THE EFFECT OF LOAN DEFAULTS ON FINANCIAL PERFORMANCE OF COMMERCIAL BANKS

BY

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DECLARATION

This research project is my original work and has not been presented for any award in any other university.

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This research project has been presented for examination with my approval as the University supervisor

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DEDICATION

I dedicate this project to my family; special appreciation to my mother Helen Moseti for all her support.

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LIST OF ABBREVIATIONS

ANOVA	Analysis of Variance
CBK	Central Bank of Kenya
KCB	Kenya Commercial Bank
ABSA	Amalgamated Banks of South Africa
CBN	Central Bank of Nigeria
NDIC	Nigeria Deposit Insurance Corporation
NPL	Non-Performing Loans
TLR	Total Loans ratio
CRR	Cash Reserve Ratio
ROA	Return on Asset
GDP	Gross Domestic Product
GSE	Ghana Stock Exchange
SCG	Standard Chartered Bank
EBG	Eco Bank Ghana
GCB	Ghana Commercial Bank
CBG	Cal Bank
ROE	Return On Equity
NPLR	Non-performing loan ratio
CAR	Capital Adequacy Ratio
OLS	Ordinary Least-Squares
FE	Fixed Effects
RE	Random Effects
NBE	National Bank of Egypt

BOP	Balance Of Payment
SACCOs	Savings and Credit Co-operatives
SME	Small and Medium Enterprises
SPSS	Statistical Package for the Social Sciences
NSE	Nairobi Securities Exchange

ABSTRACT

Commercial banks in Kenya have been facing performance issues in the last five years where the banking sector showed a decline in profits by 30% in 2020. The banks have also been experiencing rising levels of loan defaults. This study sought. This research utilized the descriptive research design to determine the effect of loan defaults on financial performance of 42 commercial banks in Kenya between 2016 and 2020. This paper utilized secondary data from the annual reports got from the Central bank of Kenya website. The study utilized annual bank data for analysis. Data analysis was done using descriptive statistics and regression analysis with the use of SPSS 25. From the analysis, the results showed thatloan defaults had a positive but insignificant effect on financial performance of the sampled commercial banks. This leads to the conclusion that loan defaults had no effect on financial performance of commercial banks. This shows that the loan defaults do not make any significant contribution to the financial performance of commercial banks in Kenya. Firm size showed a positive and significant regression coefficient. This leads to the conclusion that firm size has a positive effect on financial performance of commercial banks in Kenya. The study also concludes that commercial banks increase their size to enhance their financial performance. On the other hand, liquidity showed a negative and significant regression coefficient. This study, hence, concludes that liquidity a negative effect on financial performance of commercial banks in Kenya. Leverage showed a positive and significant regression coefficient. Therefore, this study concludes that leverage has a positive effect on financial performance of commercial banks in Kenya. The study recommends that commercial banks in their attempt to manage loan defaults, there is need to consider other factors like assets, liquidity and leverage.

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

An efficient and well-functioning financial sector is essential for the development of an economy and the achievement of high and sustainable growth of any country(Katircioglu, Katircioğlu& Altinay, 2018). One of the indicators of financial sector health is loan defaults. Most unsound financial sector shows high level of loan defaults within a country (Mburu, Mwangi&Muathe,2020). The causes of loan default vary in different countries and there are so many reasons as to why loans fail to perform and thus affecting performance of commercial banks.

This study was based on the asymmetric information and the loanable funds theory. The theory of asymmetry information states that it may be difficult to distinguish between good borrowers and bad ones which may result into adverse selection and moral hazard problems (Saam, 2007). On the other hand, Loanable Fund Theory states that separability between the use of funds and the production functions of value added in a bank's overall optimization problem (Storm, 2020). The two theories address relationship that loan defaults and firm performance display.

Commercial banks have been experiencing performance issues. Majority of the banks, despite showing that they made profits, majority have been experiencing reduction in the profitability levels (World Bank, 2020). The banks have also been experiencing increased loan defaults in the last year (CBK, 2020). The theoretical base show that the performance issues of a firm can be as a result of loan defaults. This creates the need to research on the relationship between the performance of commercial banks and loan default levels within the institutions.

1.1.1 Loan Defaults

Loan default can be defined as the inability of a borrower to fulfil his or her loan obligation as at when due (Balogun & Alimi, 1990). High default rates in lending should be of major concern to policy makers in developing countries, because of its unintended negative impacts on financial performance (Milani, 2014). Chen, Zhang and Ng (2018) states that some of the impacts associated with default include: the inability to recycle funds to

other borrowers; unwillingness of other financial intermediaries to serve the needs of small borrowers; and the creation of distrust.

As noted by Addae-Korankye(2014), the costs of loan delinquencies would be felt by both the lenders and the borrowers. The lender has costs in delinquency situations, including lost interest,opportunity cost of principal, legal fees and related costs. For the borrower, the decision to default is a trade-off between the penalties in lost reputation from default versus the opportunity cost of forgoing investments due to working out the current loan (Agodzo, 2017). Loan defaults relates to borrowers not fulfilling their financial commitments to repay in accordance with their contractual agreements (Cullen,2018). A bank loan is considered to be in default when more than 90 days pass without the borrower paying the agreed instalments or interest (Bottiglioni, 2019).

Loan defaults cause insolvency of financial institutions and ultimately hurt the whole economy by causing reluctance by banks to provide credit (Hou, 2007). In a high loan default condition, banks increasingly tend to carry out internal consolidation to improve asset quality which minimizes granting of loans. High level of NPLs require banks to raise provision for loan defaults which decreases the banks' revenue and reduces the funds for new lending impairing the corporate sector as they have difficulties in expanding their working capital (Oganda&Mogwambo, 2019).). Therefore, many banks focus on the corporate or wholesale lending, which poses a challenge for the management to maintain the required liquidity position. This lending may starve the bank the available cash since it is majorly in long-term and plunge the bank into liquidity problems (Barseghyan, 2010). The loan retirement process slows down in banks during periods of poor production of resources in the economy giving rise to loan defaults. In the event of a rapid increase in defaulted loans' volume, liquidity crisis becomes inevitable; hence banks should minimize the possibility of having loan defaults by carrying out adequate analysis of the creditworthiness of a borrower.

1.1.2 Financial Performance

Financial performance is defined as the measure of how an organization achieves its maximum profit/output from the use of its scarce resources (Barauskaite&Streimikiene, 2021). It solely aims at achieving the organizations mission through sound management,

strong governance and rededication to achieving results (Wang, Cho& Denton, 2017). According to Feng and Wang (2000), financial performance is the process of evaluating the financial characteristics of an organization with the sole purpose of determining its efficiency and performance with the reference to its financial records and reports.

Rezazadeh (2019) measured performance in terms of return on assets and profit margin ratio, profitability and liquidity. On the other hand, Vakkuri and Johanson (2020) measured financial performance in terms of market share, sales revenue and net income. They where they indicated that firms need performance measures that would give them an overview of the financial position of the firm.

1.1.3 Loan Defaults and Financial Performance

Loan defaults have been found to reduce firm performance. The theory of loanable funds indicates that the defaulted loans reduced the level of loanable funds which reduced the amount of loans advanced to customers (Storm, 2020). The loan defaults also reduce customer deposits due to the fear that the customers may have their deposits offsetting their defaulted loans. If the borrower's default, then the interest income will not be earned and this would certainly affect the profitability of the bank adversely (Luqman, 2014). Thus, the quality of the loans would contribute towards higher profitability. Loan defaults can be used as an indicator of the loan's quality.

Empirical studies have produced differing outcomes on the relationship between loan defaults and firm performance. Nyarko-Baasi (2018) found that loan defaults had a positive impact on financial performance. This was supported by Kabui (2020) who found that loan defaults impacted Gabriel, Victor and Innocent (2019) found a negative significant relationship similar to Nyarko-Baasi (2018). On the other hand, Çollaku and Aliu (2021) found that a statistically insignificant relationship existed between loan defaults and firm performance.

1.1.4 Commercial Banks in Kenya

The commercial banking in Kenya is covered by 42 banks which are divided further into three broad categories using a predetermined composition comprised of their net assets, capital and reserves, share of deposits and the loan portfolio. Based on the defined criteria, those banks

whose composite weighted index is greater than 5% are classified as large group banks (or tier 1 banks). Those banks with a weighted composite index of between 1 and 5% are classified as medium banks (or tier 2 banks) while those with less than 1% weighted composite index are classified as small banks (or tier 3 banks). Currently, in Kenya there are 8 tier 1 financial institutions, 11 tier 2 financial institutions and 21 tier 3 banks (CBK, 2020).

Over the past years, the commercial banking sector has witnessed unprecedented shift in the market share segment. Based on the CBK (2020) report, in the financial year ending 2020, tier 1 grew their market from 65.3% to 66% during the financial period. The increase in market share was highly attributed to the increased customer's deposits which is expected to continue with the same trend until 2020. Similar trend was observed in the tier 2 which recorded an increase from 26% in December 2019 to 26.10% in December 2020. However, the market shares of tier 3 banks saw a fall in their dominance with a whopping 1.5% which was translated as a decrease from its previous financial year from 9% to 7.5%. The reduction in the market dominance is highly correlated to the merger of two tier three financial institutions by both 1and 2 in the same financial year.

The CBK (2020) report showed that commercial banking sector capital and reserves grew by 7.8%. This increase was attributed by increased deposits in the large and medium banks unlike the small banks which registered a decrease. Over the same period the commercial banking sector profit decreased by 9.2%. The deterioration in profit margin has been attributed to increased expenses in the sector as compared to the decrease in income of the customers. It was similarly found that the income in the banking sector declined by 3.12% whereas the expenses increased by 0.5% over the same period.

1.2 Research Problem

Loans form a major component of banks' balance sheet and any change in its composition affects the entire structure (Corbae&D'Erasmo, 2021). Loan defaults expose the banks to potential losses and financial performance issues. Loan default must be minimized by banks at all cost as it leads to poor performance through reduced customer deposits and loan advances (Al-Thiban, M., &Tayachi,2021). Thereshould be continuous review of individual exposures in order to monitor loan quality and reduce losses.

Commercial banks in Kenya have been facing performance issues in the last five years where the banking sector showed a decline in profits by 30% in 2020 (CBK, 2020). Further, individual banks experienced a decline in performance with KCB and ABSA experiencing a 40% and 89% decline in their profits in 2020 (CBK, 2020). The banks have also been experiencing rising levels of loan defaults. In 2020, the rate of NPL expected hit 14 per cent which is the highest in East Africa (CBK, 2020). Equity bank increased their loan loss provision 10 times to Sh. 3 billion compared to 2019.Were the loan defaults the source of financial performance issues among banks?

The aspects of loan defaults on financial performance have been studied by various researchers across the globe. Globally, Çollaku and Aliu (2021) studied the effect of non-performing loans on bank's profitability in Kosovo; while Wood andSkinner (2018) looked at the determinants of non-performing loans of commercial banks in Barbados. In Africa, Gabriel, Victor and Innocent (2019) looked at the effect of non-performing loans on the financial performance of commercial banks in Nigeria; Nyarko-Baasi (2018) studied the effects of non-performing loans on the profitability of commercial banks in the Ghana stock exchange while Kingu,Macha and Gwahula, (2018) looked at the effect of NPL on bank's profitability. These studies showed mixed results on the relationship between loan defaultsand performance.

In Kenya, Kabui (2020) looked at the effect of bank specific factors on the level of non-performing loans among commercial banks in Kenya; Mwangi (2020) looked at the effects of macro-economic factors on non-performing loans of commercial banks; Isabwa andMabonga (2020) studied effect of non-performing loans on profitability of the banking industry in Kenya; whileSalaton, Gudda andRukaria(2020) studied the effect of loan default rate on financial performance of Saccos inNarok County. Other studies included Katula and Kiriinya (2018) who studied loan repayment and financial performance of deposit taking Saccos in Embu County and Oballa (2017) who looked at the factors influencing performance of unsecured bank loan portfolios based onselected commercial banks in Nairobi County, Kenya. From the studies the relationship between loan defaultsand firm performance does not come out clearly. This is because the studies are giving different findings on the relationship with some showing positive (Kabui, 2020; Nyarko-Baasi, 2018) with others showing negative relationship (Gabriel, Victor & Innocent, 2019).

Based on the research done in the area of loan defaults and performance, various gaps exist. There is also limited research in the area of banking especially in Kenya. Conceptually, the studies have looked at different concepts. Some focused on the factors influencing loan defaults (Kabui, 2020) other than how loan defaults impact financial performance. Others used profitability as the dependent variable other than bank financial performance (Isabwa&Mabonga, 2020). Mwangi (2020) looked at macro-economic factors and non-performing loans of commercial banks. This research used macroeconomic variables as the independent variable and related it to loan defaults other than using loan defaults as the independent variable. Hence the reviewed studies have failed to study the concepts of loan defaults and financial performance in banking.

In addition, contextual gaps exist in the area. The studies that looked at the two concepts of loan defaults and performance together, were done in different sectors other than banking sector. For example,Salaton, Gudda andRukaria (2020); and Katula and Kiriinya (2018) did their studies in Saccos other than banks. This shows that contextual gaps occur in the area of loan defaults and financial performance. The studies also adopted methods that were different from those adopted by the current study. The studies used cross-sectional data other panel data used in the current study. Majority made use of multiple linear regression in establishing the cause-effect relationship between the variables. However, current study used panel regression in its analysis. Analysis was done using SPSS for majority of the studies with the current study using STATA software to generate the statistics. This shows that methodological gaps exist in the area of loan defaults and financial performance in banking. This study sought to fill the gaps by answering the question: what was the effectof loandefaults on financial performance of commercial banks in Kenya?

1.3 Research Objective

To determine the effect of loan defaults on financialperformance of commercial banks in Kenya

1.4 Value of the Study

The study enables scholars to get literature that would enable them understand the relationship of performance and loan defaults. The findings from this research should provide more literature to support existing theoretical propositions on the relationship between non-performing loans and performance of commercial banks in Kenya. The researchers would

find this study valuable as it would provide a basis for further research in the area of non-performing loans and firm performance.

The study findings will be of value to various policy making institutions in Kenya comprising of the Central Bank of Kenya, the Kenya Bankers Association and other regulatory authorities to generate policies. This will help to enhance profitability of banking industry in Kenya as well as to ensure they attain their commercial objectives.

The findings of this study are of interest to Commercial Bank's managers as they know relationship between loan defaults as measured by non-performing loans and firm performance and encourage them take necessary measures to control occurrences of loan defaults. The management would get a chance to use the recommendations from this study to improve firm performance through management of non-performing loans.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter gives the literature review, both empirical and theoretical. It also gives conceptual framework defining the relationship between the variables.

2.2 Theoretical Review

2.2.1 Asymmetry Theory

Foundations for this hypothesis were established in the 1970s by three researchers: Akerlof (1970), Spence (1973) and Stiglitz (1981). The theory of asymmetry information states that it may be difficult to distinguish between good borrowers and bad ones which may result into adverse selection and moral hazard problems. The moral hazard problem implies a borrower has the incentive to default unless there are consequences for his future application for credit (Saam, 2007). This result from the difficulty lenders has in assessing the level of wealth borrowers will have accumulated by the date on which debt must be repaid.

Financial markets exhibit asymmetric information in any transaction in which one of the two parties involved has more information than the other and thus has the ability to make a more informed decision. In the market, party possessing more information on specific item to be transacted is in a position to negotiate optimal terms for the transaction than the other party. The party that knows less about the same specific item to be transacted is therefore in a position of making either right or wrong decision concerning the transaction. Averse selection and moral hazards have led to significant loan defaults in commercial banks (Akmel,2019). Ivashina (2009) notes thatasymmetric information is a problem in financial markets such as borrowing and lending. In these markets, the borrower has more information about his financial state than lender. The lender has difficulty knowing whether it is likely the borrower will default.

The theory has been criticized on various bases.Cowgill and Tucker (2019) points out that not everyone is in the dark in credit markets. Banks seek customers to lend money to as they may have knowledge on what their customers may need. Tchamyou(2019) alsonotes that models based on the ignorance of one party are flawed, given the availability of information from third parties such as Consumer Reports, Underwriters Laboratory and the credit bureaus.

This theory is relevant in this study since the consequences of asymmetry and insider lending as well as unsecured loans to the political class has further developed the moral hazards resulting in high level of loan defaults and hence credit risk which eventually results to performance problems of commercial banks. The issue of adverse selection is being handled by CRB that minimize information asymmetry. Thus, commercial banks should possess more information on specific items they transact with borrowers in order to negotiate optimally to avoid loan defaults which in turn reduce their performance.

2.2.2 Loanable Fund Theory

The loanable funds doctrine was formulated in 1930s by British economist Dennis Robertson and Swedish economist Bertil Ohlin. Loanable fund theory is a dynamic optimizing theory for bank operation that integrates insights of production theory, financial intermediation and portfolio theories (Lagoarde-Segot& Martínez, 2021). Portfolio risk determines the rate of return on loans and banks' borrowed funds and, thus, the discount rate used to derive the present value of future profits part of which are generated by bank services. Nevertheless, the quantity of service output is affected by risk only to the extent that portfolios of different risk require different amounts of information processing. The model shows that loanable funds are merely an intermediate input that passes through banks, whereas true bank value is added only the services facilitating the provision of funds (Akan& Tevfik, 2020).

The model establishes separability between use of funds and production functions of value added in a bank's overall optimization problem (Storm, 2020). In short, by resolving the fundamental question of how to measure bank output, this model contributes to large literature on bank production. Moreover, this model can resolve some long-time conceptual debates in the bank production literature, particularly the one regarding the role of deposits (Henriques et al, 2020). It demonstrates that deposit funds are "material," inputs in the generation of new loans, but the transaction services associated with deposits are part of bank output. It also provides a theoretical basis for measuring bank output by identifying the value-added components of a bank's gross output (Storm, 2020).

The loanable funds theory has been criticized for combining monetary factors with real factors. It is not correct to combine real factors like saving and investment with monetary factors like bank credit and dishoarding without bringing in changes in the level of

income (Bertocco, 2013). Loanable funds theory rests on the assumption that the level of national income remains unchanged. In reality, due to the change in investment, income level also changes accordingly (Bibow, 2001). This makes the theory unrealistic.

In relation to the study, this theory informed the researcher on the influence that loanable funds which are reduced by loan defaults influence the performance of banks. When the loan defaults are high the bank experiences reduced funds available for provision of funds to borrowers. This in turn would influence the financial performance of the banks as their main source of revenue is through loans extended to customers.

2.2.3 Bad Management Theory

Bad management theory, first introduced by Berger and DeYoung (1997), points out that in responding to the increase in loans default, bank management tends to inject more resources into managing and monitoring bad loans. This, in the long run, results into the increase in the operating expenses over the increase in interest income, resulting to higher cost-to-income ratio, a sign of weak bank management (Vardar &Özgüler, 2015; Louzis, Angelos&Metaxas, 2010).

This theory has been criticized by various authors. Murphy (2019) noted that the financial institutions expect the managers to make good decisions on loan defaults and if it happens that they make wrong decisions, then it won't happen all the time. On the other hand, Ozili andOuta (2017) noted that if the bad management of loan defaults has been happening across commercial banks and other financial institutions, then all the institutions would have closed shop. Hence, this theory is impractical as the manager would want to reduce costs of loan defaults and enhance financial performance.

This informed the study in that loan defaults reduce bank performance through increased costs of loans management. Banks hence need to manage loan defaults efficiently to avoid high costs accrued to the loans defaulted which may reduce the returns from the extended loans. This shows the relevance of this theory in explaining the impact of loan defaults on financial performance of commercial banks.

2.3Determinants of Financial Performance

2.3.1 Loan Defaults

Loan default is a metric used to establish and track the extent of nonpayment or defaults in a loan portfolio. A loan portfolio is made up of several loans made to various customers. Any bank that lends money must keep a close eye on the loan default rate. Loan defaults is measured by loan loss provision ratio (Nugroho, Arif& Halik, 2021). It is also measured through non-performing loans ratio (Patwary& Tasneem, 2019) and non-performing coverage ratio (Oudat& Ali, 2020).

Loan defaults has been a major factor influencing financial performance. Empirical research has produced mixed findings on the impact of loan defaults on financial performance. This is because the studies are giving different findings on the relationship with some showing positive (Kabui,2020; Nyarko-Baasi, 2018) with others showing negative relationship (Gabriel, Victor & Innocent, 2019).

2.3.1 Firm Size

Firm size is the number of assets, employees and market share of a firm. Normally, large banks are able to acquire cheap capital and make big profits. This mean that the bank size is directly connected with financial performance. Also, financial performance has a positive connection with the bank size indicating that large banks canachieve economies of scale hence reducing cost of operating and increasing their loan volumes (Gyeke-Dako et al, 2018).

Amato and Burson (2007) note that the size of an organization is primarily determined by the amount of assets it owns. An argument can be made that the larger the assets a firm owns, the more its ability to assume a large number of projects with greater returns in comparison with small firms with a smaller amount of assets. Additionally, the bigger the firm, the larger the amount of collateral that can be pledged in a move to access credit facilities in comparison to their smaller competitors (Chodorow-Reich et al, 2021).

Empirically, firm size has an effect on firm performance (Abeyrathna& Priyadarshana, 2019; Opeyemi, 2019). Opeyemi (2019) established that firm size had a positive relationship with performance. However, Ozcan, Unal and Yener (2017) established that firm size and performance showed no relationship. Kumar and Kaur (2016) on the other had showed a negative relationship. This creates the need to study firm size and its relationship with performance of commercial banks.

2.3.2 Bank Liquidity

Liquidity is the extent to which a bank has the ability to meet debt obligations incurring in a period of twelve months using cash and its equivalents for example short-term assets that are easily convertible to cash. Liquidity arises from the ability of managers to meet their financial commitments due to lenders without resorting to the liquidation of their other assets (Kabui, 2020).

Liargovas and Skandalis (2008) state that having an adequate proportion of liquid assets helps firms in financing activities and investment in cases where external financing is unavailable. Firms with high liquidity have ability to meet unexpected contingencies and obligations falling due. Suryaningsih and Sudirman(2020) noted that the liquidity of banks can impact the amount of credit extended to clients; thus, banks should work towards increasing their liquid assets and lowering short term obligations as they recommended. However, Ramlan(2020) noted that increasing bank liquidity may be more harmful than useful

2.3.3 Leverage

Leverage is a measure of how much firm uses equity and debt to finance its assets (Cheng& Tzeng, 2011). As debt increases, leverage increases. It has been seen in different studies that leverage has the relationship with financial performance. A ratio of firm total liabilities to total assets is used as leverage measure while return on assets, return on equity and operating margin are employed as firm performance measures (Ilyukhin,2015).

The impact of leverage on performance of firms is still a puzzle in finance literature (Pham & Nguyen, 2020). Modigliani and Miller (1963) argue that there is an advantage on gearing as a result of tax shield. The tax shield, due to tax deduction of interest expenses, advantage is cumulative; the more highly geared a company is the more tax relief it gets and the higher the firm value due to reduced costs. Various scholars have divergent views on the topic and there is no clear stand on whether leverage impacts positively or negatively on a firm's performance.Folabi, Olabisi, Kajola andAsaolu(2019) showed a positive relationship between leverage and financial performance. Daryanto, Samidi and Siregar (2018) found a negative relationship.

2.4Empirical Studies

2.4.1 Global Studies

Gabriel, Victor and Innocent (2019) examined the effect of non-performing loans on the financial performance of commercial banks in Nigeria between the periods of 1985 to 2016. The study employed the multiple regression techniques to analyze data collated from Central Bank of Nigeria (CBN) statistical bulletin and Nigeria Deposit Insurance Corporation (NDIC) publications for various years. The result showed that Non-Performing Loans to Total Loans ratio (NPL/TLR) and Cash Reserve Ratio (CRR) had statistically negative significant effect on Return on Asset (ROA). Hence, high level of non-performing loans would reduce the financial performance of commercial banks in Nigeria. Consequently, the study recommends that the regulatory authorities in Nigeria should create and support an environment where commercial banks in Nigeria can have a strong risk management practice.

Çollaku and Aliu (2021) examined the impact of NPL on Kosovo banks' profitability over a time span of 2010 to 2019. The traditional profit theory was employed to formulate profit, measured by ROA as a function of ratio of NPL, liquidity risk, and bank size as control variables. The research employed linear regression to estimate the determination of profit function. The results showed the effect of NPL on the profitability as statistically significant.

Wood and Skinner (2018) examines the bank-specific and macroeconomic determinants of NPL of commercial banks in Barbados over the period 1991-2015. The empirical results showed that bank-specific factors: return on equity, return on assets, capital adequacy ratio and loan to deposit ratio are significant determinants of NPL, while the macroeconomic variables exerting significant influence are GDP growth, unemployment and interest rate.

Nyarko-Baasi (2018) established the effect of NPL on profitability of 4 major banks listed on the Ghana Stock Exchange (GSE). Panel regression analysis was employed to establish the relationship between credit risk and profitability in order to account for heterogeneity among selected banks; Standard Chartered Bank (SCG), ECO Bank Ghana (EBG) Ghana Commercial Bank (GCB) and Cal Bank (CBG) for a data span of 2006 to 2015. By the use of Eveiws, the analysis was conducted based on fixed effects model and correlated random fixed effects Hausman test. The study proxy return on equity (ROE) for profitability. NPL ratio (NPLR) and capital adequacy ratio (CAR) were the two key explanatory variables. The study revealed that NPLR negatively affect profitability of banks but rate of CAR showed a significant positive relationship with profitability. Bank Size equally connected positively with profitability.

Musengamana(2019) did a study on non-performing loans and financial performance of microfinance institutions in Rwanda. The study adopted a descriptive research design. The population under this study consisted employees of Umurenge Sacco of credit department and finance totaling 25 potential respondents which took randomly. The instrument of the study was self-made (questionnaire) and a set of questions was formulated. Defaulted loans has negative effect on Umurenge Sacco performance as loans are assets that need to generate returns.

Kingu,Macha and Gwahula (2018) examined the impact of non-performing loans on bank's profitability using information asymmetry theory and bad management hypothesis. This study adopted causality research design using panel data (2007 to 2015) of 16 commercial banks in Tanzania. The study useddescriptive and multiple regression analysis estimation methods. Likewise, Ordinary Least-Squares (OLS) regression technique was also used, and then Fixed Effects (FE) and Random Effects (RE) assumptions were considered. The study found that occurrence of non-performing loans is negatively associated with the level of profitability in commercial banks in Tanzania.

Erdachew(2018) examined the impact of credit default risk management and other bank specific and macroeconomic variables on the financial performance of seven sample selected private commercial banks using a balanced panel data from 2007-2017. These data were collected from NBE and World Bank World Development Indicators. To achieve the intended objective this study employed descriptive and econometrics techniques. The empirical investigation uses the accounting measure of Return on Assets (ROA) and Return on Equity (ROE), which are the dependent variables used to represent Banks' performance. Furthermore, based on the diagnostic test conducted random effect model was appropriate to examine the determinants of financial performance of commercial banks. Based on the research findings, Managerial Efficiency was found to have negative and significant impact on both ROA and ROE. While capital adequacy ratio was positive and statistically significant in explaining the variation in ROA but the relation between CAR and ROE was found to be negative. The other measure of credit risk, non-performing loan ratio is found to be insignificant in explaining the variation in both ROA and ROE. Bank size was positively and significantly correlated with ROA with a positive relationship while cost per loan and Loan to asset ratio were negative and statistically significant in explaining the ROE

of Ethiopian Commercial Banks. The impact of macroeconomic factors; i.e., real GDP growth and Inflation Rate, was found to be insignificant in affecting both financial performance measures.

2.4.2 Local studies

Kabui (2020) studied effect of bank specific factors on NPL among commercial banks in Kenya. All the 42 banks were studied. Secondary data for five years (2015 to 2019) was obtained yearly. A descriptive longitudinal design together with a linear regression model was employed in analyzing how the variables related. Data analysis was performed using SPSS version 23. Findings revealed an R-square value of 0.299 which meant that 29.9 percent of variations in NPLs resulted from variations in the five selected variables. ANOVA revealed an F statistic significant at 5% level. Capital adequacy exhibited a positive and statistically significant influence on NPLs while profitability had a negative impact. The other selected determinants (interest rate, liquidity and bank size) were found have statistically insignificant influence.

Mwangi (2020) examined the effects of macro-economic factors on NPL of commercial banks in Kenya. The research used a descriptive and cross-sectional research design and focused on the whole banking industry focusing on 39 commercial banks. The study used secondary data and utilized quarterly data for a ten years from 2010 to 2019. Multiple regression model was used. The researcher used NPL ratio as the dependent variable with GDP, BOP, Interest Rates, exchange rates, inflation rate and money supply as the independent variables. NPLs were seen to increase and GDP, BOP and Inflation had an influence on NPLs.

Isabwa andMabonga (2020) studied the effect of NPL on profitability of banks in Kenya. A positivism research philosophy was adopted. The research used cross sectional and time series designs. Panel data on bankswas incorporated in the study. Statistical package of social studies version 24 aided in data analysis. Pearson correlation and regression inferential statistical techniques were used in the paper. The outcomeshowed a strong negative relationship between NPL and profit after tax. NPL had a significant negative effect on profitability of Kenyan banks.

Salaton, Gudda andRukaria(2020) studied the effect of loan default rate on financial performance of SaccosinNarok County. Cross sectional research design was applied on 20 registered and active SACCOs in Narok County. Purpose sampling selected 17 SACCOs between 2013 and 2018. Secondary data was collected. Both descriptive and inferential statistics were used. Statistical Package for Social Sciences version 23 and Microsoft Excel package were used as appropriate tool for analysis. It was established that loan default rate had a positive statistically significant effect to financial performance of SACCOs in Narok County.

Katula and Kiriinya (2018) studied loan repayment and financial performance of deposit taking Saccos in Embu County. The study employed descriptive research design and targeted 250 respondents selected from 10 SACCOsin Embu County. Slovin's formula was adopted to select 158 respondents. The study used primary and secondary data. Primary data was collected using questionnaires through drop and pick method. Secondary data was gathered by existing materials including financial statements. Statistical Packages for Social Sciences (SPSS) v 24 was applied to analyze quantitative data using descriptive statistics. Multiple regression was conducted at 95% confidence level and 5% significance level to establish the statistical significance between variables. Outcomes showed significant relationship between loan appraisal, loan interest rates, loan follow-up procedures and customer characteristics; and financial performance.

Oballa (2017) looked at factors influencing performance of unsecured bank loan portfolios: a case of selected commercial banks in Nairobi. A cross-sectional survey was implemented. The study targeted 250 employees in credit and finance/accounts departments. A sample of 152 respondents was purposefully and randomly selected. A structured questionnaire wasused to collect data analyzed using SPSS.This captured both descriptive and inferential statistics. The combination of interest rates, credit risk policy, and bank's operating environment and social demographic factors influenced the performance of unsecured loan portfolios positively.

Chege, Olweny and Opuodho (2018) studied the effect of NPL management practices on financial performance of commercial banks in Kenya. This research used descriptive research design. The target population for this research was 3 departmental heads from 43 commercial

banks in Kenya. Stratified random sampling was used to select 50 per cent of the target population and hence the sample size was 65 respondents. The study found that credit risk analysis has a positive effect on the financial performance of commercial banks in Kenya. The study established that credit insurance has a positive effect on the financial performance of commercial banks in Kenya. Also, the study found that debt collection practices had a positive effect on the financial performance of commercial banks in Kenya. This study concludes that credit insurance influences the financial performance of commercial banks in Kenya most followed by debt collection practices and credit risk analysis had the least influence on the financial performance of commercial banks in Kenya.

Aduda and Gitonga(2011)focused on connection between credit risk management and profitability among the commercial banks in Kenya.Both qualitative and quantitative methods were used in order to fulfill the main purpose of the study. A regression model was used to do the empirical analysis. Primary data was collected usingquestionnaire. Secondarydata was collected from the published annual reports of commercial banks for a period of 10 years.Credit risk management had an effect on profitability. NPLR had a significant effect on ROE. The study used regression analysis to establish the association between NPLR and ROE.

Aduda, Magutu and Wangu (2012) studied the relationship between credit scoring practices by commercial banks and access to credit by SMEs. This was an explanatory study based on 43 Commercial Banks. This study used primary data that was collected from the respondents of the survey. Data was captured and analyzed using Statistical Package for the Social Sciences (SPSS) V 17. Regression analysis was used to determine the relationship of credit scoring and approval rates for SME's. The study found a positive relationship.

Aduda, Masila and Onsongo (2012) looked at the determinants of stock market development in Nairobi Stock Exchange. Secondary data for the period 2005-2009 was used to model the factors influencing the development of the NSE. The regression results found that, macro-economic factors such as stock market liquidity, institutional quality, income/capita, domestic savings and bank development are key determinants of stock market development. Regression analysis reported no relationship of stock market development and inflation together with private capital flows. The results showed that institutional quality was key

determinant of stock market development because they enhanced the viability of external finance.

Mureithi and Aduda (2016) studied the effect of credit management techniques on financial performance of commercial banks in Kenya. This research embraced descriptive research. The number of populations was 45 banks in Kenya. A census study was done using questionnaires, financial statements, annual reports on record and data from the financial market. Primary data was collected using questionnaires. Secondary data was collected from annual reports and financial statements. The findings revealed that credit management had significant effect on the performance of commercial Banks.

Aduda and Obondy (2021) did a literature review on credit risk management and efficiency of Saccos.Efficiency of SACCOS is greatly influenced by its credit risk since its gross revenue is generated from issue of loans to customers and earning interest. Therefore, credit risk should be properly managed. NPLs are a pointer of poor efficiency and have possibility of threatening the commercial bank's overall credit system and lessen its value. It is through the credit risk management that a bank identifies financial activities and their coordination for achievement of efficiency.

Aduda and Kingoo(2012) studiede-banking and financial performance among commercial banks in Kenya.The study used secondary datafrom annual report of target banks and Central Bank of Kenya. The study used both descriptive and inferential statistics in analyzing the data. The study revealed that e-banking had strong and significance marginal effects on returns on asset in banks. Thus, there exists positive relationship of e-banking and bank performance.

2.5 Summary of Literature Review

This research was based on three theories of loan defaults. They include asymmetry theory, loanable funds theory and bad management theory of loan defaults. The theory of asymmetry information states that it may be difficult to distinguish between good borrowers and bad ones that result into adverse selection and moral hazard problems. The loanable funds theory demonstrates that deposit funds are inputs in the generation of new loans and so should be reduced to reduce the credit risk and hence enhance financial performance. Bad management theory points out that in responding to the increase in loans default,

bank management tends to inject more resources into managing and monitoring bad loans. Loan defaults reduce bank performance through increased costs of loans management.

The determinants of financial performance considered in this research are firm size, bank liquidity and leverage. Their effect shows mixed results hence considered in this research to establish their effect on financial performance of commercial banks in Kenya. The researcher reviews various studies relating to loan defaults and financial performance. From the review the researcher has found that various research gaps exist in the area of non-performing loans and financial performance. The studies have been done in different economic conditions from that of Kenya. For example, some are done in Nigeria, Kosovo, Barbados, Ghana, Rwanda and Tanzania. The countries may have different economic conditions which may affect the impact that loan defaults have on financial performance of commercial banks.

Conceptual gaps exist in the area of loan defaults and financial performance. The local studies have been done based on other concepts other than loans defaults and financial performance. Some based research on bank specific factors and non-performing loans; macro-economic factors and non-performing loans and factors influencing performance of unsecured bank loan portfolios. Contextual gaps also exist. The studies have also been done in different contexts other than commercial banks with majority done outside Kenya. For instance, savings and credit cooperative societies other than commercial banks. Further, the studies were based in specific localities like Narok and Embu. This is an indication that contextual gaps exist in the research area of loan defaults and financial performance of commercial banks.

Moreover, the studies also adopted different methodologies compared to those adopted in this study. For example, cross-sectional survey research design while the current study adopts a descriptive research design. Some used primary data collected using a questionnaire with the current study using secondary data collected through data collection sheet. Further, SPSS was used to generate the statistics while the current study used STATA for analysis. This shows that methodology gaps exist in the research area. This is because the studies are giving different findings on the relationship with some showing positive with others showing negative relationship. This creates the need for this study.

2.6 Conceptual Framework

The research adopted loan defaults, measured by non-performing loans ratio, as the independent variable. Bank performance was used as the dependent variable as measured by return on assets. The relationship between the independent and dependent variable was controlled by bank size, leverage and liquidity which are determinants of bank performance.

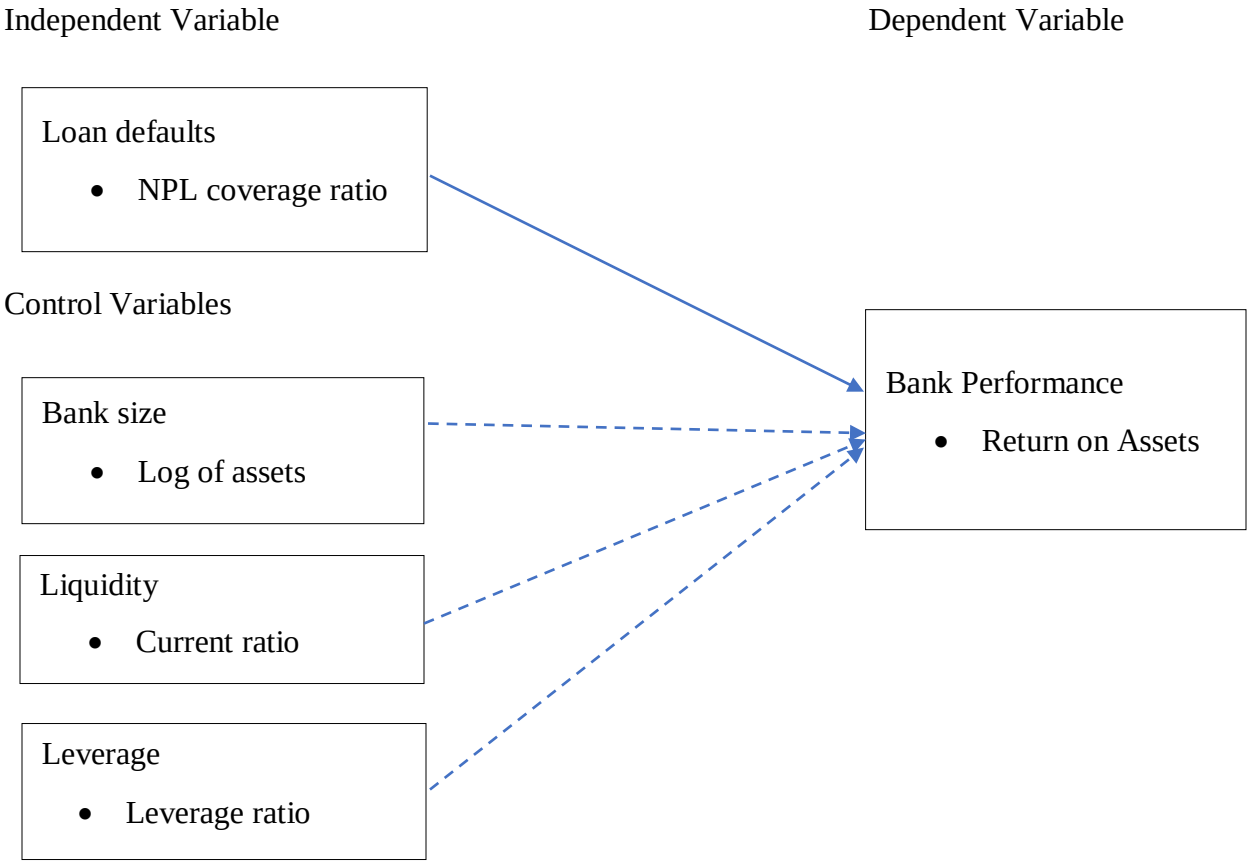

Figure 2.1: Conceptual Framework

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter described and justified the research methods adopted. This included research design and population. It also included population, data collection and analysis.

3.2 Research Design

This research useddescriptive research design. Sahin and Mete (2021) notes that descriptive design allowed the researcher to describe the variables and their relationships. This design was the best for this study in that it enabled the researcher to describe loan defaults and financial performance among commercial banks. The design allowed the researcher to establish the effect ofloan defaultsonfinancial performance of commercial banks.

3.3 Population

The study targeted commercial banks in Kenya. According to CBK (2020), there were 42 commercial banks at the end of the year 2020. Banks between 2016 and 2020 were involved. The commercial banks were targeted because they contribute the highest number of non-performing and outstanding loans in the financial sector. The banks had also been producing mixed results in terms of performance with some banks performing exemplary well with others performing poorly. The period showed an increased level of loan defaults in the banks hence is preferred to give the most recent data to analyze the effect of loan defaults on financial performance.

3.4 Data Collection

This paper utilized secondary data. The data was collected from annual reports of individual commercial banks in Kenya. The annual reports were got from CBK website since banks had to publish their financial reports with the CBK annually. The study utilized annual bank data for analysis. The data was collected using a data collection form which was based on the variables in study (Appendix II). Panel data was used for commercial banks between 2016 and 2020.

3.6 Data Analysis

Data analysis was done using descriptive statistics and regression data regression analysis with the help of SPSS 25. The data was cleaned, coded and entered into SPSS 25 software for analysis. The data analysis was based on the variables. Panel regression

model was used to show the effect of loan defaults on financial performance of banks. The data was presented in tabular form.

3.5.1 Diagnostic Tests

Various tests were done to diagnose the data and the model. This involved heteroscedasticity, Multicollinearity and normality. Normality was done to establish whether the data is normally distributed using Shapiro Wilk test. Heteroscedasticitywas tested using Breusch Pagan test to examine the error term variance's consistency. Multicollinearity was tested using VIF to establish the linearity of the predictor variables.

3.5.2 Analytical Model

The panel regression model took the form of:

$Y = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \epsilon$

Where;

Y – Financial performance as measured by return on assets of firm i at time t

β_0 – constant term

X_{1t} –Loan defaults as measured bynon-performing loan coverage ratio of firm i at time t

X_{2t} – bank size as measured by Logarithm of assets of firm i at time t

X_{3t} – liquidity as measured by current ratio of firm i at time t

X_{4t} – leverage as measured by leverage ratio of firm i at time t

ϵ – Error term

3.5.3 Measurement of variables

Table 3.1: Measurement of Variables

Variable Type	Variable	Indicators	Measurement
Dependent	Financial performance	Return on Assets	$\frac{\text{Profit after tax}}{\text{Total assets}}$
Independent	Loan defaults	Non-performing loan coverage ratio	$\frac{\text{Non-performing loans}}{\text{Total loans outstanding}}$
Control	Bank size	Total assets	Logarithm of assets
	Liquidity	current ratio	$\frac{\text{Current assets}}{\text{Current liabilities}}$

	Leverage	Leverage ratio	$\frac{\text{Total liabilities}}{\text{Total assets}}$

3.6.3 Significance Tests

This research carried out various statistical tests of significance. This included the F-tests which was done through ANOVA to establish whether the model is significant and fits the data. The other test was done using significance values where a value below 5% showed a significant model for the data and vice versa.

CHAPTER FOUR:

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the findings from data analysis. The chapter also provides a discussion of findings based on the variables and objective of the study. The findings were based on the objective of determining effect of loan defaults on financial performance of commercial banks in Kenya.

4.2 Descriptive Statistics

Table 4.2: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	185	-54.91	8.33	.2528	5.76136
Loan defaults	185	.08	193.17	19.7698	22.53750
Size	185	7.87	13.54	10.6478	1.36772
Liquidity	185	.40	77.36	21.5635	20.50143
Leverage	185	6.51	764.18	87.1458	69.64703
Valid N (listwise)	185				

From the descriptive statistics, return on assets (ROA) as a measure of financial performance showed a mean of 0.2528 with a standard deviation of 5.7614. This is an indication tha tcommercial banks have low return on assets that varied greatly across the firms. The minimum ROA in the period between 2016 and 2020 was -54.91% with a maximum of 8.33. Loan defaults, in the same period, showed an average of 19.77 with a standard deviation of 22.54. This indicates that loans defaults within commercial banks averaged at 19.77% for the period between 2016 and 2020. Loan defaults showed a range between 0.08 and 193.17. This shows that commercial banks showed a big difference in loan defaults across the period between 2016 and 2020. The firm size showed a mean of 10.65 with a standard deviation of 1.37. This shows that commercial banks had an average firm size of 10% in the period between 2016 and 2020. The firm size ranged between 7.87 and 10.65. This indicates that the firm size did not differ much across the commercial banks and period between 2016 and 2020.

Liquidity, however, showed an average ratio of 21.56 and a standard deviation of 20.50. This shows that commercial banks in Kenya had an average liquidity ratio of 21.56% between

2016 and 2020. The liquidity ranged between 0.40 and 77.36. This showed that the liquidity differs greatly across banks sampled in this research. Leverage showed a mean of 87.15. This indicates that between 2016 and 2020, commercial banks had an average of 87%. It ranged between 6.51 and 764.18with a standard deviation of 69.65. Thus, the leverage of commercial banks in Kenya differed so much across the period of study.

4.3 Diagnostic Tests

The researcher, in an attempt to check on the assumptions of the regression model, undertook various diagnostic tests. They included heteroscedasticity, Multicollinearity and normality.

Table 4.3: Heteroscedasticity

```
------- ANOVA TABLE --------
                SS          df          MS           F         Sig
Model       455.440       4.000     113.860       2.155        .075
Residual   9512.365     180.000      52.846    -999.000    -999.000

------- Breusch-Pagan and Koenker test statistics and sig-values --------
                LM         Sig
BP          27.720        .196
Koenker     10.206        .137
```

Heteroscedasticity was tested using Breusch Pagan test to examine the error term variance's consistency. The results showed that the Breusch Pagan statistics, (27.42) had a significance value of 0.196. This means that the Breusch Pagan statistics was not significant as the significance value was greater than 0.05. Hence, the researcher does not reject the null hypothesis that the error term is constant over time. Hence, we assume that there is no heteroscedasticity in the data used in this research.

Table 4: Multicollinearity

	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
Loan defaults	.927	1.079
Size	.825	1.212
Liquidity	.893	1.120
Leverage	.967	1.034

Multicollinearity will be tested using VIF to establish the linearity of the predictor variables.The resultspostulate that the VIF values were less than 5. Hence, indicating that

the variance of the variables was not inflated at a very high level. The tolerance statistics were also less than 1 and close to 95%, hence there are no multicollinearity issues in the data.

Table 4.5: Tests of Normality

	Statistic	df	Sig.
ROA	.519	185	.000
Loan defaults	.645	185	.000
Size	.958	185	.000
Liquidity	.806	185	.000
Leverage	.497	185	.000

Normality was done to establish whether the data is normally distributed using Shapiro Wilk test. The null hypothesis of this test is that the data is normally distributed. If the p-value is less than the chosen alpha level, then the null hypothesis is rejected and there is evidence that the data tested are not from a normally distributed population. From the results, all the variables displayed a p-value less than the critical 0.05 value. Hence, the researcher rejected the null hypothesis that data is normally distributed and assume the alternative hypothesis. This shows that data for the variables was not normally distributed.

4.4 Regression Analysis

In this research, a multiple regression analysis was conducted to test the influence of predictor variables on the dependentvariables. The research used statistical package for social sciences (SPSS V 25) to code, enter and generate the statistics. The model summary is presented in the model, ANOVA and coefficients tables.

Table 4.6: Model Summary

Model Summary[a]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.526[a]	.276	.260	4.95491
a. Predictors: (Constant), Leverage, Loan defaults, Liquidity, Size				

The study used correlation coefficient (R) to evaluate the relationship between the predictor variables and financial performance of banks. From model summary, data showed R value of

0.526. This indicates that the predictor variables (loan defaults, size, liquidity and leverage) have a strong relationship with financial performance of commercial banks in Kenya. To establish contribution ofloan defaults, size, liquidity and leverage to financial performance of commercial banks, the researcher looked at the coefficient of determination (R square). From the model, R square was 0.276. This shows that loan defaults, size, liquidity and leverage contributed to 27.6% change in financial performance of commercial banks between 2016 and 2020. Other factors contributed to the remaining change in financial performance.

Table 4.7: Analysis of Variance

ANOVA[b]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1688.358	4	422.090	17.192	.000[a]
	Residual	4419.213	180	24.551		
	Total	6107.571	184			
a. Predictors: (Constant),Leverage, Liquidity, Loan defaults, Size						
b. Dependent Variable: ROA						

The significance of the model was checked based on F statistics from ANOVA. From the ANOVA table, the model showed an F-statistics of 17.192. This is greater than the critical F value of 2.421. This shows that the regression model fits the research data. In addition, the F statistics showed a significance value of 0.000. This shows that the model significantly fits the data as the value was less than 0.05.

Table 4.8: Regression Coefficients

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-26.246	3.260		-8.051	.000
	Loan defaults	.034	.017	.132	1.998	.047
	Size	2.414	.294	.573	8.208	.000
	Liquidity	-.047	.019	-.168	-2.507	.013
	Leverage	.013	.005	.160	2.480	.014
a. Dependent Variable: ROA						

From the data analysis,

$Y= \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \epsilon$

was fitted into;

$Y= -26.246 + 0.034 X_{1it} + 2.414 X_{2it} - 0.047 X_{3it} + 0.013 X_{4it}$

From the regression equation, a unit change in loan defaults while holding other factors constant would positively increase financial performance of commercial banks in Kenya by0.034 with a significance of 0.047. This shows that loan defaults have a significantly positive effect on financial performance of commercial banks in Kenya. Firm size showed a regression coefficient of 2.414 and a significance value of 0.000. This indicates that firm size has a positive effect on financial performance of commercial banks in Kenya. It means that when the commercial banks increase their size in terms of assets, they experience improved financial performance in terms of return on assets. Liquidity showed a regression coefficient of -0.043 and a significance value of 0.013. This indicates that liquidity has a negative effect on financial performance of commercial banks in Kenya. It means that when the commercial banks increase their liquidity levels, they would experience increased financial performance in terms of return on assets. Leverage showed a regression coefficient of 0.013 and a significance value of 0.014. Hence, leverage has a positive effect on financial performance of commercial banks in Kenya. It means that when the commercial banks increase their leverage, they would experience increased financial performance.

4.5 Discussion of Findings

From regression outcomes,loan defaultshad positive and significant effect on financial performance of the sampled commercial banks. This means that loan defaults significantly improve return on assets (financial performance) of commercial banks. Theoretically, loan defaults reduce performance through reduction in loanable funds. Theoretically, loan defaults reduce the financial performance of banks through reduction in loanable funds and interest income. There is need to manage the loan defaults across commercial banks in order to enhance the financial performance ratios. This would increase the level of loanable funds and increase the interest income which is the main source of income across financial institutions. The findings are similar to the results of Kabui (2020) and Nyarko-Baasi (2018) who found a

positive effect of loan defaults on financial performance. They also concur with those of Çollaku and Aliu (2021) who noted a statistically significant effect. They differ with the results of Nyarko-Baasi (2018) who found a negative effect of loan defaults on financial performance of commercial banks. Gabriel, Victor and Innocent (2019) who found a statistically negative significant effect.

Firm size showed a positive and significant regression coefficient. This indicates that firm size a positive effect on financial performance of commercial banks in Kenya. It means that, if commercial banks increase their asset level, they would experience increased financial performance. Commercial banks need to consider expanding and deepening their asset base for them to improve their financial performance. Where the banks have a constant or reduction in the level of assets, they are likely to have low productivity level which may lead to poor financial performance. The findings concur with those of Magweva and Marime (2016) who noted a positive effect. They also concur with those of Opeyemi (2019) who established that firm size had a positive effect on performance. However, they differ with those of Ozcan, Unal and Yener (2017) established that firm size and performance showed no relationship and Kumar and Kaur (2016) who showed a negative effect.

Liquidity showed a significant negative regression coefficient. This shows that liquidity a negative effect on financial performance of commercial banks. This was accrued to the significant regression coefficient that existed between liquidity and financial performance. When the banks increase the liquidity ratio, they experience a significant reduction in financial performance. This means that higher levels of liquidity in commercial banks leads to low financial ratios. There is need for banks to have an optimal liquidity level for them to experience positive financial trends. The findings concur with those of Ramlan(2020). However, they are different from Suryaningsih and Sudirman(2020) who found that liquidity affected financial performance positively.

Leverage showed a positive and significant regression coefficient. This is an indication that leverage has a positive effect on financial performance of commercial banks. The banks that increase their debt levels would experience increased financial performance metrics. This is because, the debt to assets ratio increases financial performance. There is need to get an optimal level of debt in the commercial banks if they would want to see improved financial

performance ratios. The results are similar to those of Folabi, Olabisi, Kajola and Asaolu (2019) who established a positive effect of leverage on financial performance. The findings, however, were different from those of Daryanto, Samidi and Siregar (2018) who found a negative effect.

CHAPTER FIVE:

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary of the findings, conclusions, recommendations, and areas for further research. The summary, conclusions and recommendations were based on objective of the researchwas determining the effect of loan defaults on financial performance of commercial banks in Kenya.

5.2 Summary

The research adopted descriptive and regression statistics in data analysis and presentation. From the descriptive statistics, between 2016 and 2020, commercial banks showed a low return on assets that varied greatly across the firms. Loan defaults, in the same period, were lowacross the commercial banks.The study showed that loan defaults, size, liquidity and leverage had a strong relationship with financial performance of commercial banks. The factors also showed a minimal contribution to financial performance of the sampled commercial banks between 2016 and 2020. From the regression analysis, loan defaults positively and significant increase in financial performance of commercial banks. Hence, financial performance would increase significantly with increased loan defaults among the commercial banks.

Firm size showed a positive and significant regression coefficient. This indicates that firm size had a positive effect on financial performance of commercial banks between 2016 and 2020. When the commercial banks increase their size in terms of assets, they would experience improved financial performance. Liquidity showed a negative and significant regression coefficient. This shows a negative effect of liquidity on financial performance. When firms increase their liquidity levels, they experience increased financial performance. Leverage showed a positive and significant regression coefficient. This shows that when the commercial banks increase their leverage in terms of current assets, they would experience increased financial performance.

5.3 Conclusions

From the analysis,the results showed thatloan defaultshad a positive and significant effect on financial performance of the sampled commercial banks. This leads to the conclusion that loan defaults havea positive effect on financial performance of commercial banks in Kenya. This shows that when the commercial banks allow the loan defaults to rise,they experience significant increase in return on assets as a measure of financial performance of commercial banks in Kenya. This can be accrued to the interest paid on the outstanding loans by the defaulters which increase the interest income. Even if the commercial banks increase the level their loan defaults, they would experience improved financial perfromance.

Firm size showed a positive and significant regression coefficient. This leads to the conclusion that firm size has a positive effect on financial performance of commercial banks in Kenya. The commercial banks should increase their size in terms of assets in order to enhance their financial performance. The banks that have a large asset base perform better compared to commercial banks with a small asset base. This is because the large commercial banks are able to utilize the assets to generate higher returns which in turn increase financial performance ratios. In an attempt to increase their financial performance, small banks should increase their asset levels.

On the other hand, liquidity showed a negative and significant regression coefficient. The findings showed that liquidity increase leads to reduction in financial performance across the selected commercial banks in Kenya. This study, hence, concludes that liquidity a negative effect on financial performance of commercial banks in Kenya. This is an indication that when the commercial banks in Kenya increase their liquidity levels, they experience reduced financial performance levels.

Leverageshowed a positive and significant regression coefficient. Therefore, this research concludes that leverage has a positive effect on financial performance of commercial banks in Kenya.This indicates that when the leverage increases among the commercial banks, the banks experience increased financial performance. The banks that have a high debt level get an improved financial performance. However, the banks that have low levels of debts in their capital structure show low financial performance. This shows that the benefits of debt in commercial banks are greater than the costs of debt which brings in a positive effect of financial returns.

5.4 Recommendations

From the findings, the study recommends that commercial banks in their attempt to manage loan defaults, there is need to consider other factors like assets, liquidity and leverage. This is because they showed a strong correlation with financial performance of commercial banks. The loan defaults showed a positive and significant effect on financial performance. Thus, the study recommends that the local commercial banks in Kenya increase their loans under default in order to increase the interest income. This would increase the return on assets as a measure of financial performance.

The study found that firm size has a positive effect on financial performance of commercial banks. The study recommends that commercial banks increase the level and value of their asset base. This would increase their size which in turn would increase the return on assets, an indicator of improved financial performance. The small commercial banks need to add more assets to their asset base in order to increase their return on assets which would enable them to grow in both size and profitability.

In addition, the study recommends that commercial banks increase the level of liquid assets and reduce the liquid liabilities. This would reduce the liquidity ratio and hence increase the return on assets, a measure of financial performance. This is because liquidity showed a negative effect on financial performance. The management of commercial banks need to develop asset and liability strategies, tomaximize the financial performance potential, while minimizing the liquidity risk in the firms.

The findings showed that bank leverage had a positive effect on financial performance. This study recommends that firms increase their level of debt financing in their capital structure. This would increase financial performance of the commercial banks through increase return on assets.The commercial banks also need to implement appropriate capital structure, sound business premise, reasonable cash flow, and statement of financial position leverage combined with supported forecasts.

5.5 Limitations

The predictor variables adopted in this research limited the study. The research was based on loan defaults and financial performance. The adoption of other predictor variables may show differing results. The measures of loan defaults and financial performance also limited the

research. Loan defaults were measured by non-performing loans ratio with a different measure expected to give a different outcome. Financial performance was measured through return on assets. Different measures of financial performance may give dissimilar outcomes.

The study was also limited by the period of study. The research focused on the period between 2016 and 2020. This limits the generalizability of the findings given that a longer period may provide differing results. Between 2016 and 2020, the economic conditions may be different from those of other periods like 10 years, 20 years or any other period. The period may also create a historical challenge of data for this research.

The study was limited to commercial banks. The commercial banks may not be experiencing similar problems as other financial institutions like Saccos, insurance firms and MFIs. The financial statements provided information of commercial bank performance and financial performance.

The research was also limited by the data and other research methods adopted in the study. This research was based on secondary data. It was hard to verify the validity of the data. This data was sourced from CBK which is the authority for publishing financial reports of banks. The historical nature of secondary data was also a limitation for the research. To overcome the historical nature the most recent data was used for analysis.

5.6 Suggestions for further studies

The predictor variables adopted in this research limited the study. The research was based on loan defaults and financial performance. Hence, this study recommends a similar research based on another predictor's variables influencing financial performance. The measures of loan defaults and financial performance also limited the research. Loan defaults was measured by non-performing loans ratio with financial performance measured through return on assets. This research recommends that a similar research based on other measures of loan defaults and financial performance.

The study was limited by period of study. Research focused on the period between 2016 and 2020. This research recommends that other researches be done for a longer or shorter period to compare how the findings will be. The researchers can adopt a period of like 10 years, 20 years or even 15 years to check on loan defaults and financial performance of commercial banks.

The study was limited to commercial banks. This research recommends that other researchers need to do a similar study focusing on other firms. The researchers can do further research based on like Saccos or MFIs. This would enable the researchers and scholars to compare the outcomes on loan defaults and financial performance.

The research was limited by the data and research methods adopted in the study. This research was based on secondary data. The historical nature of secondary data was also a limitation for the research. To overcome the historical nature the most recent data was used for analysis. This study recommends that other researchers undertake a similar research based on primary data.

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APPENDICES

Appendix I: List of Commercial Banks in Kenya

1. UBA Kenya Bank Ltd
2. The Co-operative Bank
3. Suntra Investment Bank Ltd
4. Sterling Investment Bank
5. Standard Investment Bank
6. Standard Chartered
7. Prime Bank
8. Paramount Bank
9. Oriental Commercial Bank Ltd.
10. NIC Bank
11. ABC Bank
12. National Bank
13. K-Rep Bank
14. Kenya Post Office Savings Bank
15. KCB Bank
16. Investments & Mortgages Bank Limited – I&M Bank
17. Imperial Bank Limited
18. Housing Finance
19. Guardian Bank Ltd.
20. Giro Commercial Bank Ltd
21. Fina Bank
22. Fidelity Bank
23. Faida Investment Bank – FIB
24. Equity Bank
25. Equatorial Investment Bank
26. Equatorial Commercial Bank Limited
27. Dyer & Blair Investment Bank
28. Dubai Bank Kenya Ltd
29. Dry Associates Limited
30. Development Bank Of Kenya Ltd
31. Co-operative Bank
32. Consolidated Bank
33. Commercial Bank of Africa
34. Citibank N A
35. Chase Bank
36. CFC Stanbic Bank Limited
37. Central Bank of Kenya
38. Bank Of Baroda (Kenya) Ltd.
39. Bank of Africa Kenya Ltd
40. Afrika Investment Bank
41. African Development Bank Group
42. African Banking Corporation

Appendix II: Data Collection Form

Year	profit after tax	total assets	current assets	total liabilities	current liabilities	non-performing loans	Total outstanding loans
2016							
2017							
2018							
2019							
2020							

Appendix III: Statistical Outputs and Reports

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	185	-54.91	8.33	.2528	5.76136
Loan defaults	185	.08	193.17	19.7698	22.53750
Size	185	7.87	13.54	10.6478	1.36772
Liquidity	185	.40	77.36	21.5635	20.50143
Leverage	185	6.51	764.18	87.1458	69.64703
Valid N (listwise)	185				

Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	Leverage, Liquidity , Loan defaults, Size[a]	.	Enter

a. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.526[a]	.276	.260	4.95491

a. Predictors: (Constant), Leverage, Liquidity , Loan defaults, Size

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1688.358	4	422.090	17.192	.000[a]
	Residual	4419.213	180	24.551		
	Total	6107.571	184			

a. Predictors: (Constant), Leverage, Liquidity , Loan defaults, Size

b. Dependent Variable: ROA

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-26.246	3.260		-8.051	.000
	Loan defaults	.034	.017	.132	1.998	.047
	Size	2.414	.294	.573	8.208	.000
	Liquidity	-.047	.019	-.168	-2.507	.013
	Leverage	.013	.005	.160	2.480	.014

a. Dependent Variable: ROA

```
Run MATRIX procedure:

 written by Ahmad Daryanto

Original Regression model:

Dependent variable
 Y

R-square
      .276

------- ANOVA TABLE  --------
                 SS          df          MS           F         Sig
Model       555.440       4.000     138.860       2.628        .000
Residual   9512.365     180.000      52.846    -999.000    -999.000

------- Breusch-Pagan and Koenker test statistics and sig-values --------
                LM         Sig
BP           7.720        .240
Koenker     10.206        .037

Null hypothesis: heteroskedasticity not present (homoskedasticity)

if sig-value less than 0.05, reject the null hypothesis

Note: Breusch-Pagan test is a large sample test and assumes the residuals
to be normally distributed

------ END MATRIX -----
```

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent

ROA	185	100.0%	0	.0%	185	100.0%
Loan defaults	185	100.0%	0	.0%	185	100.0%
Size	185	100.0%	0	.0%	185	100.0%
Liquidity	185	100.0%	0	.0%	185	100.0%
Leverage	185	100.0%	0	.0%	185	100.0%

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
ROA	.296	185	.000	.519	185	.000
Loan defaults	.224	185	.000	.645	185	.000
Size	.096	185	.000	.958	185	.000
Liquidity	.240	185	.000	.806	185	.000
Leverage	.250	185	.000	.497	185	.000

a. Lilliefors Significance Correction

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-26.246	3.260		-8.051	.000		
	Loan defaults	.034	.017	.132	1.998	.047	.927	1.079
	Size	2.414	.294	.573	8.208	.000	.825	1.212
	Liquidity	-.047	.019	-.168	-2.507	.013	.893	1.120
	Leverage	.013	.005	.160	2.480	.014	.967	1.034

a. Dependent Variable: ROA

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	Loan defaults	Size	Liquidity	Leverage
1	1	3.770	1.000	.00	.02	.00	.02	.02

2	.538	2.646	.00	.78	.00	.03	.10
3	.459	2.866	.00	.01	.00	.58	.30
4	.226	4.088	.01	.09	.02	.31	.53
5	.007	24.048	.99	.10	.98	.07	.06

a. Dependent Variable: ROA