EFFECT OF GOVERNMENT REGULATIONS ON CREDIT PROVISION BY COMMERCIAL BANKS IN KENYA

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A RESEARCH PROJECT PRESENTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION, FACULTY OF BUSINESS AND MANAGEMENT SCIENCES, UNIVERSITY OF NAIROBI
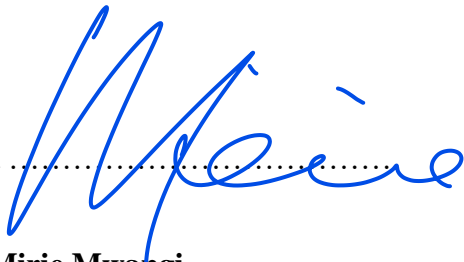
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DECLARATION

I hereby declare that this research project is my original work; it has not been presented to any other institution of higher learning for academic purposes.

Signed ………………………………   Date. ……………………………….. 24th November 2022

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

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I acknowledge my supervisor Prof. Mirie Mwangi and appreciate his efforts to guide me through each step by sharing his powerful knowledge with me. I also wish to thank Prof. Cyrus Iraya for his guidance throughout the project.

DEDICATION

I dedicate this project to my family and friends for their support and encouragement throughout the study period. Special dedication to my lecturers and supervisors for their guidance and endless love. Besides, the support I have received from my peers cannot be wished away.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ABBREVIATIONS AND ACRONYMS

ANOVA: Analysis of Variance

CAR: Capital Adequacy Requirement

CBK: Central Bank of Kenya

DTMs: Deposit-Taking Microfinance Institutions

IRR: Interest Rate Regulation

LRR: Liquidity Regulation Ratio

PBT: Profits Before Tax

SME: Small and Medium Sized Enterprises

SPSS: Statistical Package for the Social Sciences

ABSTRACT

Government regulations are associated to a double-edged sword that cuts across both the borrowers and the lenders in different dimensions. The regulations have the potential to affect the growth of the banks hence rendering them with little amount of money to lend. The main objective of the study was to establish the effect of government regulations on credit provision of commercial banks in Kenya. The theories anchoring the study included agency theory, signaling theory and information asymmetry theory. A descriptive design was employed for this research to describe the characteristics of the study phenomenon. The study targeted all of the 39 operational commercial banks licensed to operate in Kenya as at 2021. The study used secondary data that was collected from the Central Bank of Kenya annual reports for the study period. To achieve the objective of the study, the data was analyzed through descriptive and inferential statistics procedures. The specific inferential statistics method were correlation and regression analysis. The study findings indicated that liquidity regulation has a negative and significant effect on credit provision among commercial banks in Kenya (β = -14,288.9; Sig < 0.05). It was also established that firm size has a positive and significant effect on credit provision among commercial banks in Kenya (β = 0.603; Sig < 0.05). Given the findings, the study recommends commercial banks in Kenya to consider boosting their assets so as to improve their size. This is given the findings that larger firm size is associated with higher credit provision. Larger commercial banks have enough cushion in case of non-performing loans and therefore they can lend more compared to smaller banks. Given its detrimental effects, the study recommends the regulator of commercial banks, that is CBK to relook at the liquidity regulations that demands that commercial banks should have a statutory liquid coverage ratio of 20%. While such a ratio is important to manage any short-term shocks and prevent collapse, being too strict on the minimum ratio negatively affects credit provision. This is because some commercial banks may not have enough funds to lend as they try not to violate this requirement.

<center>**CHAPTER ONE**</center>

<center>**INTRODUCTION**</center>

1.1. Background of the Study

Hodgman (2010) posits that the availability of credits is a hindrance to the provision of more credit to borrower needing the finances even in situations where the borrower is aware that they have to recompense high rates of interest. Available credit in banks is a representation of the unexploited part of a credit card. The prerequisite of the credit history of a person shows whether he/she is a safe credit risk or not. Banks have high scores of credits an indication of better credit status. The credit history of a person is reliant of specific factors such as the amount of money borrowed, the remaining sum and the payment suitability.

According to Shah, Ahmad, and Yousaf (2017), the controlled access to credit in banks has resulted in the slow growth of the sector. In addition, the emergence of new regulations has altered with the forces of the market and the ease of conducting business as banks do not offer as much loans as they did before the regulations were introduced (Barber, Metcalfe & Porteous, 2016). Currently, banks favor the investment in government securities in comparison to offering individual loams to their customers (Shah, Ahmad, & Yousaf, 2017).

The agent-principal relationship was explained through the Agency theory by Jensen and Mecklin (1976) as one of the anchoring theories to the study. The aim of the theory is to resolve complications that can emerge in an agency as a result of ignored or

<center>1</center>

disregarded goals or dissimilar aversions to different risks. The signaling theory by Spence (1973) creates the link between the financial advantage of a firm and the flow of cash under uneven information. The theory holds that a high advantage can be used as a finance sign by banks, hence it should be connected to the concurrent investments. The information asymmetry theory argues that the involvement by the government can alter prices from reflecting identified data which can lead to failure in the market. For example, Saxton and Anker (2013) observe that commercial banks can raise premiums in the event that they are not able to make decisions on the banking history of a claimant.

In Kenya, the Central Bank regulations guide the commercial banks on the requirements, limitations and direction that needs to be taken. This promotes transparency between the corporations, clients and the banks. According to Baron (2010) any agency that enforce regulation compliance within the banking sector that depends on national and global economy must exhibit control. Regulation and licensing of Kenyan commercial banks agrees with the banking act and the sensible strategies and protocols described in the act. Mortgage finance corporations and commercial banks are essential players in the banking sector in Kenya. This is because, they are subjective to governing regulations that guide their position and behaviour in the market so as ensure firmness and reliability of the financial systems in Kenya (Atieno, 2011).

1.1.1 Government Regulations

Regulations in the banking sector is an approach used by the government to control the behaviour of the banks. The bank regulations encourage transparency since they direct on the limitations, requirements and guidelines that need to be followed in the banking

sector. Effective and successful bank regulations aim to accomplish two goals; to protect the depositors, creditors and investors private interests, investors and creditors; and to protect the interest by endorsing good reputation and integrity of financial markets. Llewellyn (2013) posits that banks are important players in the economy of any nation implying that banks need to be supervised and controlled to not only protect the clients and investors but also to attain stability in the banking sector.

The capital requirement is the common bank regulation in Kenya. It creates a structure on the management of capital by depository firms and banks. The capital and properties classification is consistent to weigh the risk. According to White and Morrison (2011), the controller ensures that the banks have adequate stake in form of capital. Without a measure of financial performance, most businesses would not persevere to the end. The collateral value offered by borrowers is a regulation of the bank and can influence the availability of credit response by lenders. Security availability reduces the irregular access to information between the banks and borrowers. Jalilian, Kirkpatrick and Parker, (2010) observed that the rationing loan quantity, is a bank regulation used in offering credit to individual customers chosen as borrowers who meet the requirement to qualify for credit while some of the clients are excluded since they are not perceived to be creditworthy.

1.1.2 Credit Provision

The provision of credit is defined as the amount of money borrowed where a borrower has the right to make use of the money over a given specific period. Available credit is the difference between the total credit limit and the total amount of money borrowed.

3

According to Modigliani (2009) available credit is accessible either for direct acquisitions or withdrawal. Bank credit is an important function of the banking sector where customers are granted essential financing in all industries of the economy including government, business and household (Hashi & Toci, 2011). The credit granted to these industries is examined to ensure that it is used for specific tasks in operations, business and investments which facilitate in attaining real output growth in that particular sector, which ultimately has a positive influence on the economy of the country. Stiglitz and Weiss (2011) opine that the provision of credit has little credit markets whose characteristics include unequal information, making it costly for to obtain borrowers' data and to record and monitor the activities of the same borrowers.

The facilities that offer credit are essential financing sources used by different investors in financing various projects. Investors rely on credit facilities including the commercial banks as an approach of implementing specific projects. Facilities offering credit differ and the direct credit facilities are commonly used in Kenya. These are credit facilities that make purchases for the customers using cash or the purchase is credited from an account with the bank including the bills discounted, current account debtors and loan.

Notably, it is important to acknowledge that the most dangerous and important functions of a banks is granting credit services in order to earn profits. According to Modigliani (2009) commercial banks are intermediaries between an investor and the savers; commercial banks also contribute to savings flow into investments as a foundation of the progress of the economy as investments are the core supporters of the

growth of the economy and the development of investment projects that affect the economy. Moreover, often projects rely on credit facilities. As such, credit facilities are essential in advancing the economy of a nation.

1.1.3 Government Regulations and Credit Provision

White and Morrison (2011) noted that there are two major roles played by effective regulation in controlling credit provision which include; creditors and depositors' Investor's interest are shielded privately; financial services markets reputation and integrity are also protected by these regulations. Regulations ensure a reduction of unhealthy activities, minimize the chances of banks collapsing ultimately building up confidence.

Borrowers and banks irregular information is educed by availability of security. Borrowers follow some regulations that are given by the regulators and the lenders too where if the two do not follow the regulators they are termed as not creditworthy (Jalilian, Kirkpatrick and Parker, 2010). Rate risk is floated by borrowers so as to hedge them using the Interest rate caps. Banks and other financial sectors are prevented by the interest rate ceiling/interest rate cap to control their level of interest rate not to charge more than is required. For political and economic reason, the government makes use of the interest rate caps, which provides support to a specific economy or industry that they intend to increase its performance and value (White & Morrison, 2011).

The ability to convert assets with ease is what measures liquidity. In cases of financial obligations, the assets that can be converted into cash are known as liquid assets; they

include; cash itself, reserves of the central Bank and debts by the government. The credit provision of a bank depends on how liquid a bank is. The bank also requires to undertake the process of transformation that requires liquid cash which is changed from liquid assets by the bank. The bank's expenses are determined by the amount of liquidity it has, which include; loan funding or debt payments, which uses only the liquid assets (Ahmed, 2015).

1.1.4 Commercial Banks in Kenya

The CBK is the core body that regulates and controls commercial banks and other financial institutions in Kenya. Banks are essential players within the banking system of Kenya. Much focus is given to the banks when on-site and off-site surveillance are being undertaken to assess their compliance to micro-prudential guidelines. The CBK (2021) notes that the banking sector in Kenya is composed of 39 commercial banks registered with a total net asset move approximately Kshs. 6 trillion as at the year 2021.

Out of the 39, majority of the commercial banks, 21 (53.9%), are local private with a combined total net asset value of Kshs. 4.1 trillion followed by 16 foreign commercial banks which makes up 41% of the total with a combined total net asset value of Kshs. 1.9 trillion and lastly local public commercial banks which are 2 (5.1%) with a combined total net asset value of Kshs. 0.31 trillion.

Okwany (2018) opined that over the last 10 years, the commercial banks have recorded good performance. This has been attributed to the different reforms put through their monetary stability, productivity and efficiency. This started since the 1990s. However,

the profits of the commercial banks have not been predictable. The commercial banks financial performance during the end of 2021 was KSh 197 billion with respect to profits prior to taxation and exemption items signifying an increase by 75.7% from the year 2020. The deposits were KSh 4561.6 billion (approximately higher than a third of the GDP of the country), signaling an increase by 12.2% from the year 2020 (CBK, 2021).

Regulations as expected comes with its own significant costs. In Kenya, recently there has been focus on creating an aligned banking sector following the closure of two large banks and a near closure of another bank. During the end of 2016, the Dubai bank was reported to have collapsed after being put under receivership by the CBK for these reasons; it has violated the regulations and laws set for the bank, it was unable to ensure capital stability and liquidity rations, it was not able to maintain non-performing loans and it was operated under fragile corporate structures. After two months, the Imperial banks also collapsed. However, unlike its predecessor, the Imperial banks had maximized on its market confidence which was evident through the oversubscription of over 2 billion corporate bonds as was reported by the CBK (2018)

In Kenya, no correlation has been established between what customers get with respect to money deposited and what they are charged by the bans in terms of the money given as loans. A burden has been removed for the borrowers following the bank amendment bill of 2016 since, previously, banks used to charge high rates of interest before the bill was introduced. According to Mwega (2016) there are different debates in relation to the advantages and disadvantages following the introduction of the bill.

The Banking Amendment Act 2016 holds that financial institutions and banks need to communicate all the terms and charges involving a loan prior to granting the loan. Moreover, it demands that the banks need to cap the rate of interest at 4% as its maximum which is higher than the base rate by the CBK (CBK, 2017). The Act of 2016 also requires that financial institutions and banks pay a minimum rate of interests of 70% of the current base rate of the CBK on any deposits held in interest earning accounts. The CBK (2017) notes that liquidity by commercial banks indicates the ability to make available resources, assets growth and to meet the set requirements. Liquidity is an important financial indicator that indicates stability since if liquidity drops in one bank, it leads to a crisis in the banking systems since their operations are interrelated.

1.2 Research Problem

Government regulations are associated to a double-edged sword that cuts across both the borrowers and the lenders in different dimensions. The regulations have the potential to affect the growth of the banks hence rendering them with little amount of money to lend. On the other hand, the borrowers feel exploited when banks make a lot of profits while the assets of borrowers not able to pay their loans are auctioned off. Adrian and Shin (2009) observed that most of the cases of loan default occur due to abrupt and unpredictable interest rates fluctuations, becoming unachievable by the borrowers. Moreover, Shah, Ahmad and Yousaf (2017) have established that the controlled access to bank credit is a key factor to the slow growth of the banking sector. In addition, the emergence of new regulations has altered with the forces of the market

and the ease of conducting business as banks do not offer as much loans as they did before the regulations were introduced (Barber, Metcalfe & Porteous, 2016).

The CBK is keen on checking the banking sector and particularly in areas on risks and liquidity on credit; this is evident through the placement of the Imperial Bank Ltd and Dubai bank limited into liquidation and the Chase bank limited under receivership. The difficulties associated with liquidity emerge from liquidity subdivision in the intra-bank market. The CBK supports a least requirement of liquidity of 20% of deposits. The necessities of liquidity differ from one firm to the other reliant on the needs of cash flow. According to the CBK (2021), each firm determines its exclusive necessities of liquidity over a particular time period and makes plans for appropriate financing.

Different studies have been conducted internationally and locally, in relation to regulations and provision of credit. One of the studies is by Peek (2013) who evaluated the impact of provision of credit on small company exporters in the USA and revealed that the deterioration of health of banks impacts small exporting firms more than big exporting companies. In addition, in the UK, William and Mathew (2009) assessed the regulation of banks, credit and capital supply in the Financial Service Authority. The research indicated that during the years 1996-2007 banks that possessed capital surpluses relative to the target had higher credit growth. Gyimah (2013) in Ghans on the other hand evaluated the determinants of provision of credit in the private sector. The results revealed that although the rates of interests may be loosened as a strategy of allocation of credit, the commercial banks are still responsible for rationing the credit.

In Kenya, Kimutai (2013) evaluated the factors influencing the provision of credit by commercial banks and revealed that features of loans and firms and observable characteristics were the main factors influencing the provision of credit in the country. Omboi (2011) evaluated the factors affecting the credit demand by small-scale investors focusing on Meru Central District. The findings revealed that the level of education of the entrepreneur, the income in the household, and the total dependents affected the power of an entrepreneur to borrow credit from a financial institution. This study aims to assess the influence of regulations on credit provision by commercial banks in Kenya by using secondary data. Hence, the research aims to provide an answer to the research question; what is the effect of regulation on credit provision of commercial banks in Kenya?

1.3 Research Objective

To establish the effect of government regulations on credit provision of commercial banks in Kenya.

1.4 Value of the Study

This study would be beneficial to policy makers who can use its findings to formulate benchmarks and strategies on bank regulations in the banking sector. The study would provide analytical information that helps policy makers understand regulation in relation to credit provision. The research findings would provide more information on the stakeholders, different roles in regulations and how embracing specific synergies would facilitate successful provision of credit by commercial banks.

The study provides an assessment of how various micro-prudential regulations can explain credit provision and hence the management of commercial banks can benefit from these findings in aligning to the regulations based on their effect on credit provisioning.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter evaluates existing literature on the influence of regulations on provision of credit and identifies the gaps that will be filled by this study. Further, the study covers the theoretical framework of the research and empirical review.

2.2 Theoretical Framework

The theories anchoring the study will include agency theory, signaling theory and information asymmetry theory.

2.2.1 Agency Theory

Jensen and Mecling (1976) proposed the agency theory. The theory explains the agent-principal relationship. The aim of the theory is to resolve complications that can emerge in an agency as a result of ignored or disregarded goals or dissimilar aversions to different risks. According to the theory, the shareholders are the principals while the management of business are the agents. In finance, the principal-agent relationship is common.

According to Krakel (2012) the agency problem emerges when the principal and the agent objectives are not aligned. In a credit relationship, an agency relationship is established with the creditor who is dedicated to interest's costs and capital repayments

with specific contract conditions is the agent and the credit company the principal. Hence, the agency challenge arises when there is discrepancies of interests between the creditor and the debtor.

In certain situations, the agent uses the principal's funds. Although, the decisions is made by the agent, in case of any losses, it is the principal who is held liable. According to Baron (2010) the theory deals with different risk levels between the principal and agent. This is often established when the principals of a business offer financial support to the agents to use it in the business. According to the theory, the risk tolerance of the agent is diverse as compared to that of the principal since the risk is unequally distributed.

The theory is essential to the current study since it highlights the issues that emerge as a result of disparities between the goals or desires of the principal and the agents. These situations may take place since the principal is not active on the daily operation conducted by the agent or resources hinders the principals from acquiring the operational data of the business. In the finance sector and particularly within the baking field, a common challenge involves information irregularity. According to Howels and Bain (2004), it was necessary to regulate banks because of information asymmetry where customers were not fully aware of the banking operations which was putting them at risk.

2.2.2 Signaling Theory

This theory was developed by Michael Spence. the signaling theory argues that markets are not completely effectual. The managements of a business have high chances of obtaining better information contrast to the information possessed by shareholders and from which action may be undertaken. The management guides the future direction of the business. Van Horne and Wachowicz (2005) notes that the management demonstrates the decisions and activities it conducts in order to attain the firm's optimum value. The market needs information and lit reacts to the communication shared by the management. For example, the market can make a response on dividends where the dividends are increased by the management and the investors are able to react with confidence. A market responds positively if the management shows its confidence on specific information (Constantine, 2008).

The theory is essential for this study since it creates the link between the financial advantage of a firm and the flow of cash under uneven information. The theory proposes a positive relationship. Rashid and Sarig (2001) established that organizations reveal their quality by possessing a combination of advantage and dividends. They argue that firms can enjoy the advantage of paying higher dividends than firms of lower quality. Lenders possess equal information related to the prediction of banks investments. Then, the shareholders attempt to pass their predictions to lenders using varying signals which can be rich accrued assets or possess a higher advantage. Lenders asses the truth supporting the signals prior to approving any loans. The theory holds that a high

advantage can be used as a finance sign by banks, hence it should be connected to the concurrent investments.

2.2.3 Information Asymmetry Theory

The concept of unequal information was first introduced by Akerlof (1970) who argued that the individuals who purchased cars see different information than the information the sellers have; the sellers are motivated to make sales of lower regular market excellence. Akerlof, used the word lemons" to define a depraved car. Hence, the sale of good cars was not followed by better standard prices in the market. Unequal information addresses decision in business dealings in which case one business possesses better and more data as compared to the other (Saxton & Anker, 2013). This results in power disparity in business agreements, leading to transactions going askew and can even result in failure of the market (Aboody, 2010).

Christozov and lChukova (2008) explained that the growing unequal information is a projected outcome of the economy of the market. As employees pay attention and are more productive in their different fields, they are able to provide better value in other sectors. For example, services by a stockbroker is less valued by customers who possess all the necessary information to either make a purchase or a sale with self-assurance. An alternative suggested by Aboody (2010) to the growing unequal information is for employees to study all fields rather than simply focusing on specific areas where they can offer great value. A high opportunity cost follows and is likely to lead to lower collective output levels, and lower the standards of living. In addition, ensuring availability of information can be another substitute. However, this alternative does not

replace the unequal information but rather shift the lack of information awareness from modest areas to complex areas.

This theory is essential for this research since it argues that the involvement of the government can alter the prices by mirroring identified information leading to failure in the market. For example, commercial banks are able to raise all the necessary premiums in the case they are not able to make informative decision on the banking history of the claimant. According to Saxton and Anker (2013) uneven information in banks is critical as it is essential in fields where there in a multifaceted information, making it a challenge. For instance, it is a challenge to acquire large bits of unequal information asymmetries when handling issues of bank regulations.

2.3 Determinants of Credit Provision

2.3.1 Capital Adequacy Requirement

It is presented in terms of a percentage of the risks of the bank weighted credit exposures. Around the world, the ration is used for the protection of depositors and to improve efficiency in the banking world. It is measured in terms of Capital Adequacy Ratio (CAR) which can be used to track the ability of a commercial bank to absorb reasonable losses if they fall due.

CAR is the ration that determines the capacity of a bank to meet its liabilities and other related risks including operational and credit risks. The capital of a bank is a cushion for potential and future losses and protects the depositors of a bank and other lenders as was established by Beckmann (2015). Regulators in the banking sector in most

nations identify and monitor CAR as an approach of protecting the depositors hence establishing confidence in the banking systems.

In their interrogation, Barth et al. (2013) documented a higher CAR among larger banks compared to smaller ones. Additionally, he documented that lower ratios of the value were linked with lower profits. This is because highly capitalized banks can only borrow less to finance their activities and therefore they were associated with less cost of borrowing.

In addition, Bartha (2004) notes that through unequal information a bank that is capitalized is able to issue a signal in the market indicating the expectation of improved performance. In theory, however, high capital results in higher levels of profitability since through having more capital a bank is able to easily comply to the set regulations so that the excess capital is offered as loans.

2.3.2 Interest Rate Regulation

Interest rate caps have been used to regulate the financial institutions against over charging the borrowers outside the specific levels of interest. According to Chortareas, Girardone and Ventouri (2013) interest rate caps are often employed by governments for economic and political reasons, more often than not in support of a particular area of economy or industry. The government can identify what it perceived to be a failure in the market in a sector and then work towards adjusting it.

Interest rate cap is also weighted using the rate of average bank lending to the rate of bank deposit. Although, it is simple from a conceptual stand point of view, there are differences in the techniques employed by the government for then implementation of the lending rates limits. Some nations make use of the vanilla interest cap which have already been documented while others prefer flexible rates. Instead of setting rigid limits of interest rate, the governments of many nations prefer to discriminate between the loan types and issue single caps with respect to their customers and the loan type (Peek, 2013). According to Vianney (2013) the interest cap is a flexible measure; hence, it is often associated with the set base rate by the CBK in developing monetary policies implying that the cap reacts according to the conditions of the markets and rise with the tightening of monetary and fall easily.

2.3.3 Liquidity Regulation Ratio

Liquidity measures the ease or the ability to convert assets into cash. To meet financial responsibilities, it is possible to convert liquid assets quickly into cash. According to Bouheni and Ameur (2014) central bank reserves, cash and government debts are examples of liquid assets. Although, rigid liquidity regulations play an important role of protecting banks from collapsing, some scholars have warned of its negative effect on lending.

Ahokpossi (2013) technically categorized this ratio into the Liquidity Coverage Ratio (LCR) and the stable funding ratio. They aim to ensure that the banks are highly leveraged and can turn a round a shock in a short period of time within 30 days. Ahmed (2015) opines that the liquidity of a bank is determined by the bank's ability to meet all

of the projected expenses including the funding loans or making debt payments through the use of liquid assets only.

Ideally, it is important for a bank to maintain a liquidity level which can enable it to meet any impending shocks without having to liquidate its assets. If the liquid assets are larger than the impending liabilities, the more the liquidity of the bank. Moreover, liquidating assets for debt payments can be detrimental to the ability of the business to operate and generate increased profits in the future. Vianney (2013) posited that the liquidation of fixed assets should be the last option to be triggered by a bank to solve a short-term problem.

2.3.4 Firm size

The firm size is represented by the variety and amount of capacity of production and its ability or the variety and number of services provided by a firm concurrently to its customers. The firm size is a key factor in establishing the performance share of a business due to the economies of scale a known concept that can be revealed in traditional neo classical perception of businesses. Htay (2012) posits that it reveals that contrast to small businesses, products can be produced at cheaper costs in big businesses.

According to Bryd and Hickman (2012) alternative firm theories hold that big firms controlled by managers who pursue their own interests maximize on the managerial utility at the cost of profit maximization of the objective functions of the firms. In establishing the success of a business, share performance is a key factor. Profitability

is the money available for a firm to engender with the resources it possesses. The ultimate objective of a firm is to maximize on its profitability. Evidently, businesses are able to reap these advantages associated with increasing profits.

2.4 Empirical Review

Vianney (2013), studied the correlation between regulation and the financial performance of commercial banks in Rwanda. A descriptive design was employed for the study. The study used a census sampling technique by collecting research data from 10 commercial banks. SPSS version 17 was used for the analysis of the data gathered using survey methods. Regulations were documented to have an insignificant effect. The requirement for capitals was revealed to be insignificant in providing a definitive explanation to commercial banks profitability in Rwanda. In addition, the liquidity and management efficiency ratio were established to lack a significant influence of the profitability of the commercial banks.

Peek (2013) investigated the influence of availability of credit on small exporters in Nigeria. The research findings indicated that the median non-performing loan ratio and the measures of median capital ratio for big firms significantly affect the state level small business share of exports, implying that deterioration of health of large banks strongly affects the SME exporters in comparison to large exporting businesses.

Focusing on the World Banks, Barth, Caprio and Levine (2013) investigated the link between the regulations of banks and practices of supervision and the stability and performance of the banks during the period 1998-2000. The study collected data on

bank regulations targeting 107 nations. A regression analysis was employed for the research. The research drew the conclusion that there exists a negative correlation between restriction of bank activities and its stability and performance in comparison to when the banks were able to diversify freely to other financial activities.

Agénor and Luiz, (2018), established the influence of regulation, financial openness and regulation on the economic growth of financial institutions in Malaysia. The study collected panel data and regressions analysis for a sample of 64 firms were selected. the study results indicated that growth can be propelled by prudential policies with an aim of addressing financial risks to the economy. Financial openness was found to reduce the level of growth benefits to the policies either through more opportunities to borrow across border or increase the regulation leakages across borders, the management of administrative and financial burdens of complying with set regulations assessing the orientation of the business, and employee share working in the field.

In India, a study by Cull (2016) evaluated the benefits of regulations in improving the quality of loans. An econometric analysis was employed for data gathered from 154 institutions. The data gathered from the 154 institutions was related to financial data and regulatory supervision. Further, the research assessed the influence of prudent regulation on the financial self-efficacy and profitability of the institutions. From the results obtained, it was established that often, being regulated allows institutions to collect deposits, hence gaining more stable and cheaper sources of capital.

Ryan (2014) established how liquidation regulation affected UK banks. The research was conducted in 2010, when the Financial Services Authority in the UK had subjected

the banks to tighter regulations of liquidity. Descriptive and inferential analysis was conducted using SPSS and findings presented in the form of pie charts and tables. The research established that banks changed their liability and assets to meet the set tighter liquidity requirements. The banks made improvements on their share of funding and asset liquidity from stable non-financial deposits in the UK.

In Kenya, Osano and Gekara (2018) evaluated the impact of regulations set by the government on commercial banks profitability. 42 commercial banks made the study populations from which secondary data was collected. Both quantitative and qualitative approaches of analysis were employed. To show the study variables relationships, a regression model was adopted. Charts and tables were employed for the presentation of the analyzed data. The effect of foreign exchange cap as well as regulations on liquidity positively affected bank performance. Further, the relationship between the rate of interest cap and profitability was established to be significantly positive among commercial banks in Kenya.

Mwongeli (2017) evaluated the impact of regulations on the financial performance of Kenyan commercial banks. 43 were targeted to collect secondary data form the period 2010-2015. The time period was appropriate since it was in 2013 that prudential guidelines were set to be followed by the banks. The study variable relationship was assessed using a Chi square test. The findings from the research revealed that there was

no significant relationship between regulations and commercial banks financial performance in Kenya. Moreover, it was revealed that must of the Kenyan blanks were successful in complying with the set capital requirements and the government needs to push for more compliance from all of the banks in relation to the stipulated guidelines so as improve stability in the financial industry.

Mureithi (2012) focused on how regulation affects DT-MFIs in Kenya through a descriptive and cross-sectional. In total, 6 DTMs in Kenya were targeted. the research drew the conclusion that the supportive DTMs regulations of 2008 has resulted in better financial performance of the institutions. The findings indicated that the regulations led to increased value of outstanding loans, profits, total assets and equity of shareholders of DTMs. Thus, regulations positively influence the profitability of commercial banks.

Mukiri (2013) similarly focused on how regulation affects sustainability of DT-MFIs in Kenya. A sample of 30 retail Microfinance institutions was drawn from a target population of 48 retail Microfinance institutions in Kenya using disproportionate stratified random sampling. Audited financial statements were used to gather secondary data for each institution for 3 years and analyzed using a multivariate regression model. It was established that capital adequacy and liquidity requirements played a positive significant role in ensuring MFIs financial sustainability.

Nairobi County's SMEs in Kenya were investigated by Lydiah (2013), on how their performance was affected by regulations of interest rates; in the interest rate cap study. The study was done between the years 2008 and 2012. Interest rates demand and credit analysis was done through descriptive statistics and SPSS. It was established that

demand for loans by SMEs was to 95% as most of them depended on the loans to boost their businesses and this was an advantage to the lending establishments. Demand for loans was also increased by effective interest rates and annual profits by the owners of equity. To better understand the findings, tables, pie charts and bar graphs were used to present the research findings graphically.

2.5 Summary of Literature Review and Research Gap

According to Tregenna (2015) the government regulations have been utilized previously to save business facing the risk of collapse. The government is a key player in moderating the link between brokerage institutions and clients. Osano and Gekara (2018) found that too much regulation can hinder innovation increasing the operational costs while little regulation can result in corruption, poor management and inevitable collapse. This is a challenge to establish the exact influence of government regulation on the financial sector but that the influence is essentially long lasting and far-reaching.

The reviewed literature notes that commercial banks can be assessed on the basis of two study variables; bank regulations and firm performance. Credit availability in this study is used to imply the ability of commercial banks to offer financial lending services to all of its customers. The empirical literature reveals a need for more research in the banking sector with more emphasis on the influence of regulations of Bank performance. The regulations of commercial banks lead to different outcomes; some showing a strong correlation between the study variables while others show a negative relationship. Most studies both local and international have focused on regulations and performance and profitability of banks. The current study will focus on capital

adequacy requirement, interest rate regulation and liquidity regulation ratio and how they influence the credit Provision of banks. The study will apply descriptive research design and correlation analysis to establish the relationship between the variables.

2.6 Conceptual Framework

The conceptual framework illustrates the relationship between government regulation and provision of credit. Figure 2.1 shows the relationship between the study variables.

Independent Variables

Dependent Variable

Capital Adequacy Requirement
- Ratio of Core capital to Risk weighted assets

Interest Rate Regulation
- Lending rate

Liquidity Regulation Ratio
- Ratio of liquid assets to liquidity outflows

Credit Provision
- Total loan value

Firm Size
- Net Assets

Control variable
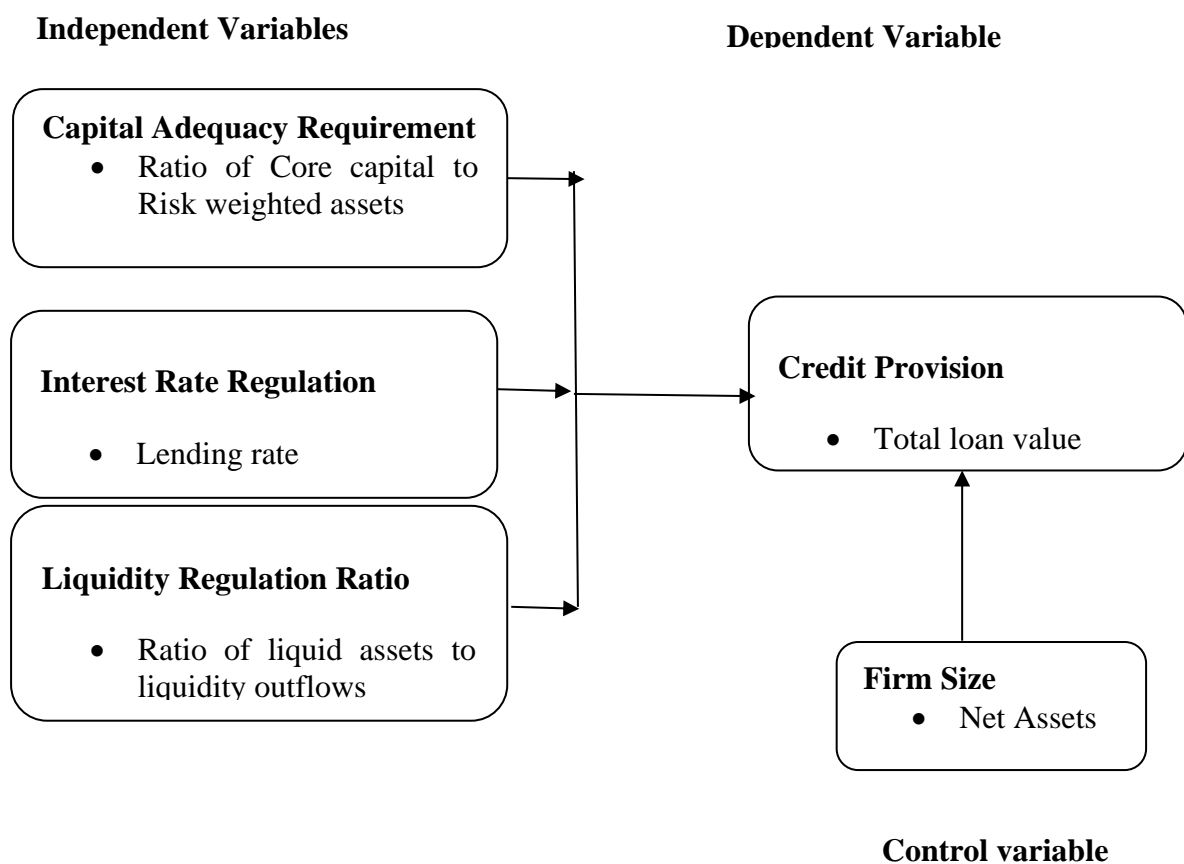
Figure 2.1: Conceptual Framework

26

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

There is a presentation of the methodology adopted in the study. Specifically, this chapter highlights the population, data collection sources and procedures as well as analysis methods.

3.2 Research Design

A research design is the approach utilized to assess a study problem. It is a blue print of how data was collected, measured and analyzed. A descriptive design was employed for this research to describe the characteristics of the study phenomenon. The design was appropriate since it facilitated in describing the regulations and credit provision of Kenyan commercial banks.

3.3 Target Population

Snyder (2019) explains that a target population includes each individual or item that a researcher aims to gather data from. The study targeted all of the 39 licensed and operational commercial banks in Kenya as at 2021 (CBK, 2021).

3.4 Data Collection

According to Pandey and Pandey (2021), prior to collecting any data, a researcher needs to develop research instruments that can be used to observe, quantify and measure data for study investigation. For this study, secondary data was gathered in the form of published literature and financial reports. The secondary data collected was based on the study variables namely; rates of interests, capital requirement as well as liquidity regulation ratio and provision of credit of Kenya commercial banks during the period 2017-2021. The source was CBK annual reports for the 5-year period.

3.5 Data Analysis

SPSS version 21.0 was used to analyze the data. Descriptive statistic such as means and standard deviation were employed to analyze the data. The descriptive statistics was employed to quantitatively relate the significant characteristics of the variables. Inferential statistics, Pearson correlation and regression were also utilized in the study. This technique, was fit in determining the effect of regulations on the provision of credit by commercial banks in Kenya.

3.5.1 Regression Model Specification

The study used a multiple regression model to establish relationship between the study variables. The overall model was:

$$Y_{it} = \beta_0 + \beta_1 X_{1t} + \beta_2 X_{2t} + \beta_3 X_{3t} + \beta_4 X_{4t} + \varepsilon_t$$

Where:

Y_{it} = Credit provision for firm i at time t

β_0 = Intercept of the equation / Constant

β_1 to β_4 = Coefficient of independent variables / unknown parameters

X_{1t} = Capital Adequacy Requirement (Capital /risk-weighted assets) of firm i at a time t

X_{2t} = Interest Rate Regulation (Actual lending interest rate) of firm i at a time t

X_{3t} = Liquidity regulation ratio (Ratio of liquid assets to liquidity outflows) of firm i at a time t

X_{4t} = Control Variable, Firm Size (Net Assets Value) of firm i at a time t

ε_t = Error term

3.5.2 Model Diagnostic tests

These are carried out to ensure data used fits assumptions of model used for regression. The study tested for Normality of the error term, Multicollinearity, Autocorrelation and Heteroskedasticity before running the regression model. Normality of the error term was tested using Shapiro Wilk method whereby a significance value above 5% signifies a normally distributed data set. Multicollinearity is a problem that show that the predictor variables have a high association among themselves and if it happens, then the results are erroneous. This study therefore tested for this problem using Variance Inflation Factor (VIF) whereby values below 10 signified absence of multicollinearity.

Autocorrelation implies that the error terms are correlated over time and, in that case, it leads to spurious results. To test its presence, the study adopted Durbin Watson Method whereby values between 1.5 and 2.0 imply absence of serial correlation. Heteroskedasticity problem shows that the error term is not constant. If that happens, it inflates the standard errors of the regression which then leads to spurious findings and therefore this study tested for this problem Breusch Pagan method whereby a significance value above 5% indicates absence of Heteroskedasticity.

3.6 Operationalization of variables

Table 3.1: Operationalization of Variables

Variables	Measure	Data Analysis Procedure
Capital Adequacy Requirement	Ratio of Core Capital to Risk-Weighted Assets	• Descriptive Statistics • Correlation Analysis • Regression Analysis
Interest Rate Regulation	Actual lending interest rate	• Descriptive Statistics • Correlation Analysis • Regression Analysis
Liquidity Regulation Ratio	Ratio of liquid Assets to Liquidity Outflows	• Descriptive Statistics • Correlation Analysis • Regression Analysis
Credit Provision	Total Loan Value	• Descriptive Statistics • Correlation Analysis • Regression Analysis
Firm value	Net Assets	• Descriptive Statistics

3.7 Significance Test

The researcher applied parametric tests to establish the statistical significance of the model and individual variables. The F-test was used in determining the model's significance given by ANOVA at 95% confidence interval while the significance of individual variables was tested at significance level of 5%.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

The chapter presents the results of the data collected and analyzed. In this chapter, there is presentation of descriptive statistics, model diagnostic tests, correlation and regression analysis. The results are tabulated in form of Tables.

4.2 Descriptive Statistics

The measures of central tendency (mean) and dispersion (standard deviation) were analyzed and presented in Table 4.1. The observations for NCBA bank for two years, that is 2018 and 2017 were missing because by then the bank had not merged not until the year 2019. In addition, the observations for Kingdom bank for three years, that is 2019, 2018 and 2017 were missing because by then the bank had not been acquired by Cooperative bank and was still operating as Jamii Bora Bank not until the year 2020. Therefore, the number of observations were 187 instead of 195.

Table 4.1: Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Firm Size (Kshs. M)	187	2,610	877,415	126,937.49	176924.5
Capital Adequacy Ratio	187	-0.62	0.95	0.1938	0.14024
Interest Rate Regulation	187	0.09	0.15	0.1249	0.01055
Liquidity Regulation Ratio	187	0.01	3.87	0.5157	0.40495
Credit Provision (Kshs. M)	187	235	584,441	71,324.52	108,572.9
Valid N (listwise)	**187**				

The study findings presented in Table 4.1 indicate that in the study period (2017 – 2021), the 39 licensed commercial banks in Kenya had an average net assets value of Kshs. 126,937.49 million. The smallest value recorded in the study period for a single commercial bank in a study year was Kshs. 2, 610 million and the highest value was Kshs. 877,415 million. There was a high standard deviation in the commercial bank's firm size (net assets value) in the study period implying that the net assets value highly varied across the commercial banks in the study period. This is true considering that the 9 large commercial banks in tier one, control 74.9% of the total assets in the sector compared to 9.1% for the small banks, which are the majority at 22. Therefore, it can be proven that the distribution of total assets was highly varied.

In regard to Capital Adequacy Ratio regulation, it was documented that in the study period the 39 licensed commercial banks in Kenya had an average Capital Adequacy Ratio of 19.38% against a required minimum of 10.50% implying that on average, the commercial banks were operating at an average excess of 8.8%. This implies a strong capital adequacy. There was however a high standard deviation in the commercial bank's capital adequacy ratio in the study period implying that the ratio highly varied from one commercial bank to the other whereby while one commercial bank recorded a minimum of -62%, another commercial bank recorded a maximum of 95%.

The study findings further showed that in the study period, the 39 licensed commercial banks in Kenya had an average Liquidity Regulation Ratio of 51.6% against a required minimum of 20% implying that on average, the commercial banks were operating at an average excess of 31.6%. This implies a strong liquidity position to demonstrate that in

the study period, the banks could be able to offset any liabilities in a 30-day period. There was however a high standard deviation in the commercial bank's Liquidity Regulation Ratio in the study period implying that the ratio highly varied from one commercial bank to the other whereby while one commercial bank recorded a minimum of 1%, another commercial bank recorded a maximum of 387%.

In addition, it was established that in the study period, the 39 licensed commercial banks in Kenya had an average lending rate of 12.5% implying that on average, the commercial banks were operating way within the previous 14% lending interest rate cap. There was a very low standard deviation in the commercial bank's lending rate in the study period implying that the rates didn't significantly vary across the commercial banks since while the lowest rate recorded was 9%, the highest was close to it at 15%.

Lastly, it was ascertained that in the study period, the 39 licensed commercial banks in Kenya had an average credit provision amount of Ksh. 71,324.52 million as the total loan value. The highest loan value recorded in the study period for a single bank was Ksh.584,441 in a year and the lowest was Ksh.235 million in a year. The variation in the credit provided by the commercial banks in the study period was ascertained to be highly varying across the firms as shown by a high standard deviation.

4.3 Correlation Analysis

To determine the strengths and significance of the relationship between the study variables, a Pearson Moment correlation approach was adopted. The results are presented in Table 4.2.

Table 4.2 Correlation Matrix

		Capital Adequacy	Interest Rate Regulation	Liquidity Regulation	Firm Size	Credit Provision
Capital Adequacy Regulation	Pearson Correlation	1				
	Sig. (2-tailed)					
Interest Rate Regulation	Pearson Correlation	0.05	1			
	Sig. (2-tailed)	0.500				
Liquidity Regulation	Pearson Correlation	.275**	-0.058	1		
	Sig. (2-tailed)	0.000	0.431			
Firm Size	Pearson Correlation	-0.108	-0.077	0.028	1	
	Sig. (2-tailed)	0.141	0.294	0.705		
Credit Provision	Pearson Correlation	-0.135	-0.054	-0.632**	.981**	1
	Sig. (2-tailed)	0.066	0.463	0.000	0.000	
	N	187	187	187	187	187

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

The results are presented in Table 4.2. showed that capital adequacy regulation negatively affected credit provision among commercial banks in Kenya. The effect was however not significant ($r = -0.135$; P-value > 0.05). This implies that a higher statutory requirement on capital adequacy was associated with decreasing credit provision among commercial banks in Kenya.

It was also demonstrated that interest rate regulation negatively affected credit provision among commercial banks in Kenya. The effect was however not significant ($r = -0.054$; P-value > 0.05). This implies that setting up a lending ceiling was associated with decreasing credit provision among commercial banks in Kenya.

The results additionally indicated that liquidity regulation negatively and significantly affected credit provision among commercial banks in Kenya (r = - 0.632; P-value < 0.05). This implies that a higher statutory requirement on capital adequacy was associated with decreasing credit provision among commercial banks in Kenya.

It was also established that firm size positively and significantly affected credit provision among commercial banks in Kenya (r = 0.981; P-value < 0.05). This implies that a higher amount of net assets value was associated with increasing credit provision among commercial banks in Kenya.

4.4 Regression Model Diagnostic Tests

To ascertain whether the use of a multiple regression model didn't violate the assumptions of a classical linear estimator, the study tested for the model assumptions beforehand. This section discusses the findings.

4.4.1 Normality test on the error term

The assumption of the OLS estimator demands that the error term (ε_t) should be normally distributed. This study therefore tested for normality of the error term using Shapiro Wilk method and the results are presented in Table 4.3 and graphically shown in Figure 4.1.

Table 4.3: Shapiro Wilk Normality Test

Statistic	df	Sig.
1.867	187	0.158
Lilliefors Significance Correction		
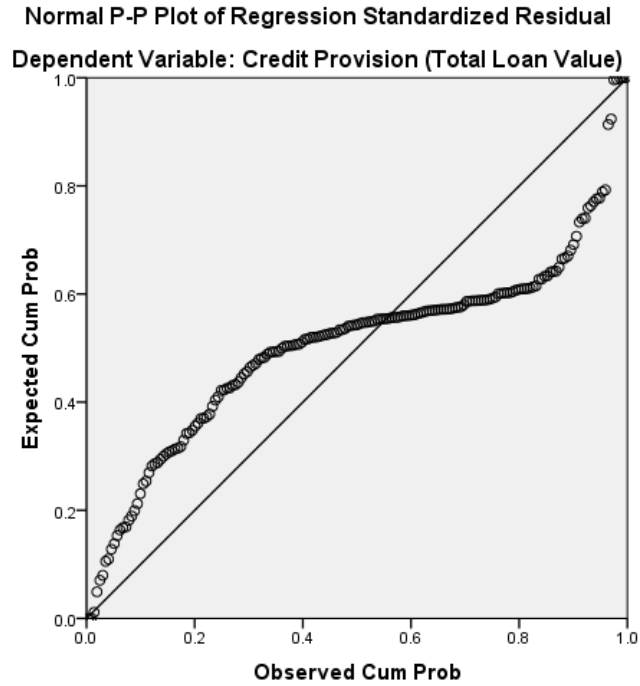
Figure 4.1 Normal P-P Plot of the error term

The results presented in Table 4.3 demonstrate that Shapiro Wilk statistic that is (1.867) was not significant at 5% level of significance (P-Value > 0.05). As required, an insignificant P-value implies a data set not significantly different from a normal distribution hence implying that the error term was normally distributed. It was hence suitable to use an ordinary least square regression model.

4.4.2 Autocorrelation

The assumption of the OLS estimator also demands that the error term (ε_t) should not be correlated across the predictor variables. This study therefore tested for presence of serial correlation using Durbin Watson method and the results are presented in Table 4.4.

Table 4.4: Durbin Watson Test of Serial Correlation

DW Statistic
1.971

As required, it was established in Table 4.4 that the DW value was between 1.5 and 2.0 to imply that the error term did not have the problem of serial correlation. It was hence suitable to use an ordinary least square regression model.

4.4.3 Multicollinearity

Another assumption of least square estimator is that of multicollinearity which was tested through VIF. The results are presented in Table 4.5.

Table 4.5: Multicollinearity Test

	Collinearity Statistics	
	Tolerance	**VIF**
Firm Size	0.980	1.020
Capital Adequacy Regulation	0.908	1.102
Interest Rate Regulation	0.987	1.013
Liquidity Regulation	0.916	1.091
Dependent Variable: Credit Provision		

The use of a VIF method demands that the VIF values should be less than 10 in order for the multicollinearity test to pass. As shown in Table 4.5, it was documented that all the predictor variables had a VIF value below 10 implying absence of multicollinearity and suitability of using a least square estimator.

4.4.4 Heteroskedasticity Test

The assumption of the OLS estimator additionally demands that the error term (ε_t) should have a constant variance across the predictor variables. This study therefore tested for this assumption using Breusch Pagan method and the results are presented in Table 4.6.

Table 4.6: Heteroskedasticity Test

Ho: Homoscedasticity
Variables: Fitted values of Credit Provision
Chi^2 (1) = 4.847
$Prob > Chi^2$ = 0.984

In this test, a P-value above 5% indicates absence of Heteroskedasticity (homoskedasticity). As shown in Table 4.6, it was proven that the error term had a constant variance since the P-value of 0.984 was greater than 0.05. Therefore, it was suitable to use a least square estimator.

4.5 Regression Analysis

Having tested for the assumptions of OLS to demonstrate suitability of using a multiple OLS regression model, it was hence adopted in the study to establish the magnitude and significance of the relationship between the variables. This section presence the findings.

4.5.1 Coefficient of Determination

The coefficient of determination, depicted through R-Square, shows the variation in the dependent variable (credit provision) which is accounted for by the predictor variables in the study. Table 4.7 presents these findings.

Table 4.7 Coefficient of Determination

R	R Square	Adjusted R Square	Std. Error of the Estimate
.983	0.966	0.965	20227.89
Predictors: (Constant), Firm Size, Liquidity Regulation, Interest Rate Regulation, Capital Adequacy Regulation			

It was established that micro-prudential regulations (Liquidity Regulation, Interest Rate Regulation, Capital Adequacy Regulation) as well as firm size explain up to 96.6% of the variation in the credit provision among commercial banks in Kenya (R=square = 0.966). It implies that credit provision was highly determined by micro-prudential regulations. Other unaccounted variables explain the remaining percentage.

4.5.2 Analysis of Variance (Model Significance)

ANOVA was adopted to determine the model significance or fitness. In this case, both F-test and significance methods were used. The results are shown in Table 4.8.

Table 4.8: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	2,118,114,844,040.84	4	529,528,711,010.21	1,294.16	.000
Residual	74,468,472,441.84	182	409,167,431.00		
Total	2,192,583,316,482.68	186			

Dependent Variable: Credit Provision
Predictors: (Constant), Firm Size, Liquidity Regulation, Interest Rate Regulation, Capital Adequacy

The study findings indicated that the regression model linking the study variables was significant (P-value < 0.05). Using F-test, it was also proven that the F-calculated value (1,294.16) was greater than the F-critical $_{0.05, 4, 182}$ (0.1771) to further prove the model significance.

4.5.3 Regression Model Coefficients

The regression model coefficients were established and presented in Table 4.9. It showed the nature of the relationship between the study variables as well as the significance of the relationship with the dependent variable.

Table 4.9 Model Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	-20570.3	18025.834		-1.141	0.255
Capital Adequacy Regulation	-11752.5	11100.525	-0.015	-1.059	0.291
Interest Rate Regulation	-200444	141494.787	-0.019	-1.417	0.158
Liquidity Regulation	-14288.9	3825.881	-0.053	-3.735	0.000
Firm Size	0.603	0.008	0.982	71.183	0.000

Dependent Variable: Credit Provision

Based on the results in table 4.9, the following regression model was specified:

Credit Provision = (20570.3) - -14288.9 (Liquidity Regulation) + 0.603 (Firm Size)

This model implies that holding other factors constant, only liquidity provision and firm size significantly affect credit provision. Specifically, liquidity provision has a negative and significant effect on credit provision among commercial banks in Kenya. In addition, firm size has a positive and significant effect on credit provision.

The regression model results indicated that capital adequacy regulation has a negative and insignificant effect on credit provision among commercial banks in Kenya ($\beta = -11752.5$; Sig > 0.05). This shows that a unit increase statutory requirement on capital adequacy insignificantly decreases credit provision among commercial banks in Kenya.

The results further indicated that interest rate regulation has a negative and insignificant effect on credit provision among commercial banks in Kenya ($\beta = -200,444$; Sig > 0.05). This shows that introducing lending rates capping insignificantly decreases credit provision among commercial banks in Kenya.

On the contrary, the results showed that liquidity regulation has a negative and significant effect on credit provision among commercial banks in Kenya ($\beta = -14,288.9$; Sig < 0.05). This shows that a unit increase in the maximum statutory requirement on liquidity significantly decreases credit provision among commercial banks in Kenya by -14288.9 units.

Similarly, it was also determined that firm size has a positive and significant effect on credit provision among commercial banks in Kenya ($\beta = 0.603$; Sig < 0.05). This shows

that a unit increase in the net assets of commercial banks significantly increases credit provision among commercial banks in Kenya by 0.603 units. This explains why large commercial banks had the highest loan portfolios.

4.6 Discussion of Findings

Regression findings indicated that of the three micro-prudential guidelines investigated in the study, only liquidity provision significantly affect credit provision. It was established that the statutory requirement on liquidity was associated with decreases in credit provision among commercial banks in Kenya. This shows that setting the base liquid assets high may hold resources which could have otherwise been loaned out hence the decreasing credit provision.

When multiple borrowers want loans, in cases where the commercial bank has most of its liquid assets set aside to meet the liquidity requirement, the bank would be forced to sell some of its less liquid assets (likely at steep discounts) or postpone or suspend payments in order to make the required payments. In that case, it can be argued that setting very high base amount for liquidity would lead to a reduction in the loans issued. The findings are consistent with those of Bouheni and Ameur (2014) and Vianney (2013) who argued that rigid liquidity freeze the interbank markets hence having negative effects on lending and profitability of banks.

It was also established that firm size is a significant determinant of credit provision and that increasing firm size is associated with an increase credit provision among commercial banks. Larger commercial banks have the guarantee of ensuring that more

resources were available for loaning hence an increase in credit provision. Larger commercial banks are also able to finance huge loan demands because they are able to cover for the losses incurred in cases where non-performing loans are experienced. On the other hand, smaller banks with less assets are likely to reduce lending as a result of loan losses or another unfavorable shock. They may also forgo lucrative lending opportunities in order to reduce the risk of future capital inadequacy. Htay (2012) and Bryd and Hickman (2012) similarly established that bigger firms recorded better performance in their operations.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of Findings

The study aimed to establish the effect of government regulations on credit provision of commercial banks in Kenya focusing on liquidity regulation, interest rate regulation and capital adequacy regulation. In addition, the control effect of firm size was determined. Through secondary data collected over a five-year period (2017 to 2021), the relationship between the variables was tested though correlation and regression analysis.

Both correlation and regression analysis generally documented that government regulations had detrimental effects on credit provision of commercial banks in Kenya. However, it was demonstrated that only liquidity regulation and firm size were significant determinants of credit provision of commercial banks in Kenya. The effect of both interest rate regulation and capital adequacy regulation was not significant.

5.2 Conclusion

The study concludes that government regulations adversely affect credit provision among commercial banks in Kenya. Specifically, the study concludes that an increase in statutory requirement on capital adequacy insignificantly decreases credit provision among commercial banks in Kenya. Another conclusion is that introducing lending

rates capping insignificantly decreases credit provision among commercial banks in Kenya.

It can also be concluded that an increase in the maximum statutory requirement on liquidity significantly decreases credit provision among commercial banks in Kenya. When multiple borrowers want loans, in cases where the commercial bank has most of its liquid assets set aside to meet the liquidity requirement, the bank would be forced to sell some of its less liquid assets (likely at steep discounts) or postpone or suspend payments in order to make the required payments. In that case, it can be argued that setting very high base amount for liquidity would lead to a reduction in the loans issued.

Lastly, it can be concluded that firm size is associated with an increase credit provision among commercial banks. Larger commercial banks have the guarantee of ensuring that more resources were available for loaning hence an increase in credit provision. Larger commercial banks are able to finance huge loan demands because they are able to cover for the losses incurred in cases where non-performing loans are experienced. On the other hand, a smaller bank with less assets are likely to reduce lending as a result of loan losses or another unfavorable shock. It may also forgo lucrative lending opportunities in order to reduce the risk of future capital inadequacy.

5.3 Recommendations

Given the findings, the study recommends commercial banks in Kenya to consider boosting their assets. This is given the findings that higher net assets were associated

with higher credit provision. This is important considering that commercial banks heavily rely on interest income from loans as their source of revenue.

Given its detrimental effects, the study recommends the regulator of commercial banks, that is CBK to relook at the liquidity regulations that demands that commercial banks should have a statutory liquid coverage ratio of 20%. While such a ratio is important to manage any short-term shocks and prevent collapse, being too strict on the minimum ratio negatively affects credit provision. This is because some commercial banks may not have enough funds to lend as they try not to violate this requirement.

5.4 Limitations of the Study

The study was conducted in an era when COVID-19 was adversely affecting businesses. It was thus difficult to ascertain whether the credit provisions during the years 2019 and 2021 were as a result of regulations or COVID-19 effects. The study used secondary data only and hence it didn't leave a room for probing through questionnaires.

In addition, the reliability of the secondary data may not be ascertained. Another limitation is that the study focused on the commercial banks operating in Kenya only and hence future generalizations of the findings to other regions need careful considerations.

5.5 Areas for Further Study

The performance of credit provision among commercial banks in the study period may not solely be attributed to regulation given other prevailing conditions such as COVID-19 which negatively affected the economic environment. Therefore, to establish more accurate results, further studies should consider moderating for such shocks through structural breaks or use of dummy variables.

For comparison purposes, there is a need for a similar study in a related context, such as that of micro-finance firms. This may provide a platform for comparison of the findings across sectors. In addition, other factors other than regulations can be interrogated on credit provision. This is given that the explanatory power of regulations on credit provisioning, as seen in the R-square, was not 100%.

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51

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Appendix I: Operational Commercial Banks in the Study Period

No.	Commercial Banks	No.	Commercial Banks
1	KCB	21	BOA
2	Equity	22	Gulf African Bank
3	NCBA	23	Sidian Bank
4	Co-operative Bank	24	ABC
5	Absa	25	Habib
6	Standard	26	Credit Bank Ltd
7	DTB	27	First Community
8	I&M	28	Guardian Bank Ltd
9	Stanbic	29	Development Bank of Kenya
10	Baroda	30	Mayfair
11	Prime	31	Kingdom Bank
12	National	32	DIB
13	Citibank	33	M-Oriental
14	Family	34	Consolidated Bank
15	BOI	35	Paramount
16	Ecobank	36	Access Bank
17	SBM	37	UBA
18	HFC	38	Middle East Bank
19	Victoria	39	Spire Bank
20	Guaranty		

Source: CBK (2021)

Appendix II: Secondary Data

No.	Bank	Year	Firm Size (Net Assets, Kshs. Millions)	Credit Provision (Total Loan Value, Kshs. Millions)	Capital Adequacy (Core Capital to TRWA) (%)	Interest Rate Regulation (Lending Rate)	Liquidity Regulation (Liquidity Coverage Ratio)
1	KCB	2017	555,630	411,666	14.90%	13.1%	33.00%
1	KCB	2018	621,723	434,361	16.40%	12.0%	32.00%
1	KCB	2019	674,302	468,258	15.60%	12.0%	30.80%
1	KCB	2020	758,345	544837	15.60%	11.6%	31.20%
1	KCB	2021	826395	584441	16.20%	12.1%	35.00%
2	Equity	2017	406,402	221,698	15.80%	13.8%	54%
2	Equity	2018	438,509	231,026	14.00%	12.8%	58%
2	Equity	2019	507,525	290,564	13.10%	12.7%	55%
2	Equity	2020	667,650	355,630	12.20%	12.6%	73%
2	Equity	2021	877415	420774	13.30%	12.6%	92.40%
3	NCBA	2017	.	.	.	.	.
3	NCBA	2018	.	.	.	.	.
3	NCBA	2019	464,891	244,395	17.80%	12.6%	56%
3	NCBA	2020	491,614	259,698	17.80%	12.2%	82%
3	NCBA	2021	546415	255664	18.40%	12.1%	76%
4	Co-operative Bank	2017	382,830	262,553	16.50%	13.9%	33.50%
4	Co-operative Bank	2018	408,304	257,566	15.70%	13.0%	41.50%
4	Co-operative Bank	2019	449,616	281,516	15.30%	13.0%	46.20%
4	Co-operative Bank	2020	496,823	307,324	15.50%	12.5%	52.20%
4	Co-operative Bank	2021	540387	334274	15.70%	12.7%	47.60%
5	Absa	2017	271,682	177,224	15.90%	13.8%	28.27%
5	Absa	2018	325,363	186,984	14.40%	12.8%	35.70%
5	Absa	2019	374,109	205,304	14.00%	12.8%	39.80%
5	Absa	2020	377,936	229,677	14.70%	11.3%	38.70%
5	Absa	2021	428746	256465	14.60%	12.0%	38.30%
6	Standard	2017	285,125	139,406	15.60%	13.0%	59%
6	Standard	2018	281,516	133,166	16.50%	12.5%	66.61%
6	Standard	2019	302,296	144,483	14.70%	12.4%	62.57%
6	Standard	2020	325,873	152,711	15.90%	10.9%	71.49%
6	Standard	2021	335,111	147,917	15.50%	11.1%	70.73%
7	DTB	2017	270,082	156,843	17.30%	13.9%	40.40%
7	DTB	2018	284,691	152,287	18.70%	10.6%	45.70%
7	DTB	2019	287,251	155,307	19.10%	10.6%	51.00%
7	DTB	2020	312,189	165,948	20.70%	12.0%	56.30%
7	DTB	2021	326,377	171,866	19.90%	12.0%	61.60%

No.	Bank	Year	Firm Size (Net Assets, Kshs. Millions)	Credit Provision (Total Loan Value, Kshs. Millions)	Capital Adequacy (Core Capital to TRWA) (%)	Interest Rate Regulation (Lending Rate)	Liquidity Regulation (Liquidity Coverage Ratio)
8	I&M	2017	183,953	126,983	17.20%	13.9%	35%
8	I&M	2018	229,161	144,434	17.10%	12.9%	45%
8	I&M	2019	254,252	152,807	18.00%	12.9%	47%
8	I&M	2020	283,569	160,665	18.80%	12.5%	50%
8	I&M	2021	307,802	172,615	15.50%	12.4%	48%
9	Stanbic	2017	239,408	135,443	15.80%	13.4%	52.40%
9	Stanbic	2018	280,953	155,498	14.60%	12.1%	57.90%
9	Stanbic	2019	292,705	163,859	15.20%	12.1%	58.40%
9	Stanbic	2020	318,986	176,597	16.00%	10.6%	56.40%
9	Stanbic	2021	319,199	200941	15.30%	11.2%	47.90%
10	Baroda	2017	96,132	43,943	30.90%	13.9%	65.60%
10	Baroda	2018	123,014	43,439	34.40%	12.9%	78.10%
10	Baroda	2019	143,311	49,335	32.40%	13.0%	78.37%
10	Baroda	2020	166,313	51,151	30.70%	11.0%	83.28%
10	Baroda	2021	180,381	58,165	30.00%	11.5%	81.64%
11	Prime	2017	76,438	39,763	21.30%	13.9%	48.60%
11	Prime	2018	98,534	38,188	35.90%	12.9%	71.50%
11	Prime	2019	108,786	38,932	40.30%	12.9%	77.10%
11	Prime	2020	116,204	44,531	38.70%	11.8%	80.50%
11	Prime	2021	126,482	47,577	41.00%	12.0%	79.50%
12	National	2017	109,942	68,153	4.00%	14.0%	36.30%
12	National	2018	115,143	66,123	2.30%	12.9%	43.10%
12	National	2019	112,029	60,677	9.80%	12.6%	46.10%
12	National	2020	126,842	74,774	8.70%	12.8%	44.40%
12	National	2021	146,543	79,236	12.70%	12.8%	41.70%
13	Citibank	2017	98,232	38,080	24.60%	11.5%	95%
13	Citibank	2018	85,639	27,255	27.40%	11.0%	82%
13	Citibank	2019	96,570	27,068	27.20%	10.9%	76%
13	Citibank	2020	106,454	39,726	22.00%	9.0%	91%
13	Citibank	2021	130,940	53,765	18.10%	9.4%	115%
14	Family	2017	69,051	46,928	16.40%	14.0%	34.60%
14	Family	2018	66,910	47,023	16.40%	13.0%	30.70%
14	Family	2019	78,857	54,389	15.80%	13.0%	33.10%
14	Family	2020	90,591	63,111	15.20%	13.0%	37.10%
14	Family	2021	111,683	73,529	15.60%	12.9%	43.40%
15	BOI	2017	56,631	20,771	52.00%	14.0%	68.40%
15	BOI	2018	62,689	19,153	43.30%	13.0%	84.40%
15	BOI	2019	62,543	13,608	47.80%	13.0%	103.20%

No.	Bank	Year	Firm Size (Net Assets, Kshs. Millions)	Credit Provision (Total Loan Value, Kshs. Millions)	Capital Adequacy (Core Capital to TRWA) (%)	Interest Rate Regulation (Lending Rate)	Liquidity Regulation (Liquidity Coverage Ratio)
15	BOI	2020	75,129	20,980	48.00%	12.1%	105.10%
15	BOI	2021	86,867	22,552	51.80%	11.7%	108.30%
16	Ecobank	2017	53,456	21,456	15.40%	14.4%	42%
16	Ecobank	2018	54,464	14,733	16.30%	14.2%	44%
16	Ecobank	2019	75,378	24,118	13.60%	15.2%	43%
16	Ecobank	2020	94,428	26,884	13.00%	10.9%	48%
16	Ecobank	2021	103,388	27,223	14.30%	10.7%	50%
17	SBM	2017	11,745	6,680	16.10%	14.0%	10.7%
17	SBM	2018	70,648	23,602	24.30%	13.0%	16.5%
17	SBM	2019	72,519	27,226	23.00%	13.0%	15.1%
17	SBM	2020	79,190	36,760	15.90%	11.7%	18.5%
17	SBM	2021	81,958	37,408	15.10%	12.2%	20.7%
18	HFC	2017	62,127	52,630	15.50%	11.9%	20.70%
18	HFC	2018	57,083	49,215	14.20%	11.4%	20.92%
18	HFC	2019	54,532	45,822	13.00%	11.2%	20.80%
18	HFC	2020	54,478	41,836	7.80%	12.7%	20.90%
18	HFC	2021	52,098	39,339	8.30%	10.5%	22.87%
19	Victoria	2017	25,985	18,887	22.10%	13.9%	42.0%
19	Victoria	2018	32,337	22,810	19.20%	13.0%	39.2%
19	Victoria	2019	36,072	24,542	18.40%	13.0%	34.40%
19	Victoria	2020	37,890	25,442	17.30%	11.6%	37.90%
19	Victoria	2021	43,471	31,291	15.60%	12.2%	28.90%
20	Guaranty	2017	27,628	13,746	26.40%	14.0%	59%
20	Guaranty	2018	25,323	10,303	27.00%	13.0%	48%
20	Guaranty	2019	29,082	14,872	26.30%	13.0%	35%
20	Guaranty	2020	31,267	15,714	26.00%	12.9%	32%
20	Guaranty	2021	34,301	18,332	24.10%	12.4%	46%
21	BOA	2017	54,191	33,589	11.20%	13.7%	36.30%
21	BOA	2018	49,081	26,255	11.10%	12.5%	43.70%
21	BOA	2019	43,996	22,546	6.20%	12.9%	48.70%
21	BOA	2020	44,917	21,850	10.50%	11.3%	57.50%
21	BOA	2021	43,350	26,337	11.90%	12.5%	46.00%
22	Gulf African Bank	2017	31,316	20,144	14.20%	14.1%	34.90%
22	Gulf African Bank	2018	33,326	23,616	13.20%	13.2%	32.70%
22	Gulf African Bank	2019	35,123	24,578	12.40%	13.1%	33.80%
22	Gulf African Bank	2020	37,653	22,928	14.50%	12.5%	50.10%
22	Gulf African Bank	2021	37,678	22,486	15.60%	12.7%	51.60%
23	Sidian	2017	19,302	12,330	16.30%	13.8%	24.30%

No.	Bank	Year	Firm Size (Net Assets, Kshs. Millions)	Credit Provision (Total Loan Value, Kshs. Millions)	Capital Adequacy (Core Capital to TRWA) (%)	Interest Rate Regulation (Lending Rate)	Liquidity Regulation (Liquidity Coverage Ratio)
23	Sidian	2018	25,329	14,108	14.30%	12.9%	35.40%
23	Sidian	2019	26,452	15,846	13.50%	12.9%	42%
23	Sidian	2020	33,500	20,409	11.30%	12.9%	45.00%
23	Sidian	2021	41,410	23,834	11.60%	12.9%	52.80%
24	ABC	2017	24,804	16,371	12.90%	12.4%	34%
24	ABC	2018	27,213	18,620	15.20%	12.4%	33.01%
24	ABC	2019	28,680	20,115	12.10%	12.5%	31.08%
24	ABC	2020	32,643	21,961	12.00%	12.3%	28.78%
24	ABC	2021	36,341	23,654	12.30%	12.0%	30.32%
25	Habib	2017	18,708	5,680	26.40%	13.8%	70.70%
25	Habib	2018	21,521	6,451	24.10%	12.7%	74.30%
25	Habib	2019	24,823	7,000	26.80%	12.7%	77.90%
25	Habib	2020	27,212	6,847	25.10%	12.4%	81.50%
25	Habib	2021	28,554	6,359	30.90%	11.9%	85.10%
26	Credit Bank Ltd	2017	14,465	10,171	15.60%	13.9%	49.40%
26	Credit Bank Ltd	2018	17,805	13,440	14.00%	12.9%	51.10%
26	Credit Bank Ltd	2019	21,541	15,797	14.10%	12.9%	52.80%
26	Credit Bank Ltd	2020	23,145	17,512	13.00%	12.8%	54.50%
26	Credit Bank Ltd	2021	25,893	17,784	7.90%	12.7%	56.20%
27	First Community	2017	17,360	10,995	10.70%	14.0%	43.60%
27	First Community	2018	17,880	10,691	6.50%	13.0%	41.10%
27	First Community	2019	18,763	11,833	4.40%	13.0%	35.10%
27	First Community	2020	21,947	14,572	4.80%	9.0%	37.20%
27	First Community	2021	24,701	19,037	5.20%	9.0%	28.20%
28	Guardian Bank Ltd	2017	15,803	10,303	19.60%	13.6%	41.40%
28	Guardian Bank Ltd	2018	16,186	9,715	21.50%	12.7%	44.41%
28	Guardian Bank Ltd	2019	16,386	9,892	20.40%	12.7%	46.96%
28	Guardian Bank Ltd	2020	16,858	9,248	22.00%	11.3%	50.05%
28	Guardian Bank Ltd	2021	17,736	7,665	24.30%	12.6%	61.00%
29	Development Bank of Kenya	2017	16,320	10,710	20.10%	13.6%	1.20%
29	Development Bank of Kenya	2018	15,323	10,031	19.90%	12.5%	1.60%
29	Development Bank of Kenya	2019	15,358	9,801	28.20%	12.6%	9.40%
29	Development Bank of Kenya	2020	17,222	10,149	19.80%	12.5%	22.40%
29	Development Bank of Kenya	2021	17,289	10,218	17.30%	12.0%	25.90%
30	Mayfair	2017	3,548	235	94.50%	14.0%	123.60%
30	Mayfair	2018	6,857	3,184	41.40%	12.6%	54.60%
30	Mayfair	2019	8,652	4,606	17.70%	12.5%	45.60%
30	Mayfair	2020	12,729	5,056	53.10%	12.7%	87.40%

No.	Bank	Year	Firm Size (Net Assets, Kshs. Millions)	Credit Provision (Total Loan Value, Kshs. Millions)	Capital Adequacy (Core Capital to TRWA) (%)	Interest Rate Regulation (Lending Rate)	Liquidity Regulation (Liquidity Coverage Ratio)
30	Mayfair	2021	13,461	5,649	40.30%	12.9%	80.00%
31	Kingdom Bank	2017	.	.	.	.	.
31	Kingdom Bank	2018	.	.	.	.	.
31	Kingdom Bank	2019	.	.	.	.	.
31	Kingdom Bank	2020	30,612	8,907	13.80%	12.2%	362%
31	Kingdom Bank	2021	31,691	8,072	14.90%	13.2%	387%
32	DIB	2017	2,610	291	70.10%	8.8%	60.60%
32	DIB	2018	5,251	2,132	29.90%	12.0%	47.80%
32	DIB	2019	8,988	5,067	14.70%	12.4%	27.10%
32	DIB	2020	13,263	8,789	15.70%	11.3%	25.80%
32	DIB	2021	15,523	9,965	15.80%	12.1%	30.40%
33	M-Oriental	2017	10,577	7,741	32.70%	13.6%	26%
33	M-Oriental	2018	10,515	8,018	23.70%	12.7%	30%
33	M-Oriental	2019	12,394	7,455	33.20%	12.7%	33%
33	M-Oriental	2020	12,985	7,742	29.20%	12.3%	55%
33	M-Oriental	2021	13,657	7,212	28.40%	12.6%	63%
34	Consolidated Bank	2017	13,456	9,882	3.00%	13.2%	22%
34	Consolidated Bank	2018	12,887	10,027	15.00%	12.6%	22%
34	Consolidated Bank	2019	11,866	8,929	11.40%	10.6%	27%
34	Consolidated Bank	2020	12,886	10,130	7.00%	11.0%	17%
34	Consolidated Bank	2021	14,283	9,858	3.30%	11.1%	28%
35	Paramount	2017	9,541	6,345	26.00%	13.6%	40.90%
35	Paramount	2018	9,887	6,172	28.50%	12.8%	47.20%
35	Paramount	2019	10,443	7,177	30.10%	12.8%	41.30%
35	Paramount	2020	11,378	7,883	24.70%	12.8%	44%
35	Paramount	2021	12,448	7,934	27.90%	12.6%	51.70%
36	Access Bank	2017	.	.	.	.	.
36	Access Bank	2018	.	.	.	.	.
36	Access Bank	2019	.	.	.	.	.
36	Access Bank	2020	10,147	3,481	21.10%	10.0%	72.60%
36	Access Bank	2021	13,211	3,128	20.60%	11.0%	70.70%
37	UBA	2017	6,505	3,309	38.80%	13.7%	56.50%
37	UBA	2018	15,332	3,465	33.20%	12.7%	34.40%
37	UBA	2019	16,088	3,841	25.40%	12.3%	75.80%
37	UBA	2020	18,743	3,178	30.40%	12.5%	85.50%
37	UBA	2021	13,598	2,808	12.60%	12.7%	89.80%
38	Middle East Bank	2017	5,121	3,242	42.10%	14.2%	47.94%
38	Middle East Bank	2018	5,361	3,064	29.70%	13.1%	56.08%

No.	Bank	Year	Firm Size (Net Assets, Kshs. Millions)	Credit Provision (Total Loan Value, Kshs. Millions)	Capital Adequacy (Core Capital to TRWA) (%)	Interest Rate Regulation (Lending Rate)	Liquidity Regulation (Liquidity Coverage Ratio)
38	Middle East Bank	2019	8,466	6,153	31.00%	13.1%	24.21%
38	Middle East Bank	2020	11,022	7,639	27.70%	11.5%	31.50%
38	Middle East Bank	2021	11,186	6,648	25.60%	13.5%	52.10%
39	Spire Bank	2017	11,148	6,867	10.40%	11.5%	14.16%
39	Spire Bank	2018	9,223	6,109	-23.50%	12.4%	9.64%
39	Spire Bank	2019	6,860	5,114	-21.80%	12.5%	10.48%
39	Spire Bank	2020	5,114	3,827	-61.80%	12.6%	14.16%
39	Spire Bank	2021	3,855	3,405	-12.10%	12.5%	8.91%

Source: CBK Annual Banking Sector Reports (2017 – 2021)