

**BANK SPECIFIC DRIVERS AND FINANCIAL PERFORMANCE OF TIER  
III COMMERCIAL BANKS IN KENYA**

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## **DECLARATIONS**

### **Student Declaration**

I declare that the project is my original work and has not been presented to any other institution for the award of degree. No part of this document should be reproduced without my consent or that of Kenyatta University.

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### **Supervisor Declaration**

I declare that the student developed the project document under my supervision the duly appointed University supervisor.

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## **DEDICATIONS**

I thank the Almighty God for seeing me through. I thank My mum, Leah Njanju for standing by me, her prayers and encouragement throughout my education.

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## **ABBREVIATION AND ACRONYMS**

<b>AML</b>	Anti-Money Laundering
<b>CAMEL</b>	Capital, Asset quality, management, Earnings and Liquidity
<b>CBK</b>	Central Bank of Kenya
<b>CFROI</b>	Cash Flow Return on Investment
<b>CVA</b>	Cash Value Added
<b>DER</b>	Debt to Equity Ratio
<b>DAR</b>	Debt to Asset
<b>EVA</b>	Economic Value Added
<b>KYC</b>	Know Your Customer
<b>MVA</b>	Market Value Added
<b>NACOSTI</b>	National Commission of Science, Technology & Innovation
<b>NIM</b>	Net Interest Margin
<b>NSE</b>	Nairobi Securities Exchange
<b>NWTR</b>	Net Worth Turnover Ratio
<b>NPA</b>	Non-Performing Assets
<b>OER</b>	Operating Expenses Ratio
<b>P/E</b>	Price Earnings Ratio
<b>ROE</b>	Return on Equity
<b>SACCOs</b>	Savings Credit and Cooperative Society
<b>UAE</b>	United Arab Emirates
<b>UK</b>	United Kingdom
<b>US</b>	United States

## **OPERATIONAL DEFINITIONS OF TERMS**

**Asset Quality** Refers to the quality of an institutional loan, which reflects the institution's earnings. Rating investment risk considerations that the bank may encounter and balancing those factors against the bank's capital profits is part of assessing asset quality.

**Banks Specific Drivers** These are the major inputs and actions that influence a bank's operational and financial outcomes. Income diversification, asset quality, and capital adequacy will be used as proxy for specific business drivers in the study.

**Capital Adequacy** It's a proportion of a bank's uncertainty credit risks that shows how much equity it has on hand. The idea is to guarantee that banks have had enough capital on hand to absorb a certain level of losses without going bankrupt. As a proxy for Capital Adequacy, the Capital Adequacy will be employed.

**Financial Performance** It's a subjective estimate of a bank's capacity to make money using assets from its primary business. In this study, financial success will be measured using Return on Equity.

**Income diversification**The firm's existing worth is calculated using the stock price and the overall number of shares outstanding. It's calculated by multiplying the market cost of the company's stock by the shareholders equity.

## ABSTRACT

Commercial bank sector in Kenya averagely developed rapidly between 2015 and 2020. In 2016, total net assets increased by 5.8%, from Kes 3.5 trillions to Kes 3.8 trillion. Net borrowing increased by 5.6 percent to Kes. 2.2 trillions in 2016, compared to Kes. 2.17 trillions in 2015. From Kes 134.0 billion in 2015 to Kes 147.4 billion in December 2016, the sector's pre-tax earnings climbed by 10.91 percent. As classified in terms of market share, it was shown that Tier iii commercial banks' pre-tax earnings declined by 2.2 percent between 2015 and 2016, with a 3.5 percent loss in return on assets in 2017, 4.2 percent in 2018, 4.7 percent in 2019, and 5.5 percent in 2020. In 2019, a number of banks, including First Community Bank, which lost Kshs. 41.0 million, Jamii Bora Bank, which lost Kshs. 490.0 million, and Consolidated Bank, which lost Kshs. 277.0 million, Thereby failing to meet shareholders expectations in growth of profitability and shareholders wealth maximisation. For failure to fulfil required cash reserve ratios, and also having huge non-performing loans and insufficient corporate governance systems. As a result, the current research intended to determine how bank specific drivers affected the financial performance of Kenya's Tier III commercial banks. The specific objectives of the study were to look at the effect of capital sufficiency, asset quality, and enterprise value on Tier III financial firms' financial performance. Keynesian Theory, Financial Acceleration Theory, Efficiency structure and Capital irrelevance theory were the major pillars of the research. Causal research design was used to explain the cause and effect of specific business drivers and its effect on financial performance. Secondary data collection schedule was used to collect secondary data. Data was sourced from the audited financial statements of the targeted 21 banks. A census survey was carried out due to a manageable small size of the population. Quantitative analysis was used in data analysis with the help of STATA. Several Diagnostic tests were done to test the normality, multicollinearity and heteroskedascity. Ethical issues were considered in writing the proposal, report writing, citing and collection of data. Capital adequacy results obtained from the nineteen commercial banks constituted of equity divided by total assets. The results indicated that majority of the Tier three commercial banks capital Adequacy ratio was very low compared to the sector average. The finding on asset quality illustrates management's capacity to recognize and control credit risk. The asset quality indicates high non-performing loans in the Tier three Kenya commercial banks for the period under study. The results showed that banks had insufficient capital on hand to be able to absorb a specific level of losses before running the risk of going bankrupt. The results indicated that the tier three commercial banks had on average similar amount of total assets. The study concluded that bank size had no significant impact on Return on Equity. The size of the bank has no effect on how ROE fluctuates by the unit. The study concluded that asset quality had a positive and significant effect on Return on Equity. A positive unit change in asset quality results to a positive unit changes in Return on Equity. The concluded that income diversification significantly affects Return on Equity. The study concluded that capital adequacy significantly affects Return on Equity. The study recommended that the tier three bank directors should ensure that capital adequacy, asset quality and income diversification are maintained at the highest level to ensure increased return on equity.

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Background of the Study**

Commercial banks are critical to a country's economic growth because they manage a large portion of the money supply in circulation, encourage liquidity, and ensure the smooth operation of the financial system Nasieku (2018). There are many issues in the financial sector, including financial distress (Kamau&Oluoch, 2016). A significant prerequisite for economic stability and development is the financial health of the banking industry. As a result, for many stakeholders, evaluating banks' financial conditions is a fundamental objective. The cost of bank failure is high, and hence ailing banks need fast supervisory authority intervention to save them before they collapse (Athreya, Mustre-del-Río & Sánchez, 2019)

According to Goodhart and Schoenmaker (2016), during the global financial crisis, US banks' market share climbed, whilst European banks' market share declined. American banks are on the approach of overtaking European banks, according to Goodhart and Schoenmaker (2016). In the Asian Pacific market, Chinese banks have outperformed American and European commercial banks since 2015. The performance of the US financial crisis and banks from July 2007 to December 2008, according to Beltratti and Stulz (2012), was the worst since the Great Depression, Poor yields and lesser risk in the financial system reflect this.

Riley and (2014) proposed explanations to explain the drop in UK productivity growth due to bank lending limits, particularly in the aftermath of recent financial turmoil,

which indicated weakness in increased productivity. Bell and Young (2010) found evidence of bank lending restrictions in the UK market in mid-2007, implying that small company loans grew during the economic crisis, with a starburst pattern of growth in mid-2008.

Dubai Islamic Bank, Kuwait Finance House, and Al-Rajhi Bank in a study carried out in Saudi Arabia were negatively impacted by a confluence of circumstances, including shifting oil prices, geopolitical uncertainty, and a collapse in global equity performances (Husna & Rahman, 2012). When confronted with a recession in 1997, Malaysian banks were severely distressed, according to Husna and Rahman (2012). Seven domestic economic businesses were compelled to merge in order to survive greater competition and poor organisational effectiveness; these financially troubled banks, especially the surviving, were obliged to submit fake financial statements to persuade shareholders. Users may behave differently when their financial accounts are distorted, according to Husna and Rahman (2012).

When trying to compare the predictors of bank profitability in Bangladesh between local private as well as nationalized banks, Sabina and Mohammad (2015) discovered that management efficiency and resource utilization had a significant positive effect on financial performance of commercial banks, while credit quality had a negative impact. According to Memi and Kalji-Memi (2013), the banking industry in Bosnia and Herzegovina had a crisis, resulting in stagnation. Individual commercial banks' efficiency, on the other hand, varied. Many banks that have a large market share are operating well.

Before or during the economic meltdown in 2007, the interest coverage ratio (NIM) affected profitability and so defined the impact of bank profitability in Tunisia. Hamdi and Karaa (2012) The capital ratio to loan, the proportion of interest income, and total sales all impact the banking industry's financial results in Ethiopia, according to Gebreslassie(2015). Asset quality is a primary indicator of financial hardship in Nigerian commercial banks, according to Sjahril, Priharto, Parewangi, and Hermiyetti (2015).The failure of commercial banks to maximize the use of vast asset capacity in order to increase their earnings revenues exacerbated the decline in asset values and the growing financial meltdown that plagued Nigeria's financial sector between 2004 and 2008. It was shown that banks' reckless lending was triggered by highly liquid syndrome and big capital bases, resulting in a rise in the amount of unsecured credit in their portfolios.

Non-performing loans and changes in the liquidity ratio trigger financial distress, according to Fadare (2011), who used data from 1985 to 2009 to determine the source of financial distress in Nigerian commercial banks. Working capital was a primary indicator of financial distress, according to Amadasu (2012), who used data from Nigerian commercial banks from 2003 to 2007. When Nkegbe as well as Ustarz (2015) investigated what is causing financial difficulties in Ghanaian financial institutions, they unearthed that share of the market of lenders has a good association with banks' financial performance, and that bank lending ineffectiveness occurs when banks start raising borrowing costs while reducing reserve requirements. Finally, according to Matia and Aaron (2013), determining the source of financial hardship in South Africa, major banks faced financial difficulty from 2005 to 2012.

Over the last few years 2014 to 2019, Kenya's financial sector has strengthened dramatically and has been the largest in East Africa. The Kenyan banking sector is credited for its scale and diversification in relation to other East African economies. Unlike others in the country, Kenya offers or has a range of financial institutions and markets. However, the sector's growth has been constrained, especially in 2016-2020, due to factors such as non-performing loans, leverage, liquidity, income smoothing practices due to bad corporate governance and deficiencies in corporate governance leading to the failure of a number of Tier III commercial banks (Fwamba, Nasimiyu, Toroitich, 2020).

Chase Bank was the latest bank failure in 2016 and the Imperial Bank failed in 2015 and the Charter House bank's statutory management. In Kenya, despite government attempts to streamline the banking sector through the implementation of legislative regulatory initiatives (i.e minimum capital requirements, AML and KYC among many others) more banks have continued to be liquidated or placed under receivership. Six more banks failed between 2000 and 2006. Charterhouse, one of them, had a litany of crimes that ranged from money laundering to tax evasion. Between 2007 and 2015, banks such as the Kenya Finance Corporation, Trade Bank, Trust Bank, Euro Bank, and Charter House had collapsed (Fwamba, Nasimiyu, Toroitich, 2020).

### **1.1.1 Financial Performance**

A number of Finance research studies have provided literature of financial performance. According to Fauzi and Abdalla (213) performance and indeed Financial Performance is typically influenced by a number of factors. Kang and Kinyua (2016) noted that profitability in financial terms, is a measurement of a firm's policies

and operations. The ability of a company to accomplish its objectives and goals can also be defined as financial performance (Busch,Bauer,&Orlitzky,2015). Furthermore, according to Busch*etal.*,(2015), economic and social objectives are intricately interwoven, making financial performance inexorably related to social goals.

Academic research and banking industry players have been interested in Kenya's financial success in the banking sector. This is due to the fact that financial performance has a significant impact on any country's economic growth and is often thought to reflect a country's financial and economic conditions outside of its role as an economic intermediary (Gatuhi,2015). Due to global competitiveness, financial success is important not only to a company's stakeholders, but also to companies in the same sector (Cytton Investments,2018).

Busch, Bauer,andOrlitzky(2015) proposed three types of financial performance metrics: market based measurements, accounting-based measures, and economy-based measures. Market value of shares on the stock markets stock and and Tobin Q are business are market based measures that tie firm financial performance to the financial markets, especially the capital markets(Busch*etal.*,2015).Bookkeeping evaluations employ previous performance data to examine a company's internal efficiency.

Accounting based measurements such as Return on Assets (ROA), Return on Equity (ROE),and earnings per shareare all accounting measures (EPS), asset usage, and asset turnover, among others, whereas survey-based assessments include survey participants' subjective numbers, such as their view on how the company uses its assets (Busch *et al.*,2015). Accounting and market indicators are the most commonly used. Traditional

accounting indicators include return on assets (ROA), return on equity (ROE), earnings per share (EPS), and the price to earnings ratio (P/E), while Economic based measurements include Economic value added (EVA), Market value added (MVA), cash flow return on capital (CFROI), and cash equivalent added (CVA) are also emerging.

Bank capital, asset quality, management potential, income assessment, and liquidity are all CAMEL criteria, according to Bhasin (2016), could be used to calculate a bank's financial performance. CAMEL parameter ratios are also significant to banks' financial performance decisions, according to the author, because greater ratios above the minimal standards indicate that banks' financial performance trends are robust. Banks' ultimate purpose, according to Ongore and Kusa (2013), is to make money, and ROA, ROE, and net interest margin are important performance metrics for assessing banks' financial success. The major financial measures for Kenyan commercial banks in this research will be ROE and ROA. These indicators (ROA and ROE) show financial power, weaknesses, opportunities, and hazards, and they include effectiveness, growth, and even consumer happiness (Fwamba, Nasimiya, Toroitich, 2020).

### **1.1.2 Bank Specific Drivers**

Internal characteristics that are linked to Financial performance and financial stability are referred to as specific business drivers (Mdoe, 2017). According to Okpanachi, Doha, and Mohammed, specific industry drivers are factors that are mostly under the control of a company's management (2018). Specific business drivers, according to Kariuki (2016), are the aspects of an organization that are influenced by firm-level management. Kandiru, Gachunga, Muturi, and Ogutu (2015), on the other hand, identify unique business drivers

as demographic and managerial elements that make up the firm's internal environment. According to Kaguri (2013), a commercial Bank Performance and stability can be influenced by performance and going concern are influenced by diversification, stability, profit, resources, capital, institution shareholding, leveraged, size of the business, age of firm, board composition, growth, capital, and economic external conditions. Asset quality, liquidity, capital sufficiency, profit growth, market cap, bank size, and efficiency are all measures used by commercial banks, according to the Banking Survey (2018).

However, according to CBK (2019) the specific business drivers for commercial banks as identified by the BASEL I, II, III and IV are capital adequacy, Asset Quality, Income diversification and Bank size. The capacity of bank assets (credits) to create income, as well as the simplicity with which debtors satisfy their legally binding commitments, is referred to as asset values (Sekar, 2014). Asset quality is thus inversely proportional to the volume of nonperforming assets. A nonperforming advance/resource, according to Ombaba (2013), is a credit office where the interest or potentially principle sum has been past due for a length of time. The financial system's soundness is critical to an economy's financial stability. According to Vigneswara (2015), banks must retain quality assets in order to attain bank soundness and stability, because quality assets lead to financial stability. In addition, according to Vigneswara (2015), the inability to provide financial stability through asset quality could lead to monetary delicacy, which could result in an emergency in the event of market illiquidity and bank infection.

A proportion of net noninterest income to operating income was utilised as a proxy for income diversification. A higher value suggests increased involvement in noninterest income-generating businesses (Moudud-Ul-Huq, 2019; Hunjra *et al.*, 2020). As a

substitute, the study constructs each country bank's noninterest income-based indicator of diversification using a Herfindahl–Hirschman index (HHI). Income HHI is computed as the summation of revenue portfolio components squared. Where the level of noninterest income diversity varies from 0 to 1. The substantial figures advocate a better variety of earnings in a diverse income source operation. Consequently, a positive association between diversity and stability is anticipated.

Analyzing a business's assets as part of bank management, according to Adeolu (2014), requires estimating the degree and amount of default risk connected with its operation in order to assure sustainability and greater financial effectiveness. According to Consistent with previous, a country's economic economic security is highly dependent just on economic sector's sustainability (2015).The author suggested that banks should keep quality assets in order to achieve banking stability since quality assets result in high profitability. According to the author, failing to maintain banking stability through asset quality could lead to financial instability and, in the event of market lack of liquidity and banking contagion, financial catastrophe.

For total net loans and loan loss cover, the asset quality ratios of Barus, Muturi, and Kibati (2017) and Nazir (2010) should be Non-Performing Assets (NPA). The bank's profitability is harmed by large non-performing loans, despite the fact that low ratios indicate that the bank is healthy. According to Baruset al., deposit, loans, and quasi loans are important components in determining the capital adequacy of a bank's operations (2017). According to Baruset al., (2017), inadequate credit risk reduces bank profitability, reduces capital requirements, and increases loan losses and

quasi loans, both of which can lead to economic distress. As a result, if negative values are used in this study, total NPA will be used for the total loan ratio and provision for loan loss would be used for the operating income ratio.

According to Yahaya, Mansor, and Okazaki, capital adequacy is a vital indicator that helps to complete the whole picture of banking performance by measuring the level of risk absorption by financial institutions (2016). The investigator went on to remark that capital adequacy is often linked to surrounding countries' economic output. Capital adequacy for financial institutions is a critical issue, Financial stability is defined as the relative ratio of a banking institution's primary equity to its assets, that is used as a measurement of its financial soundness (Adeyinka, 2013). Furthermore, Olalekan and Adeyinka (2013) stated that if such losses could not be covered by earnings in financial institutions, capital would be used to absorb them. Calculating capital adequacy in accordance with the Basel and CBK guidelines is the purpose of capital adequacy (Nasieku, 2014). In order to assess capital adequacy, the current study used the capital adequacy ratio as a specific business driving indicator for commercial banks' financial results. Because banks are supposed to have appropriate risk buffering, a higher percentage of the ratio would be preferable (Adeyemi, 2012; Nasieku, 2014).

### **1.1.3 Banks Specific Factors and Performance of Commercial Banks**

The term "bank unique factors" or "internal factors" refers to specific characteristics of a bank that influence its performance (Dang, 2011). Academics frequently employ the CAMEL though transform to simulate bank-specific features. As according Dang, the Bank Capital Ratio is used to determine capital requirements (2011). A bank's capacity to sustain losses in the event of an economic meltdown is measured by its capital

adequacy. The capital structure is directly proportionate to the bank's capacity to weather a crisis. It also determines whether or not to grow into riskier but profitable ventures or sectors, which has a direct impact on bank profits. The financial profitability of banks is aided by bank capital, according to Ebrahimi, Bahraminasab, and Fard (2017). Capital sufficiency, deposit levels, and income diversification all have a beneficial impact on financial performance in traditional banks, according to Rashid and Jabeen (2016).

The growth in debts, according to Ahmed and Abidin (2007), can indeed be negative to institutions because they offer a default risk and prohibit banks from meeting their goals. As according Said (2018), capital adequacy has a negative correlation with the both Return on Asset (ROA). Bankers with good asset quality should avoid revenue diversity, as according Recognizes (2017), since it would diminish their profitability. According to Daly and Frikha (2017), the loan portfolio quality of a commercial bank has a positive impact on its profitability. According to Anjili (2014), in Kenya, capital adequacy has a significant positive influence on commercial banks' financial results, and revenue diversification and default reduced risk would improve financial firms' financial results tremendously.

#### **1.1.4 Tier III Commercial Banks in Kenya**

Kenyan commercial banks are divided into three groups by the Central Bank of Kenya (CBK). Groups are classified based on their market position, total assets, investment total, and amount of customer deposits (CBK, 2016). Tier I Commercial banks with market share of than five percent individually, 58.8 percent of the total accounts, 89.1 percentage

of deposit accounts, and kind of percentage of credit lines, and also millions in holdings, cash, and customer deposit accounts (CBK, 2019). Tier II Banks , those with market share of between one and five percent, Larger lenders than Tier III, own a market share of 41.7%.

There are presently six tier 1 bank in commercial bank market. The second level is made up of eleven financial institutions that handle 26percent of the commercial banking sector, 0.5% of excess reserves, 7.6percent ) of the respondents of overall bank deposits, plus 3.8 percent of the total consumer loans (CBK,2019).Twenty-one banks make up Level iii financial institutions, which account for 8.9percentage points of the share of the market of financial institutions, 8.2percent of excess reserves, 1.8 percentage of savings accounts, and 1.8 percentage of consumer loans(CBK,2019).

The declining performance in Kenya's Tier III banks have has made them target of Mergers and Acquisitions for example Trans National Bank acquired by Access bank from Nigeria, Spire Bank ,MayFair Bank acquired by CIB from Egypt , Jamii bora bank acquired by Cooperative bank , and Spire Bank acquired by Equity Bank (CBK Report , 2021). For the years 2015 to 2020, the banking sector has exhibited strong growth. Net loans grew by 2.5 per cent from Kshs approximately 1.7 billion in 2016 to provided online 2.2 trillion in 2016.FromKes, total net assets increased by 5.8%. 3.5 trillion Kenyan shillings In 2016, 3.7 trillion dollars were spent. CBK (2016) and CBK (2017).FromKshs 134.0 million to Kshs ratio billion as of December 2016, the industry's which was before earnings climbed by 11.23 percent. However,tierthreecommercial banks' pre-tax earnings declined by 2.2 percent between 2015 and 2016, with a 3.5 percent loss in ROA in 2017, 4.2 percent in 2018, 4.7 percent in 2019, and 5.5 percent in

2020 when assessed by tier categorization. Five commercial banks in this category reported losses, which contributed to the drop. Kshs. 41.0 million was lost by First Community Bank, Kshs. 490.0 million was lost by Jamii Bora Bank, and Kshs. 277.0 million was lost by Consolidated Bank (CBK2018;2019). Dubai Bank and Imperial Bank were put under administration for failing to meet appropriate capital, and liquidity ratios, as well as having large non-performing loans and poor corporate governance procedures.

This suggests that Kenya's tier three commercial banks are facing difficulties that may or may not end in financial distress. Recent issues relating to bank distress have highlighted the fact that a banking industry crisis can have major consequences for the economy. The financial system, as according Berg and Campbell (2014), is a main channel via which economic insecurity may extend to other sectors. The global economic crisis of 2007/08 underlined the need of authorities reviewing bank performance in the future.

### **1.2 Statement of the Problem**

Industry performance of commercial banks in Kenya has been increasing, however a section of them, Tier III Commercial Banks their performance has been declining (Gathaiya, 2017). Tier three commercial banks' pre-tax profits declined by 2.2 percent between 2015 and 2016. The decrease persisted all the way through the 2017 financial year, with the majority of tier three banks reporting losses. In the years 2018 and 2019, more than a quarter of tier three banks had a negative return on equity (ROE). Jamii Bora Bank suffered a Ksh.490M loss (CBK,2017). Their performance plus other commercial banks in tier three continued to worsen off in the period 2017 to 2019. For example, according to audited statements, for the financial year ended 31st March 2021, Jamii Bora Bank's balance sheet shrank to KSh 12.5 billion from KSh 15.3 billion at the

end of 2017. Total Interest Income also fell from KSh 414.9 Million to KSh 264.9 Million during the period under consideration. Customer deposits declined from KSh 220.7 Million to KSh 99.8 Million. The Bank made a loss of KSh 51.3 Million from a loss of KSh 100.7 Million in the first quarter of 2017 financial year. Previous research has yielded conflicting results and revealed discrepancies in data regarding the effects of the financial crisis on bank financial performance.

Studies have been carried out to establish the relationship between commercial banks' financial distress and financial results not only in Kenya but also in other countries (Kithinji & Waweru, 2017; Gathaiya, 2017). However, despite depending on secondary data, due to the operating environment and other macro and micro economic factors, commercial banks' performance varies from region to region. Using leverage as a proxy for financial distress, Tan (2012) discovered that financial trouble produces a drop in company profit margins. According to Irungu (2013), the rise in non-performing loans, which causes banks to take on more financial risks, has no influence on businesses' ability to earn money, but rising risks are a problem since they could result in financial collapse.

Other studies, on the other hand, have found that financial turmoil has little effect on profitability. Hassan and AlMazrooei (2017) and Zaabi (2011) revealed that financial crisis had no effect on profitability in Islamic banks in the United Arab Emirates (UAE). Profitability was most influenced by the UAE bank's corporate governance practices and efficiency standards, according to AlMazrooei (2017) and Zaabi (2011). Conceptual, contextual, and methodological differences are due to the divergent proxies used to measure both financial performance and financial distress.

Kimathi (2018) investigated the impact of financial distress on Tier III banks' profitability in Kenya. The study's major purpose was to determine how non-performing debts, availability, and leverage impacted Kenyan commercial banks' profitability. Non-performing loans had a negative and statistically significant influence on financial performance. As per the study, debt and flexibility had a favorable and statistical significance influence on Tier 3 banks' profitability. The seasons 2015-07 were a cause of worry for many people.

According to the literature, this research study covered empirical gaps by concentrating solely on the elements that create financial distress among banks, which have been identified as capital adequacy, asset quality, liquidity, operational efficiency, and leverage. By concentrating on the sector of the bank industry that has shown sensitivity to the Tier-3 section of financial crisis, the study will fill in theoretical gaps. This means that commercial banks at levels one and two are disqualified, even though they have a track record of significant growth and stability and have been properly examined. By And changes in Commercial Bank capital requirements Core capital, buffer capital and Countercyclical capital the study provided contextual gaps. As a result, the objective of this research was to find out how financial distress affects the financial performance of Kenya's Tier III commercial banks.

### **1.3 Objectives of the Study**

#### **1.3.1 General Objectives**

To determine the effect of bank specific drivers on financial performance of Tier III commercial banks in Kenya.

### **1.3.2 Specific Objectives**

The specific objectives were based as follows;

- i) To examine the effect of capital adequacy on financial performance of Tier III commercial bank in Kenya.
- ii) To establish the effect of asset quality on financial performance of Tier III commercial Banks in Kenya
- iii) To establish the effect of income diversification on financial performance of Tier III commercial Banks in Kenya.
- iv) To determine the effect of bank size on financial performance of Kenya's Tier III commercial banks.

### **1.4 Research Hypothesis**

**H<sub>01</sub>** There is no significant effect of capital adequacy on financial performance of Tier III commercial banks in Kenya

**H<sub>02</sub>** Asset quality does not have statistical effect on financial performance of Tier III commercial banks.

**H<sub>03</sub>** There is no significant effect of income diversification on financial performance of Tier III commercial banks in Kenya.

**H<sub>04</sub>** Bank size has no statistical significant effect on financial performance of Kenya's Tier III commercial banks.

### **1.5 Significance of the Study**

The study will have policy implication to Central bank of Kenya in order to enhance considerations and the regulatory system. These types of policy and regulatory changes

can help commercial banks manage their economic performance. As a result, commercial bank management will be strengthened in the management of financial crises, as well as investor attitudes.

The findings of this study will aid banks in tracking and comprehending the primary signs of financial distress, as well as the extent to which these indicators can impair commercial banks' financial performance. In order to remain competitive in the global marketplace, commercial banks can quickly assess the need to actively explore various market dynamics in terms of financial distress indicators. Also, to assist banks in better comprehending the relationship between financial results and courses in reference to the same financial distress indicators. In addition, to discuss procedures that can be taken to prevent excessive changes in financial outcomes that can be caused by financial distress.

Different regulators in different jurisdictions will utilize the study's findings to improve their approaches to dealing with financial crisis and establish new prudential recommendations and rules. These approaches would help to minimize significant drops in bank efficiency, as well as unneeded bank reception. Central banks, as regulators, recognize the importance of actively and proactively changing their laws to minimize inflationary or deflationary pressures. Regulations can serve to mitigate the effects of the financial crisis, as well as deter excessive bank runs by banking industry investors.

Investors and clients will be able to understand the main financial troubles in the banking sector, their implications for Kenyan commercial banks' financial performance, and their likelihood of success in the financial sector in addressing the effects of financial crises and the possibility of default or otherwise based on the information gathered from this survey. As a result, they will make well-informed investing judgments.

### **1.6 Scope of the Study**

All 21 of Kenya's Tier III financial institutions, which are supervised by the Central Bank of Kenya, were examined. The study's units of analysis were commercial banks, while the study's unit of observations were yearly financial statements from Kenya's 21 (twenty-one) commercial banks that were in existence by December 31, 2021. The data was collected over a five-year period, from 2016 to 2021. This time span was chosen to discover changes in financial institutions over time and also to base the study on the most up-to-date data possible. These were the times when Tier III commercial banks underperformed..

### **1.7 Limitations of the Study**

There was a slew of other micro and macroeconomic elements that influence commercial banks' financial performance that were not considered by the study. The study was done over a five-year period from 2016 to 2020, hence only data from that time period was examined. The study guaranteed that the information gathered comes from reliable sources such as audited financial reports and CBK report. Some of the commercial banks had been acquired during the period of study and therefore their information not available, however the study used unbalanced panel to overcome the challenge

## **1.8 Organization of Study**

The study is organized as follows: the first chapter contains background information on the study's aims, scope, significance, and limitations. The examined literature relevant to the study's objectives is presented in Chapter 2. The process for collecting and analyzing data is presented in the third chapter. Chapter four presents the findings and chapter five presents the study conclusions and recommendations.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter examines the research literature on the influence of financial crises on financial results. This chapter also provides the study's theoretical foundation and highlights research gaps.

#### **2.2 Theoretical Framework**

This section presents the ideas that have been proposed to support the study's objectives. These theories include Capital Buffer Theory, Financial Acceleratory Theory, Capital Irrelevance Theory, Keynesian Theory, and Efficiency Structure Theory.

##### **2.2.1 Capital Buffer Theory**

Calem and Rob (1996) were the pioneers capital buffer theory. Capital buffer is the excess difference between the capital adequacy ratio (CAR) owned by banks and the minimum bank capital requirements imposed by regulators (Brasliš&Arefjevs, 2014). Capital buffer can be a protector that can absorb various risks that may arise (Wong et al., 2008). Capital buffer is very important for banks, which face various risks and economic shocks that occur at any time. The higher the capital buffer, the stronger the bank, and it is hoped that the public will have more trust in the bank, which in the end they will take advantage of the bank's services. There are several factors that affect the capital buffer, including the level of profitability, credit risk, previous CAR, bank liquidity requirements, and bank efficiency as measured by OER (Maurin&Toivanen, 2012).

Bank profitability affects the capital buffer because the higher the bank's profit, the more it provides an opportunity to increase the capital buffer, because part of the profit earned will be

set aside as retained earnings and will be accumulated in its own capital, thereby increasing the capital buffer. Like the findings of Belém and Gartner (2016) in Brazil and Haryanto and Indonesia (2015) in Indonesia, profitability affects the capital buffer. However, the findings of Noreen et al. (2016) found a significant and negative effect between profitability as measured by ROA on capital buffer.

Non-performing loans (NPLs) reduce profits because they will become costs and reduce profits. The higher the NPL, the more likely it will reduce profits and even cause losses. This loss must be covered with capital, thereby reducing bank capital and having an impact on reducing the capital buffer. The results of research by He and Fu (2009) found that in China NPL has a negative effect on capital buffer, while Tamimi and Obeidat (2013) in Jordan found NPL does not affect capital buffer. On the other hand, Sutrisno (2018) found a positive influence between credit risk as measured by NPL and capital buffer.

The capital adequacy ratio (CAR) in the previous period also triggered the high and low capital buffer. If the CAR in the previous period was high, the capital buffer it had could be maintained high in order to maintain its performance in accordance with government regulations. However, if the CAR in the previous period was low, the capital buffer would also be low, however, banks can try to increase their capital buffer. The results of research by Jiang et al. (2020) in America and Noreen et al. (2016) in Indonesia found that the effect of the previous CAR with a capital buffer had a positive effect. Meanwhile, the research results of Belém and Gartner (2016) found a negative effect between  $CAR_{t-1}$  on capital buffer. Meanwhile, Suputra (2013) found insignificant effects.

Bank management must be able to control Net Interest Margin (NIM), because NIM is an indicator used to determine the ability of bank management in managing productive assets so that it can generate net income (Widarjono et al., 2020). The greater the NIM ratio will affect the increase in bank income obtained from productive assets managed by the bank properly. The higher the NIM will be able to increase the capital buffer, because it shows the bank's profits are getting bigger so that it can increase the capital buffer. (Mili et al., 2017) found a positive influence between NIM and CAR, while Suputra (2013) found that NIM had no effect on CAR.

### **2.2.2 Financial Accelerator Theory**

In macroeconomics, worsening capital markets can amplify severe negative shocks to the economy; in other words, tough conditions in the actual financial sector can presage monetary policy and financial downturns (Korinek, 2011). In 1913, Aftalion presented the accelerator theory, which states that small changes in demand can result in large increases in output.(Aftalion, 1913). Fisher's (1933) work expanded on the concept of acceleration. Debt and deflation, according to Fisher (1933), were fundamental elements that contributed to the Great Depression. The debt cycle, asset clearance, falling prices, net worth degradation, and economic contraction intensified the economic slump, which was aggravated by the debt cycle, asset receivership, falling prices, net worth degradation, and economic decline (Fisher, 1933).

The phrase "financial acceleration" was invented by Bernanke, Gertler, and Gilchrist in 1996. Bernanke et al. (1996) demonstrated that a seemingly minor shock may occasionally induce significant changes in macroeconomic factors, demonstrating the presence of a mechanism that accelerates. The economic accelerator is initiated,

according to Greenspan et al. (1996), by changes in credit markets, that have an impact on the underlying borrowing costs and borrowing, which are both linked to information asymmetry. The major difficulty best explains the economic acceleration notion (Bernanke et al.,1996; Kiyotaki& Moore,1997).

Agents and principals evaluate the costs of lending and borrowing while entering the credit market, especially given the knowledge asymmetry between the two groups. The lenders are the principals in the credit markets, while the borrowers are the agents. Bankers are typically still unable access information on economic growth (project returns), creditworthiness, or agency activity with incurring financial fees (risk taking behavior).Thefinancial accelerator is characterized by three characteristics that describe agency expenditures. For starters, external debt is typically more expensive than existing loans unless it is fully collateralized; in this situation, the agency charge is waived because the loan is approved secured.Second, borrowing costs grow in direct proportion to the amount borrowed,earnings are also inversely related to the lender's total wealth, which has an impact on their repayment capabilities. Finally, a drop in the lender's total wealth lowers the basis for internal financing and increases the requirement for external financing, rising the cost. Moreover, less the money a lender puts into a venture, more the their goals diverge from that of the external source of funding, according to this theory.

Borrowers are more likely to engage on higher-risk, higher-reward initiatives. These projects, on the other hand, are unfavorable to lenders since they carry all or most of the cost in the case of low project returns. Furthermore, economic shocks may jeopardize the borrower's capacity to pay back the loan, according to the notion (Bernanke et al.,1996).

The economic acceleration effects, as according Gertler& Tallies, is created by an

information asymmetries issue that inhibits banks' capacity to collect cash from clients in both wholesale ("cross") and retail ("multi") capital markets (2010). Given as bankers join the deposits marketplace as creditors and, like every business, can go bankruptcy, there really is no cause to suppose that their ability to collect money and/or their financing costs will be influenced by its net worth (bank capital). Our idea was crucial in this research since it described how macroeconomic shocks affect people, such as interest rate increases, might impact a borrower's ability to pay their lender's obligations. This theory describes how leverage affects bank financial performance.

### **2.2.3 Capital Irrelevance Theory**

The theory was advanced by Modigliani and Miller (1958). The capital structure, according to them has no effect on financial distress in an effective and efficient financial market, where companies pay no income tax and therefore have no taxation, where the operational environment is danger, where companies pay hundred percent dividends, and investors can borrow money at the same percentage as capital. Equity and leverage were used to define the capital base (debt). According to Modigliani and Miller (1958), financial difficulty is caused by two factors: business risk, which is largely stated by the cost of equity, and the company's earning power, which is mostly represented by the Return on Asset (ROA).

A lot of experts, on the other hand, have slammed this notion. The concept of a perfect market was the central topic of disagreement (Stiglitz,1969;Jensen&Meckling,1976, Frank&Goyal,2003). Because no business operates in a reasonably homogeneous company world, the assumption that firms suffer similar risks and receive equal salaries was discredited; the presumption that individual people can finance at same rate as

companies was debunked as there are factors that influence corporate and individual borrowing rates; and the assumption that individual people can borrow at same rate as companies was disproved because there are factors that affect corporate and individual borrowing costs (Muigai, 2016). Despite its faults, numerous financial economists claim that Modigliani and Miller's work contributed to capital structure theory by clarifying why a firm's equity and debt circumstances matter (Allen,2016). The notion is significant to our research since it suggests a link between debt and economic distress. This establishes the framework for measuring the impact of borrowing economic difficulties on financial results in a scientific way.

#### **2.2.4 Efficiency Structure Theory**

Demsetz (1973) advanced the efficiency structure theory. According the theory, internal efficiency have a substantial influence on an organization's performance. Internal efficiency may be improved by liquidity risk management. There are two types of effectiveness theories: X effectiveness and scale effectiveness. The efficient-structure hypothesis also includes the X-efficiency and scale efficiency assumptions. Banks with better management and practices, according to the X-efficiency hypothesis, reduce costs and maximize efficiency, bring them closer to the greatest, lower limit cost curve.

Certain banks, according to the magnitude concept, achieve greater operational scale and, as a result, lower expenditures. Lower expenses mean more earnings and faster expansion for scale-efficient institutions. Financial institutions that have consistently exhibited great performance, according to Olweny and Shipho (2011), are more effective than others. Larger loan books have the potential to increase a single institution's liquidity vulnerability significantly. Furthermore, in order to be a concerning issue, all institutions

should endeavor to meet the required capital requirements. Efficient financial sufficiency, treasury services, asset quality, and debt payments, according to this theory, paved the way for banking economic security.

## **2.3 Empirical Review**

The study reviewed literature related to capital adequacy, liquidity, asset quality and leverage and how the four independent variables affect financial performance.

### **2.3.1 Capital Adequacy and Financial Performance**

Lekaaso, Cherono, and Rintari(2020) evaluated the impact of capital sufficiency on the financial performance of Saccos in Samburu county. They concentrated their investigation on 34 active co-operative savings and credit institutions. Keynes' Liquidity Preference Theory from 1936 and Frantz Roger's Efficiency Structure Theory from 1988 inspired the research. A descriptive research survey design was used to perform the study. Methods were used to obtain information from a group of 27 Savings and credit cooperative executives who were chosen using a purposeful sampling. Utilizing Spss program, all data was examined for descriptive analysis (frequency, means, and percentage) and also inferential statistics. The findings were presented using graphs and tables. Capital adequacy seemed to have no substantial impact on the profitability of Cooperatives in Kikuyu County, per the research. The study then suggested that Savings and credit cooperative leadership consider raising more funds to ensure that their organization has enough cash to cover all of the loans sought by membership.

Mutumira(2019)investigated the impact of capital sufficiency on Kenyan insurer businesses' financial results. In this research, a survey method was used. Between 2014

and 2018, 54 insurance firms were permitted to do business in Kenya, making up the study's target demographic. The insurance companies' annual audited financial accounts provided secondary data. A purposeful selection strategy was used to select a sample of 46 insurance companies. Panel data was used to analyze the collected data. The study's findings were presented in form of tables and statistics. According to the survey, Kenyan insurance companies have a positive rate of return (ROA), meaning that they can make a profit of at least 20% on their assets. Insurance firms kept high-quality assets between 2014 and 2018, allowing them to generate significant earnings. The overall assets owned by insurance companies differed significantly, with some holding substantial sums and others retaining little amounts. Kenyan insurance companies' cash flow and return on assets have a positive and statistically significant relationship. According to the statistics, only working capital, out from the four cash reserve variables, had a statistically meaningful link with health insurer financial success.

The influence of capital adequacy on the financial results of Nigerian quote capital adequacy banks was studied by Amahalu, Ojo, and New or changed (2017). The purpose of this study, which lasted from 2010, to 2015, was how capital sufficiency affected financial results, with a focus on a few Nigerian listed Financial Institutions. Secondary data has been collected for this research from facts books, yearly reports, as well as the accounts of the Financial Institutions under investigation. The Spearman Coefficient of Correlation, Multiple Linear regression, Dynamic Amplifier Factors, Inter, Heteroscedastic, and Hausman were used to examine the data. The findings of this study revealed that capital adequacy and financial success have a positive and significant relationship. It was also shown that Bank Capital has a 5% statistically significant effect

on Capital Adequacy Bank Corporate Profitability. According to this study, banks should avoid relying too heavily on debt because a higher debt-to-capital ratio increases riskiness as well as the chance of economic meltdown and bankruptcy.

Musyoka (2017) investigated the impact of capital sufficiency on Kenyan financial firms' financial results. The mean capital adequacy was 0.09909, the mean liquidity is 0.40795, and the mean management efficiency was 4.03326, per the research. As per the report, banks' aggregate bank capital was 23.16 percent, which was higher above the required benchmark of 14.0 percent. The study found a negative and substantial link between capital adequacy and returns on assets in financial institutions.

The influence of capital adequacy on the performance of Kenya's publicly listed commercial banks was explored by Kimeu and Gatumo (2020). Kenya's publicly listed commercial banks were the focus of the research. The study included descriptive and explanatory designs. Eleven (11) publicly listed commercial banks were the study's target population. The research performed a census survey of the 11 commercial banks listed on the Nairobi Securities Exchange between 2014 and 2018. (NSE). To generate statistics on core capital, supplemental capital, and return on investment, the study used secondary data such as public income statements and financial statements. Information was analysed using a data collection sheet, and descriptive and correlation statistics were used to evaluate it. The level of correlation between the variables in the research was described using linear regression. The data reveal over the previous five years, the mean basic capital of Zambia's openly banks operating has gradually increased. Supplementary capital, on the other hand, has been trending lower throughout the same time period.

According to the study, core capital has a significant influence on financial success. Supplementary capital, on either hand, has no visible effect on the NSE-listed commercial banks' financial performance.

The influence of bank capital on the financial results of Nigerian deposit money banks was explored by Akinleye and Fajuyagbe (2019). (2019). The impact of the liquidity(LR),capital(CR), investmentratio (IR), and loanandadvance (LA) on thereturnonasset ( roa of Nigerian depositmoneybankswas explored. Primary data was acquired from 10 (10) randomly chosen financial institutions in Zambia's published financial reports from 2008 to 2017. Analytical methodologies such as pool, constant and stochastic effects, and granger causality are used in descriptive, correlation, panel cointegration root, and panels least square analysis.

The impact of capital adequacy on the financial outcomes of Nigerian deposit money banks was investigated by Akinleye and Fajuyagbe (2019). The impact of the cash and cash equivalents (LR), investment ratio (CR), total investment (IR), and loan & advance (LA) on the return on asset ( roa of Nigerian deposit money banks was explored. Primary data was acquired from ten (10) randomly selected financial institutions in Nigeria's published financial reports from 2008 to 2017. Analytical tools including as pool, fixed and stochastic effects, and causality are used in description, correlations, panel cointegration root, and panel data regression analysis.

### **2.3.2 Asset Quality and Financial Performance**

Paul and Prakash explored the influence of asset quality on bank financial performance in India: a comparative examination of public and private sector banks (2019). The study spanned a period of 10 years from FY 2005 to 2014 and was aimed to assess the influence of the asset quality on specified financial variables such as efficiency, stability, profit and insolvency of public and private sector banks. Under these broad criteria, fourteen alternative ratios were used in the study. Using the census sampling approach, the study sampled 46 institutions, 26 of whom were state bank and 20 of whom were private banks. The majority of the study's data came from the Reserve Bank of India. The study utilized descriptive statistics, correlation analysis, and trend analysis. In comparison to other private banks and public sector banks, the new private sector banks (6 out of 20 private banks) performed much better on a series of metrics, including Gross NPA ratio, Net NPA ratio, Profit per Employee, Non-Interest Income to Total Assets, Return on Advances, and Return on Assets. The correlation coefficient value of each variable were statically important at the 5% level among the Public Sector Banks. The ratios of the banks reveal a moderate to high degree of positive relationship. Asset quality has a direct influence on a bank's capacity to create a healthy bottom line, according to the study, and if asset quality improved, all other ratios would increase as well. This can be done by a fresh infusion of capital, the retention of a major portion of earnings, and the prompt recovery of non-performing assets using whatever methods are necessary, including such legal action or a yet another settlement with late payments.

Pratama(2019)investigated the impact of availability and total assets on Indonesia's bank system's lengthy rate of growth. The bank concentrated on ways to boost profits. On the

other side, the long-term viability of growth is more crucial. The impact of availability and capital adequacy on the bank sector's lengthy growth rate is examined in this study. From 2011 to 2017, purposeful sampling based on the criteria selected 24 banks with 174 samples. Lower capital quality and availability had a considerable negative impact on the rate of long-term growth, according to the results of regression analysis. The relevance of the bank's goal to remain and grow in order to expand its company as much as possible while preserving its funding was proved by this outcome.

In Turkey, Eyup, Niyazi, and Nurca (2017) investigated the impact of asset values on banks' profitability. The study used a panel regression approach to evaluate a quarter set of data of 1808 data from 56 Turkish banks from first quarter of fy to the third period of 2016. Quasi loans were found to have a significant negative impact on bank profit as assessed by return on assets and return on assets. The lesser the quasi loans, the greater the capital adequacy, the lesser the return on equity and return on capital employed; the lesser the quasi loans, the higher the overall appropriateness, the larger the return on equity as well as return on asset; the lower the quasi loans, the greater the capital adequacy, the greater this same rates of return and return on invested capital; as well as the lower the quasi loans, the greater the capital adequacy, the lesser the return on capital and return on capital employed utilized.

The impact of asset values on the financial results of Kenyan thrift and loan organizations was investigated by Derived from the latin word and Kibati (2017). An explanatory research was used in this study. There were 83 payment SACCOs in Kenya that have

been in service for at least 5 years among the target demographic. The analysis covered all 83 SACCOs that were operational between 2011 and 2015. In the analysis, the census method was applied. The data was compiled using both internal and external sources of information. Using statistical tool again for social scientists (SPSS) and STATA, simple linear regression model were used to investigate the data. The study discovered that capital adequacy has had an impact on the profitability of Kenyan thrift and loan organizations based on the data. This one is explained by the regression results, which showed a positive influence. Asset quality influenced the financial results of savings and credit organizations by 5.827 units, as per the multivariate regression analysis.

Sporta investigated the impact of quasi assets on asset values for Kenyan commercial banks (2017). The loan loss ratio and the non-performing assets to total loans ratio were used to calculate the quasi ratio. Over the course of eleven years, thirty-eight Kenyan commercial banks were investigated (2005-2015). The study's primary data came from CBK's bank credit bank documents. Economic results and capital adequacy have a link in respect of monetary stress risk level, according the statistics. Researchers used correlation or panel regression analysis to see if there was a link between quasi loans and the asset health of Kenyan commercial banks. The studies indicated that quasi assets and capital adequacy had a positive association. According this study, savers, all investing businesses, including banking firms, and policymakers are specifically urged to high asset quality standards by ensuring that appropriate extra norms & controls are effective to protect against quasi loans.

### **2.3.3 Income Diversification and Financial Performance**

Kiptum, Koske, and Limo (2021) studied the effect of income diversification and financial performance of Kenyan Commercial Banks. This study used a sample of 31 Kenyan banks and data for the period 2008-2019. Data was analyzed through fixed-effect regression analysis. The study found that income diversification improves bank profitability. The findings are attributable to an increase in non-interest income and possible risk diversification. Moreover, the study controls for several banking sector specific factors that affect financial performance. The results show bank size, age, loan portfolio quality, lending strategy, and market share have a significant effect. Research implications. Based on the results, the study recommends that bank managers should consider engaging in nontraditional activities that generate non-interest income to compensate for deteriorating interest income and to boost performance. In addition, the study recommends that bank regulators should relax rules that limit the extent to which banks can engage in non-interest earning activities

Gunu and Suleiman (2020) studied the effect of income diversification on the financial performance of quoted manufacturing firms in Nigeria. The study adopted an ex-post facto research design using secondary data of 42 firms from the 63 quoted manufacturing firms in Nigeria for 11 years (2007-2017) period. Structural equation modeling (SEM) is utilized for data analysis. The study found that both product income segment diversification and non-product income segment diversification significantly affect the financial performance (ROA and ROCE variables) of quoted manufacturing firms in Nigeria. The study concluded that quoted manufacturing firms' financial performance in Nigeria is significantly affected by product income segment diversification and non-

product income diversification. The study recommended that manufacturing firms should strategically diversify to increase their income generation in both the product segment and non-product segment to improve their financial performance

Hsien (2019) examines the influence of income diversification on Islamic banks' success in Malaysia, Saudi Arabia, Kuwait, the United Arab Emirates, Bahrain, and Qatar, wherein they function in a double banking structure besides traditional banks. From 2009 to 2019, accounting data was taken from 68 traditional and 42 Islamic banks. Using various empirical approaches and Panel data regressions, the study finds that both non-financing income segmentation and financing income segmentation have positively influenced financial performance. Although the study was carried out in the non-manufacturing sector (banks) outside Nigeria, its focus on diversification generally and generated income as a measure for diversification specifically significantly influences this study.

Waithira (2019) investigates the effects of revenue diversification (interest and non-interest) income on commercial banks' financial performance in Kenya. The study used descriptive design, secondary data (audited financial statements) of the six largest and most profitable commercial banks in Kenya for the period 2012 to 2018 to draw its conclusion. The study also used the regression model and chi-square to test the significance of the study variables. The finding reveals a significant impact and relationship between income diversification variables (financial and non-financial income) and financial performance (return on asset).

Similarly, Stiroh and Rumble (2017) examine whether Prospective diversification benefits justify why U.S. financial investment firms provide an increasing variety of financial services. The study explicitly investigated whether the observed change towards fee-generating, trading revenue, and other non-interest income-generating activities improved the performance of U.S. financial holding companies (FHCs) through regression analysis between 2007 and 2015. The study's main finding is that the cost of increased exposure to risky activities is more than offset by diversification gains, reflecting the dark side of the quest for diversification benefits and having consequences for administrators, managers, investors, and borrowers.

#### **2.3.4 Bank Size and Financial Performance**

AlFadhliandAlAli (2021) studied the effect of bank size on financial performance: a case study on Kuwaiti Banks. This study is mainly set to examine the effect of bank's assets size on both return on assets (ROA) and return on equities (ROE) as proxies of bank financial performance. Using the data of 10 Kuwaiti banks over the period 2008-2018, results show that banks assets size had an inverse relation with profitability, but that relation was statistically insignificant. On the other hand, results showed a statistically significant direct relation between shareholder's equities and bank profitability.

Wuryani andHandayani(2021) studied the effect of financial performance and bank size on banking stock prices. The purpose of this research is to assess the impact of financial performance and bank size on the stock price of banking institutions in 2019-2020. The variables to be analyzed in financial performance including profitability, liquidity, and

capital sufficiency. The stock price is the dependent variable. Secondary data was collected for this study in the form of 86 data points derived from 43 financial statements of banks in Indonesia during a two-year period. Measurement of independent variables using ROA, LDR, CAR, and bank size. The research method used is a quantitative approach. This study uses regression analysis. The results showed that the variables of capital adequacy and bank size affected banking stock prices. While the profitability and liquidity, variables do not affect stock prices.

Rotich, Josephat, Mwangi and Elly (2019) studied the effect of bank size on profitability of Commercial Banks in Kenya. The study analyzed a time series data sourced from across 42 commercial banks in Kenya covering 2009 to 2018 period. The regulator's weighted composite model for assessing bank size was used, whilst the profitability attribute, return on assets was captured using earnings before interest and tax over assets. Regressions analysis assessed the direction and magnitude of the relationships while the autoregressive distributed lag model was used to establish the equilibrium steadiness as well as the speed of adjustment to equilibrium. The results revealed that banks size had a positive significant effect on returns on assets. Further the study established the existence of both long-run and short-run relation with adjustment speed of 95 percent to equilibrium in a year. The study concluded that the size of a bank plausibly relates with profitability and as such, banks consolidation and other expansion strategies enhance bank profitability as evidenced by bidirectional causality between the variables.

Abel and Roux (2019) evaluated the relationships among efficiency, banksize and performance of banks in Zimbabwe between 2011 and 2018. In an endeavor to examine the influence of size on efficiency and performance, the study used a panel data from 225 banks. Panel regression analysis model was used in the analysis. The study also observes that efficiency declines with bank size. The study found that efficiency relates positively to financial performance and economic stability. The study suggested that an increase in economic activities increases the demand for financial services, which increases efficiency.

Muhindi and Ngaba (2018) used a panel data from 2012 to 2016 to assess the influence of bank size on the financial performance of Kenyan banks using; the number of branches, capital base, number of customer deposit, loans and advances as the key variables. The study considered the banks listed in Nairobi Securities Exchange. The panel data was collected for five years and analysis done through the use of panel regression model. The study found a positive relationship between bank size and financial performance and revealed that larger banks exhibit higher ROA relative to medium and small.

## 2.4 Summary of Research Gaps

**Table 2.1 Summary of Research Gaps**

<b>Author</b>	<b>Title</b>	<b>Findings</b>	<b>Gaps how they will be filled</b>
Lekaaso,CheronoandRintari(2020)	In Samburu County, researchers looked into the impact of capital adequacy on Saccos' financial performance.	As per the study, capital sufficiency had no significant impact on the profitability of SACCOs in Kikuyu County.	The previous study concentrated on the performance of SACCOs, whereas the present study will concentrate on Kenyan commercial banks.
KimeuandGatumo(2020)	The impact of capital adequacy on the performance of Kenya's publicly traded commercial banks was investigated.	The average core capital of Kenya's listed commercial banks has been steadily increasing over the last five years, according to the findings.	The study looked at all of Kenya's publicly traded commercial banks. The current research will concentrate on Tier III commercial banks.
Mutumira(2019)	The impact of capital sufficiency on insurance companies' financial performance in Kenya was investigated.	The findings showed that only cash flow, out of the three indicators of capital adequacy, had a statistically meaningful association with insurance firms' financial success.	The study of insurance businesses necessitated the study of commercial banks.
Akinleye and Fajuyagbe(2019)	The effect of capital adequacy on the economic performance of Nigerian capital adequacy institutions was looked at.	Due to the liquidity (L R) and total investment, the capital adequacy banks' return on equity was cut by 5.68 cent and 13.71 cent, correspondingly (IR).	The study focused on deposit money banks in Nigeria. The present research will take place in Kenya.
Paul and Prakash (2019)	A comparative study of public and private sector banks was conducted to	The study concluded that quality of assets has a direct bearing on the banks' ability to post a healthy	The research was conducted in India. The present research will take place in Kenya.

	examine the influence of asset quality on bank financial performance in India.	bottom line, all other ratios would automatically show significant improvement.	
Pratama(2019)	The impact of liquidity and asset quality on the banking sector's long-term growth rate in Indonesia was investigated.	The findings of regression analysis demonstrated that low asset integrity and availability had a significant negative influence on the rate of long-term growth.	The research took place in Indonesia. The present research will take place in Kenya.
Eyup, Niyazi and Nurca(2017)	The influence of asset values on banks ' profitability was studied in Turkey.	Non-performing loans were revealed to have a substantial negative relationship with bank profitability, as measured by investment and return of assets.	The research was conducted in Turkey. The present research will take place in Kenya.
Amahalu, Okoye, andNweze(2017)	The effect of capital adequacy on the financial results of Nigeria's publicly traded financial institutions was studied.	The findings of this study demonstrated that capital adequacy and financial performance have a favorable and significant link.	The study was conducted in Nigeria. The present research will take place in Kenya.
Musyoka(2017)	The impact of capital sufficiency on the financial performance of Kenyan commercial banks was investigated.	The study discovered a negative and substantial link between capital adequacy and returns on assets in commercial banks.	The findings of Amahalu, Okoye, and Nweze (2017) were in conflict with the findings of this investigation.
Barus and Kibati (2017)	Researchers in Kenya investigated the influence of asset values on thrift and loan organizations' financial results.	The study showed that asset quality affects the financial performance of Kenyan savings and credit organizations based on the data.	The SACCOs provided data for the study. Data from commercial banks will be collected for the current investigation.

Sporta (2017)	The effect of quasi loans on asset quality in Kenyan commercial banks was studied.	There is a relationship between quasi assets and capital adequacy, according to the research.	The previous study focused on non-performing loans, whereas the present study will concentrate on return on investment (ROI).
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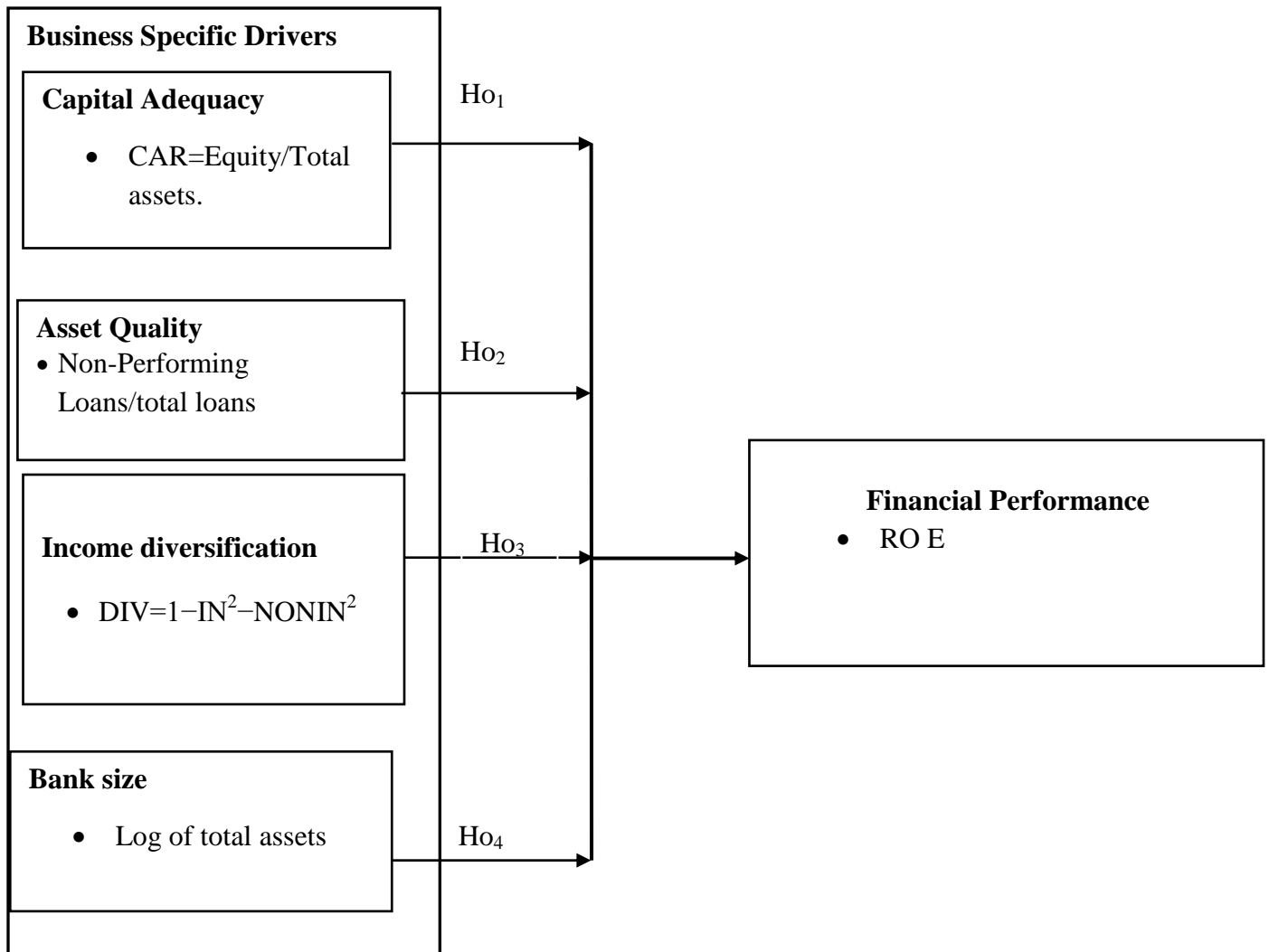
**Sources: Researcher(2021).**

## 2.5 Conceptual Framework

The interrelationships among factors are presented in this chapter. The economic results of Kenya's tier 3 financial institutions is the variable. Bank capital, capital adequacy, availability, and debt are the completely different things.

### Independent Variables

### Dependent Variable



**Figure 2.1: Conceptual Framework**

Source: Researcher (2021)

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

The study methodologies are presented in the third chapter. It covers the study's research design, the researcher's target units/elements, data collection devices, and data analysis methodologies.

#### **3.2 Research Design**

The plan for acquiring data, the measurements employed, and the researcher's data estimation are all included in a study research design (Cooper & Schindler, 2009). The current investigation was conducted using a causal research design. The current study used a causative design to investigate the causal influence of bank financially distressed measures on the operation of Tier III kenyan commercial banks.

#### **3.3 Target Population**

A target population is a group of units or elements that the researcher will utilize to draw various conclusions. The target population was the 21 Tier III Commercial Banks in Kenya (Appendix 1). The published financial statements of the 21 commercial banks was the study's unit of observation. The study used a census method due of the modest and manageable number of banks. According to Ott and Longnecker (2015), a census is recommended if the elements/unit of observation are few. A research by census analyses all elements found for the study without sampling. According to Kothari (2011), a census study is favored if it is economically feasible, because it provides more reliable results and minimizes sample errors.

### 3.4 Operationalisation and Measurement of Variables

The independent variable of the study was specific business drivers (Capital adequacy, income diversification, asset quality and bank size). As a result, the study's regression model considered ROE as the indicator of financial performance. Table 3.1 shows the operational definition and assessment of the study variables.

**Table 3.1: Operationalization and Variable Measurement**

Variable	Type	Operationalisation	Measurements
ROE	Dependent Variable	Return on shareholders' Equity	Net Income/ Shareholder's Equity
Capital Adequacy	Independent Variable	Level of capital required	Capital Adequacy Ratio = Core capital/ Total assets
Income diversification	Independent Variable	Net noninterest income to operating income	$DIV = 1 - IN^2 - NONIN^2$
Asset Quality	Independent Variable	Non-Performing Loans	Non-Performing Loans/total loans in percentage
Bank Size	Independent Variable	Total assets of the bank	Log of total assets

Source: Researcher (2022)

#### 3.4.1 Empirical Model

A panel regression model based on panel data was used to conduct the study's analysis.

Panel data combines cross-sectional (commercial banks) and time series (number of years) information

The general panel model was;

$$(Y)_{it} = \alpha_i + \sum_{t=1}^{\infty} \beta_i X_{it} + \mu_{it} \dots \dots \dots (3.1)$$

Where;

(Y)<sub>it</sub> = Financial Performance

$X_{it}$  = Value for independent variables

$\beta_i$  = Beta coefficients to be determined,

$\alpha_i$  = the alpha coefficient of representing constant term,

$\mu$  = refers to the error term.

As a result, financial performance (ROE) was measured in terms of capital adequacy, asset quality, bank size and income diversification.

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \varepsilon_{it} \dots \dots \dots 3.1$$

Where:  $Y_{it}$  – ROE of Firm  $i$  at time  $t$

$\beta_0$  - Constant

$X_{1it}$  – Capital adequacy of firm  $i$  at time  $t$

$X_{2it}$  – Asset Quality of firm  $i$  at time  $t$

$X_{3it}$  – Income diversification of firm  $i$  at time  $t$

$X_{4it}$  – Bank Size of firm  $i$  at time  $t$

1–4 are multivariable co-efficients that show how the dependent variable varies as a result of changes in another variable.  $\varepsilon_{it}$  = The Error Term model, The classical error term is divided into two components, and it provides any uncaptured variable in the model. All unseen elements that vary among units but remain constant over time are represented by the component  $v_i$ . All unseen factors that fluctuate across units and time are represented by the component  $it$ .

### 3.5 Sampling Design

The data from 21 commercial banks was included in this investigation, so a census method study was necessary. According to Mugenda, survey selected sample could be utilized

whenever the population is manageable or when including the full target group is desired. Moreover, population selection, as according Kombo and tromp (2011), eliminates type I and class II errors inside the research. The study therefore used unbalanced panel, since some commercial banks had been acquired.

### **3.6 Data Collection Instruments**

The study relied on secondary data, which came from the financial statements of 21 commercial banks, the Kenya National Bureau of Statistics (KNBS), and the Central Bank of Kenya (CBK). Secondary data on capital adequacy, liquidity, asset quality, leverage, and return on investment were sought. The research focused on the years 2016 through 2020.

### **3.7 Data Analysis and Presentation**

The data was analyzed using inferential analysis and descriptive statistics. Following the gathering of research data, the data was coded in the SPSS system to produce descriptive statistics such as mean, standard deviation, and percentage. The collected panel data was analyzed using a panel regression model. Tables were used to organize the data and aid in the analysis.

Inferential statistics were used to create population inferences based on the data collected from the sample. The null hypothesis of this study was tested using inferential analysis. Furthermore, the hypotheses were tested using a 5 percentage significance level threshold, which equates to a 95 percentage - point level of confidence.

### **3.8 Diagnostic Tests**

Diagnostic tests utilized to assess if the model employed in the research is acceptable to answer the research as well as satisfy the suppositions of a linear regression model,

namely its suitability, dependability, and correctness. Tests for normalcy, normality, homogeneity of variance, auto-correlation, and multi-collinearity were all available.

### **3.8.1 Normality Test**

In addition to the graphical analysis of normality, the normalcy measures are utilized. The null hypothesis is that "the sample distribution is normal," and the test compares the sample's results to a set of scores that are distributed normally and have the same standard deviation. The data are non if the test is valid, which means it has a mean of zero and a variance of one. If the test is significant, the distribution is non-normal.

### **3.8.2 Stationarity Test**

A static series' mean, volatility, and correlation are statistical qualities that remain constant across time (Van, 2003). It's a series situation in which the value stays constant throughout. The Levin-Lin Chu unit-root test was used to determine stationarity in this investigation. Because the study uses time series data, the Levin-Lin Chu unit-root test is acceptable. It checks for struggle to keep up & integration order.

### **3.8.3 Heteroscedasticity Test**

One of the key assumptions of the multiple linear regression is homoscedasticity. The probability of the error terms, according to this idea, stays the same across all findings (Gujarati, 2004). That is, the variation of each standard deviation is the same for all levels of the explained variable. Quasi variance or quasi of variance is defined as a situation in which non-constant quantities will not have the same variance (Bedru and Seid, 2005). To discover difficulties with homoscedasticity, the researchers employed the Breusch-Pagan or Chef tests. If the P-value was substantial at a 95% standard error, the information has a

heteroskedasticity; if the P-value was minor, the data does not really have a heteroskedasticity (less than 0.05).

#### **3.8.4 Autocorrelation test**

The inquiry also looked at autocorrelation assumptions, which assert that error terms have zero covariance across time. This means that mistakes linked with one observation have no bearing on errors related with other observations. As according Gujarati, the Reed Watson test is the best test for determining autocorrelation problem (2004). If the measured value in implementation is closest to 2, it is presumed that autocorrelation is not a problem.

#### **3.8.5 Multicollinearity Test**

The term "multicollinearity" refers to the occurrence of an exact linear relationship between specific explanatory variables in a regression model. When independent variables are multi-collinear, there is correlation or sharing of predictive power. VIFs will be used in the study to test multicollinearity. When the VIFs are larger than 10, it indicates that multicollinearity is a possibility. The P-value renders essential variables unimportant due to multicollinearity, as the P-value diminishes the value of t-statistics. As a result of the multicollinearity regression results, important factors would be revealed as irrelevant variables.

According to Gujarati, Pearson correlation is being used to indicate the degree of a connection or the degree of a linear relationship between two or more variables (2004). In the Pearson's correlation matrix, the correlation coefficients range from -1 to +1. A value of -1 shows a complete negative association between the two variables, whereas a correlation value of +1 indicates a strong positive relationship. A correlation value of 0 indicates that two variables do not have a linear

connection(Bedru&Seid,2005).Furthermore, no practical study has ever established a zero correlation between explanatory factors, as Brooks (2008) points out.As a result, even if there is some evidence of zero correlation between the explanatory variables, it has little impact on the accuracy. Dropping highly linked variables solves the multicollinearity problem (Ahmad & Bashir, 2013).

### **3.8.6 Model Selection Test –Hausman Test**

Two panel data regressions weretested by the researcher; Fixed and random effectModel. The Hausman test was used to test which of the two regressions were the best fit for the data. The test hypothesis were;

*Ho:* Accept Random Effect

*Ha:* Accept Fixed Effect

### **3.9Ethical Consideration**

The norms and criteria by which the researcher was guided during, before, and after the investigation were considered ethical considerations in the study. According to Mugenda&Mugenda (2009), throughout and after the research, researchers should guarantee that there are no instances of publishing or falsification. According to the Kenyatta University Education Standards, the researcher ensured that the academics or writers whose papers were used in this study were properly referenced and credited. To guarantee that the research was validated, the researcher sought authority from relevant Kenyan offices. This entailed acquiring an ethical clearance letter from the Kenyatta University Graduate School as well as a Data Collection Permit from National Council for Science, Technology and Innovation.

## **CHAPTER FOUR**

### **RESULTS, INTERPRETATION AND DISCUSSION**

#### **4.1 Introduction**

This chapter presents the findings of a study on the impact of specific business drivers on the financial performance of Tier III commercial banks in Kenya. Parts of the chapter presents the analysis's findings. The financial performance of Kenya's Tier III commercial bank is examined in the first section, along with descriptive effects on capital adequacy, asset quality, income diversification, and bank size. The part two presents the diagnostic tests, while the third section presents the panel regression model.

#### **4.2 Descriptive Analysis Results**

The descriptive results on capital adequacy, asset quality, income diversification, and bank size, and ROE are presented in this section. The data was gathered from 2016 to 2021. The Data was collected from 19 (nineteen) out of 21 (twenty one) tier one commercial banks. The four independent variables and dependent variable were presented in the variable column (Column 1). The number of actual (i.e., non-missing) discoveries (or cases) for those attributes was shown in the Obs column. Obs was composed of 19 banks, each with 6 observations for each of the 5 variables under study (capital adequacy, asset quality, income diversification, and bank size, and ROE). The mean rate for each variable taken into consideration in the study is shown in the mean column. The Std. Dev column gives information on the variability of the variable's distribution by indicating the variable's standard deviation. The variable's smallest values are shown in the Min column, while its greatest values are shown in the Max column.

**Table 4.1 Descriptive Statistics Results**

	N	Minimum	Maximum	Mean	Std. Deviation
ROE	114	-132.70	69.10	-1.6607	22.49721
BS	114	6.62	7.90	7.1989	.24635
AQ	114	.00	1.69	.2641	.25484
DIV	114	.01	.44	.1768	.09999
CAR	114	-.62	.59	.1394	.14894

**Source: Researcher (2022)**

The results of using Return on Equity as a measure of financial performance showed that the banks with the highest ROE had 69.1 and those with the lowest ROE were -132.7. The standard deviation was 22.49721 and the mean ROE was -1.6607. A very high Standard deviation of 22.49721 indicates that the findings clearly show the substantial volatility in terms of the ROE. The bulk of the Tier One Commercial Banks are not functioning well, as evidenced by the ROE average mean of -1.6607, which is negative. Return on equity is negative when a corporation experiences a loss and thus has no net income. When costs are incurred as a result of expanding the business, such as through restructuring, a negative ROE is not always a bad thing. However, the finding in this case is alarming as majority were on a negative ROE. Negative or abnormally high ROE levels should always be regarded as a red flag that requires further investigation.

The study results on bank size indicated that the mean bank size from the 19 (nineteen) banks was 7.1989. The minimum bank size was 6.62 and the maximum was 7.90. The dispersion was small as evidenced by a standard deviation of .24635. The standard deviation was within minus or plus 2 (two) which is the recommended standard deviation rate. The results indicated that the banks had on average similar amount of total assets. The likelihood that banks will raise their profits decreases as their size grows.

Greater access to new financing sources is advantageous for bigger banks, but managing liquidity issues and risk diversification is another challenge.

The finding on asset quality illustrates management's capacity to recognize and control credit risk. The minimum asset quality was 0.00, while the maximum asset quality was 1.69 according to the results in Table 4.1. According to Table 4.1 figures, asset quality averaged 0.2641 indicating high non-performing loans in the Tier one Kenyan commercial banks for the period under study (2016 to 2022). However, the data trend indicated some of the less than 5%. The low dispersion rate between the minimum asset quality and the maximum asset quality was indicated by a standard deviation of 0.25484. Paul and Prakash (2019) found that asset quality has a direct influence on a bank's capacity to create a healthy bottom line, and if asset quality improved, all other ratios would increase as well. This can be done by a fresh infusion of capital, the retention of a major portion of earnings, and the prompt recovery of non-performing assets using whatever methods are necessary, including such legal action or a yet another settlement with late payments.

The results on income diversification used the net interest income as a percentage of operating income (IN) and non-interest income as a percentage of operating income (NONIN). The results indicate that the minimum income diversification (DIV) was -0.01 and the maximum capitalization was 0.44. The average score on income diversification was 0.1768 and standard deviation of .09999. The mean diversification levels for tier iii commercial banks according to sector, shown in table 4.1, reveals varying levels of diversifications; large (HHI=.44). This implies that majority of tier iii commercial banks in Kenya have low income diversification ( $0.20 < \text{HHI}$ ). This matches

Chiarozza *et al.*, (2007) findings on European banks where diversification diminishes with bank size, and supported by MC Allister and MC Manus (1993) with conclusion that larger banks have greater ability to diversify risk.

The results on capital adequacy indicates that the minimum capital adequacy ratio was -0.62 and the maximum capital adequacy ratio was 0.59. The mean capital adequacy ratio was 0.1394 and the standard deviation was 0.14894. The result showed that banks had insufficient capital on hand to be able to absorb a specific level of losses before running the risk of going bankrupt. The low mean and the negative capital adequacy ratio supported that the Tier 1 commercial banks are facing the risk of financial distress. The study agrees with Amahalu, *et al.*, (2017) that capital adequacy and financial success have a positive and significant relationship. According to this study, banks should avoid relying too heavily on debt because a higher debt-to-capital ratio increases riskiness as well as the chance of economic meltdown and bankruptcy. Musyoka (2017) supported that capital adequacy supports the liquidity and management efficiency hence financial performance. Kimeu and Gatumo (2020) capital adequacy has a significant influence on financial success. Akinleye and Fajuyagbe (2019)

### **4.3 Diagnostic Tests**

Prior to performing the regression analysis, the research conducted diagnostic tests on the study hypotheses and to make sure that the regression assumptions had not been broken. Multicollinearity, normality, stationarity, heteroskedasticity, autocorrelation, hausman tests, and autocorrelation were tested.

### 4.3.1 Multicollinearity Tests

One or more of the analyses' variables are examined for high correlations with one or more of the other independent variables using the Multicollinearity test. The outcomes of multicollinearity are summarized in Table 4.2.

**Table 4.2 Test of Multicollinearity**

Constructs	VIF	1/VIF
Bank Size	7.96	0.1256
Asset Quality	6.28	0.1592
Income diversification	5.98	0.1672
Capital Adequacy	6.76	0.1479
Mean VIF	6.68	

**Source: Survey Data (2021)**

The Multicollinearity tests revealed that the VIF for income diversification was 5.98, the VIF for asset quality was 6.28, the VIF for bank size was 7.96, and the VIF for capital adequacy was 6.76. The fact that none of the VIFs exceeded 10 indicates that there was no multicollinearity

### 4.3.2 Normality Tests

The distribution of sample populations should be normally distributed. Because false presumptions make it challenging to formulate accurate and reliable judgments on data, normalcy is crucial. In table 4.3 and figure 4.1, respectively, the results of the normality tests using the kurtosis, skewness, and normal distribution table were shown.

**Table 4.3 Test of Normality**

Skewness/Kurtosis tests for Normality

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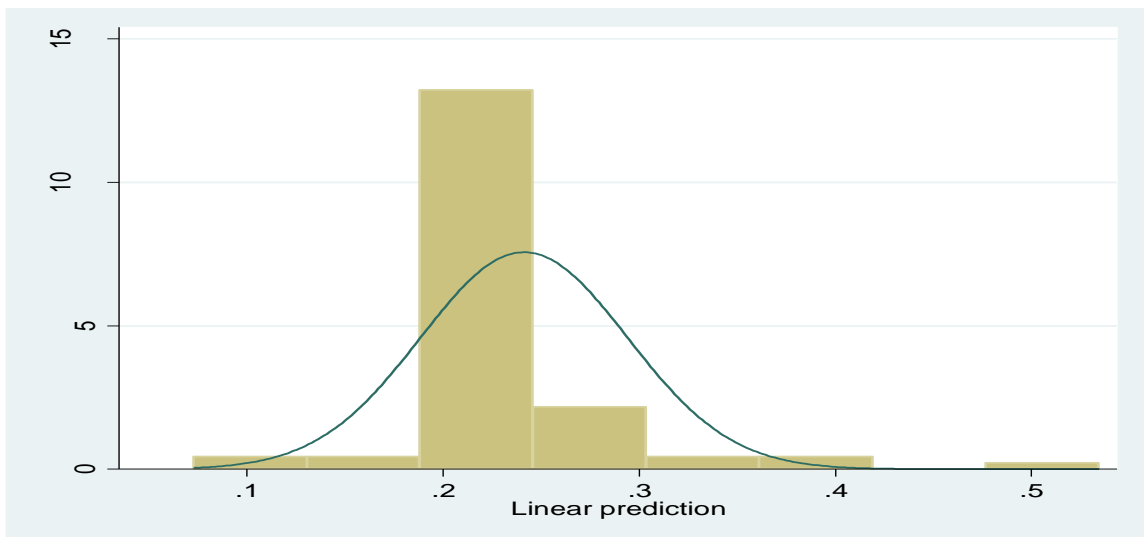
Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	adj	chi2(2)	Prob>chi2
Myresiduals	114	0	0	.	.	0

---

**Source: Researcher(2022)**

The results of the skewness and kurtosis tests show that they were both equal to zero (0). A symmetrical dataset would have zero skewness. If the kurtosis is larger than 3, the dataset has heavier tails than a normal distribution. If the kurtosis is less than 3, the dataset has lighter tails than a normal distribution. The data was therefore normally distributed. The results of the normal distribution figure 4.1 corroborated these.

**Figure 4.1 Normality Tests**



**Source: Researcher (2022)**

### 4.3.3 Heteroskedasticity Tests

The analysis's problems with heteroscedasticity were explained using the Breusch-Pagan test. The test findings are presented in table 4.4's condensed results. One of the essential presumptions is homoscedasticity, which implies that the probability distribution of the perturbation idea is the same across all experiments. This suggests that each  $u_i$ 's variance is the same for all explanatory variable values. When the disruption conditions don't always have the same disparity or variance homogeneity, heteroscedasticity results.

**Table 4.4 Heteroscedasticity Tests Using Breusch-Pagan**

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Ho: Constant variance
Variables: fitted values of ROE

---

chi2(1) = 1.99
Prob>chi2 = 0.1682

---

**Source:Survey Data(2021)**

According to Breusch Pagan when P value is significant at 95% confidence interval then the data has heteroscedasticity issues. However, at 95% confidence interval, when the P value is greater than 0.05 then the data does not have problem with heteroscedasticity. The results indicates that the P value was greater than 0.05 indicating no possibility of heteroscedasticity as indicated in Table 4.4.

### 4.3.4 Tests on Autocorrelation

The researcher employed error terms to assess the autocorrelation hypotheses that imply zero covariance across time. It follows that the inaccuracies pertaining to one observation are unrelated to the errors pertaining to another. The Durbin Watson test, according to Gujarati (2004) is the most well-known test for identifying serial correlation. The residuals

show no serial correlation up to the given order, which is the test's null hypothesis. The autocorrelation results are shown in table 4.5.

**Table 4.5: Wool Dridge Autocorrelation Tests**

H0 : no first- order autocorrelation	
F( 1, 18)	2.544
Prob> F	0.1665

**Source: Researcher (2022)**

The findings demonstrate the statistical insignificance of the coefficients. The test is in favor of the no-serial autocorrelation. The serial correlation between the residuals is  $0.1665 > 0.05$ , per the test. As a result, there is no relationship between the error terms for different observations in this analysis.

#### 4.3.5 Stationarity Tests

The analysis employed panel data and offers a test for stationarity and order of integration, therefore the Levin-Lin Chu unit-root test was appropriate. In order to render the variables stationary—a requirement for panel regression and other statistical inferences—this was done. It was determined whether the variables followed a deterministic pattern of stationary behavior by testing the null hypothesis.

**Table 4.6 Stationary Tests**

Construct	Hypothesis	P-value	Verdict
Bank Size	Ho: Panels contain unit roots	0.002	Reject Ho
	Ha: Panels are stationary		
Asset Quality	Ho: Panels contain unit roots	0.000	Reject Ho
	Ha: Panels are stationary		
Income diversification	Ho: Panels contain unit roots	0.001	Reject Ho

	Ha: Panels are stationary		
Capital Adequacy	Ho: Panels contain unit roots	0.007	Reject Ho
	Ha: Panels are stationary		
ROE	Ho : Panels contain unit roots	0.0051	Reject Ho
	Ha : Panels are stationary		

**Source: Researcher(2022)**

#### 4.3.6 Hausman Tests

The researcher ran two panel data regressions. The two models were Fixed effect and Random effect. Which of the two regression models fit the data the best was determined using the Hausman test. The following test hypotheses:

*Ho:*Accept the Random Effect Model

*Ha:*Accept the Fixed Effect Model

**Table 4.7 Hausman Test**

	(b) Fixed	(B) random	(b-B) Difference	Sqrt (diag(V_b-V_B)) S.E.
BS	6.806	6.939	-0.133	.012
AQ	4.099	9.193	-5.094	.074
DIV	5.962	6.155	-0.193	.040
CAR	5.421	6.319	-0.898	.006
chi2(3)	3.01			
Prob>chi2	0.9587			

**Source: Researcher (2022)**

The random effects model was applied, according to the Hausman test. In response, the only findings given and covered in the next section were those of the random effects

model. The Hausman test revealed a significance level above the 0.05 level with  $\text{Prob}>\chi^2 = 0.9587$ . Thus, the null hypothesis of the researchers is not disproved (H0). This proves that the Random effects panel data model, which was employed, provides the best fit for the data. Therefore, only the outcomes of the random effects panel regression were noted.

#### 4.4 Random-Effect Regression Analysis

Regression analysis helps to establish the relationship between the variables by presenting the coefficients (coef) and P values. The coefficients display the units-based relationship between changes in the independent variable and the dependent variable. The coefficient frequently indicates the direction of change in the dependent variable as a result of changes in the independent variable. If the P values at the 95% and 90% confidence intervals, respectively, are less than 5% or 10%, the specific variable is said to be significant in characterizing the changes in the dependent variable.

**Table 4.8 Random-effects Regression Model**

ROE	Coef.	Std. Err.	Z	P> z	[95% Conf.	Interval]
DIV	69.70133	18.01547	3.87	0.00	33.99526	105.4074
CAR	-63.20197	11.79168	-5.36	0.00	-86.57268	-39.83125
AQ	-13.91735	6.793558	-2.05	0.043	-27.38196	-.4527432
BS	11.86549	7.033748	1.69	0.094	-2.07517	25.80615
_cons	-86.98402	50.9823	-1.71	0.091	-188.029	14.06125
R squared	71.0					
F statistics	52.9					
Prob> chi2	0.00					

**Source: Researcher (2022)**

The adopted model was;  $ROE = -86.98402 + 69.70133X_1 - 63.20197X_2 - 13.91735X_3 + \varepsilon$ .

The section presents the hypothesis testing as they were presented in chapter one. The hypotheses **H<sub>01</sub>**, **H<sub>02</sub>**, **H<sub>03</sub>**, **H<sub>04</sub>** and **H<sub>05</sub>** were analyzed using results from the panel multiple regression as shown in Table 4.8.

The first hypothesis: **H<sub>01</sub>** There is no significant effect of capital adequacy on financial performance of Tier III commercial banks in Kenya was tested. The results show that income diversification (DIV) had significant effect on ROE, with a P value of  $0.00 > 0.05$ . For every unit change in income diversification, ROE changes by 69.7 units. Therefore the study rejected the null hypothesis **H<sub>01</sub>**. The results were supported by Kibati (2017) discovered that income diversification had an impact on the profitability. The study agrees with Sporta (2017) income diversification had a positive effect on ROE.

The second hypothesis was: **H<sub>02</sub>** Asset quality does not have statistical effect on financial performance of Tier III commercial banks. The results in table 4.8 indicates that asset quality (AQ) had a negative and significant effect on ROE at 5% level of significance,  $0.043 < 0.05$ . Therefore, the study rejected the null hypothesis **H<sub>02</sub>**. A positive unit change in asset quality results to a negative unit changes in ROE. The study agrees with Paul and Prakash (2019) that asset quality has statically significant effect on ROE. Pratama (2019) found that asset quality had a significant negative impact on the ROE. Further, Eyup, Niyazi, and Nurca (2017) agreed that asset quality significantly affects return on invested capital.

The third hypothesis **H<sub>03</sub>** There is no significant effect of income diversification on financial performance of Tier III commercial banks in Kenya was tested. According to

Table 4.8's findings, capital adequacy significantly affects ROE. Therefore the study rejected the null hypothesis  $H_{03}$ . ROE changes in the opposite direction by 63.20197 units for every unit change in capital adequacy. The study disagrees with Lekaaso, Cherono, and Rintari (2020) that capital adequacy have no substantial impact on the profitability. However, Mutumira (2019) agrees that capital adequacy significantly affects financial performance of commercial banks. The study agrees with Amahalu, *et al.*, (2017) that capital adequacy significantly affects financial performance. The results supports Musyoka (2017) that capital adequacy significantly affects financial results.

The fourth hypothesis  $H_{04}$  Bank size has no statistical significant effect on financial performance of Kenya's Tier III commercial banks was tested. With a P value greater than 0.05 ( $P > 0.94$ ), the results of the Random-effects regression model demonstrate that bank size (BS) had no significant impact on ROE. Therefore, the study accepted the null hypothesis  $H_{04}$ . The size of the bank has no effect on how ROE fluctuates by the unit. Kibati (2017) finding disagreed that bank size had an impact on the profitability of commercial banks. Akinleye and Fajuyagbe (2019) found that bank size significantly affects financial performance of commercial banks.

The Coefficient of determination (R squared) result of 71.0 shows that changes in asset quality, income diversification, and capital sufficiency accounted for 71% of variations in ROE. The ROE value is shown as  $Cons = -86.98402$  when the four independent variables are maintained constant.

## **CHAPTER FIVE**

### **SUMMARY OF THE FINDINGS, CONCLUSION AND RECOMMENDATION**

#### **5.1 Introduction**

The chapter summarizes the study results guided by the study objectives. The conclusions and recommendations were based on the inferential results obtained in chapter four.

#### **5.2 Summary of the Findings**

The first null hypothesis postulated that there was no relationship between Tier III commercial banks' capital adequacy and their financial performance (ROE). Capital adequacy results obtained from the nineteen commercial banks constituted of equity divided by total assets. The results indicated that majority of the Tier one commercial banks capital Adequacy ratio was very low compared to the sector average. The results indicated that the commercial banks absorbs unreasonable amount of losses and do not mostly comply with the statutory requirements.

The second null hypothesis stated that there was no relationship between asset quality and financial performance of Tier III commercial banks. The finding on asset quality illustrates management's capacity to recognize and control credit risk. The asset quality indicates high non-performing loans in the Tier one Kenya commercial banks for the period under study. The asset quality has a direct influence on a bank's capacity to create a healthy bottom line, and if asset quality improved, all other ratios would increase as well.

The third hypothesis stated that there was no relationship between Tier III commercial banks' income diversification and their financial performance. The results on income

diversification used the net interest income as a percentage of operating income (IN) and non-interest income as a percentage of operating income (NONIN). The results indicates that the income diversification levels for tier iii commercial banks reveals varying levels of diversifications with some banks showing average scores while majority performing poorly. These implied that majority of tier iii commercial banks in Kenya have low income diversification.

The fourth hypothesis stated that bank size had no statistical significant effect on financial performance of Kenya's Tier III commercial banks. The results indicated that the tier one commercial banks had on average similar amount of total assets. The study found that the likelihood that banks will raise their profits decreases as their size grows. The tier one commercial bank size was relative similar reflecting a decreasing trend in size. The results indicated that the Tier III Commercial Banks were not performing well, as evidenced by the ROE. Return on equity is negative when a corporation experiences a loss and thus has no net income.

## **5.2 Conclusions of the Study**

The study concluded that bank size had no significant impact on ROE. The size of the bank has no effect on how ROE fluctuates by the unit. The study concluded that asset quality had a positive and significant effect on ROE. A positive unit change in asset quality results to a positive unit changes in ROE. The concluded that income diversification significantly affects ROE. The study concluded that capital adequacy significantly affects ROE.

### **5.3 Recommendations of the Study**

The tier three banks should maintain a minimum CAR of 8%. A minimum capital adequacy ratio is essential in ensuring that banks have enough reserve capital to sustain a reasonable level of losses prior to going bankrupt and forfeiting depositor money. By reducing the risk of bank failure, capital adequacy ratios can contribute to the effectiveness and stability of a country's financial system. In general, a bank with a high capital adequacy ratio is thought to be secure and likely to fulfill its financial obligations.

One of the main factors in establishing the asset quality of a bank is the amount of loans and advances, loan loss reserves, and non-performing loans. These risk factors have a significant role in deciding the success of Kenyan banks. A bank's earnings will be unsteady if its risk is not properly managed. This suggests that the profit before tax has responded to Kenyan banks' loan policies. Profitability performance is also impacted by asset structure. Loans are typically among the riskiest of all assets, which makes banks more anxious because they could endanger their liquidity position and cause trouble. Bank performance improves with greater credit risk management. Thus, in order to defend their assets and safeguard the financial system, banks must engage in responsible credit risk management.

Significantly, commercial banks in Kenya may specialize only in interest income generating activities but not in non-interest income generating activities because non-interest income generating activities dependents heavily on banks intermediation activities. Larger banks have greater ability to diversify risk and should be safer in operation and thus have lower cost of funding than smaller ones. Hence, Based on too-big-to-fail argument, smaller banks may not take on riskier activity than larger ones and

decrease their cost of funding and may have developed risk management techniques or may be involved in fundamentally different types of activities with different distributions.

The lending stances of financial institutions should be routinely evaluated by the Central Bank of Kenya (CBK). One straightforward method is to determine the extent of the credit crunch by separating the effects of the loan supply and demand while taking into account the firms' perception of the banks' lending policies. Finally, through boosting competition in the financial sector, improving the securities market will benefit the growth of the banking industry as a whole. People can compare the return and security of their investment among tier one banks and securities market operators when the selection of portfolios is broad.

### **5.5 Suggestions for Further Study**

The study concentrated on four independent variables as the indicators of specific business drivers. The study also was limited to ROE as the indicator of financial performance. Further study need to be carried out and consider other specific business drivers affecting ROE. The study focused on Tier one commercial bank, it is recommended that further study should be considered focusing on insurance or deposit taking Saving and credit cooperative societies.



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**APPENDIX I: DATA COLLECTION SCHEDULE**

<b>Variables</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
Equity						
Total Assets						
Non performing Loans						
Total Loans						
Total Debt						
Market Value of Equity						
Total Liabilities						
Return on Equity						
Bank size						

**Source: Researcher (2023)**

## **APPENDIX II: TIER THREE COMMERCIAL BANKS**

1. Bank of Africa (K) Ltd
  2. Victoria
  3. Gulf African Bank
  4. Guaranty Trust Bank
  5. African Bank Corporation Ltd
  6. Sidian Bank
  7. Habib Bank
  8. Credit Bank
  9. Guardian Bank
  10. First Community Bank
  11. UBA Bank
  12. Development Bank
  13. M-Oriental Bank
  14. Transnational
  15. Consolidated
  16. Paramount
  17. Jamii Bora
  18. Mayfair
  19. DIB
  20. Middle East Spire
- Source: Central Bank of Kenya (2023)

