3.2	2.6	2.6	2.6	1.7	3.3	3.26	3.05	1	1.7	4.7
LIQUIDITY	43	38.8	37.8	38.3	41.8	44	44.4	48.3	48.4	48.8	43.36	43.5	4.23	37.8	48.8
OE	43	44.6	48.8	46.7	53	62.7	76.7	86	93.1	59.2	61.38	56.1	18	43	93.1
ID	21.7	23.8	25	26.3	26	26.6	25.6	26.6	26.3	25.6	25.35	25.8	1.54	21.7	26.6