

**EFFECT OF BANKING REGULATIONS ON LENDING AMONG COMMERCIAL
BANKS IN KENYA**

BY

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DECLARATION

This research project is my original work and has not been presented to any other examination body.

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Declaration by the Supervisor

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

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DEDICATION

I dedicate this research project to all my friends who supported me in the course of writing.

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I thank the Almighty God for giving me strength, knowledge and wisdom to undertake this research project. I'm also extremely grateful to my supervisor for his continued guidance, mentorship and motivation throughout the research period.

ABBREVIATIONS AND ACRONYMS

ALM:	Asset Liability Management
ANOVA	Analysis of Variance
CAMEL:	Capital adequacy, Asset quality, Management, Earnings, and Liquidity
CBK:	Central Bank of Kenya
FDIC's	Federal Deposit Insurance Corporation
LPM:	Loan Portfolio Management
NPL:	Non Performing Loans
SACCOs:	Savings and Credit Cooperatives
SASRA	Sacco Societies Regulatory Authority
SPSS:	Statistical Package for Social Sciences
U.S.:	United States
VIF:	Variance of Inflation Factor

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ABSTRACT

The main objective of the study was to assess the effect of banking regulations on lending among commercial banks in Kenya. The study was guided by the following objectives; to determine the effect of liquidity management regulations, capital adequacy regulations, management efficiency regulations and asset quality regulations on lending among commercial banks in Kenya. The study adopted a descriptive research design. The target population of this study comprised 43 commercial banks that operated in Kenya by December 2017. The collected data was analyzed using descriptive and inferential statistics. Based on regression results, liquidity management regulations ($p=0.000<0.05$), capital adequacy regulations ($p=0.002<0.05$) and management efficiency regulations ($0.019<0.05$) have a significant effect on lending among commercial banks in Kenya. The study concludes that asset quality has no positive significant influence on lending among commercial banks. Management efficiency regulations have negative significant influence on lending among commercial banks. Capital adequacy had positive significant influence on lending among commercial banks. Liquidity management regulation positive significantly influenced lending among commercial banks. The study recommends that commercial banks should improve client profiling for better management of non-performing loans for better risk taking. Commercial banks should cut down their operating expenses for increased profits in the organization. Commercial banks should increase liquidity management regulations for increased lending in commercial banks. The study suggests that future studies ought to be done in other lending institutions including SACCOs. Additionally, the focus of the future studies could be on listed commercial banks on NSE.

KEY WORDS: BANKING REGULATIONS AND LENDING IN COMMERCIAL BANKS

CHAPTER ONE

INTRODUCTION

1.1 Background of Study

In order to ensure a health and well-functioning financial system in an economy, Central Banks are charged with the oversight role. They issue guidelines which define how stakeholders in the financial sector are aimed at protecting investors and consumers besides ensuring systemic stability (Gabbi, Iori, Jafarey & Porter, 2015). These regulations are meant to safeguarding the entire financial sector against systemic risk, protecting consumers from excessive prices or opportunistic behavior and promote the achievement of other social objectives like stability and efficiency in the industry. Among the regulations set by the CBK include the one providing guidelines on capital requirement that sets a framework on how banks and depository institutions must handle their capital. This is meant to ensure standardization of financial statements thereby making it easy to compare how each of the financial institution is fairing on in maintaining stability.

There are also regulations guiding the handling of suspicious transactions of money laundering and financing of terrorism activities. This is meant to ensure that no money that is illegally acquired penetrates into the financial system because of its negative effects on financial stability. Failure in implementing and enforcement of regulations causes financial distress which has diverse negative effects not only on the economy as a whole but also to the financial performance of banks. In some instances, some regulations come with restrictions which stifle the banking sector thereby lowering the rate of bank development (Walther, 2016).

Lending is among the principal component of revenue among commercial banks. Lending practices are central to the realization of critical banking objectives with financial performance being the baseline yardstick for the sector. All banks understand clearly the sensitivity of lending practices and how they can influence banking services. They are at the top of the priority list for the banking operations. Lending among commercial started long time ago. For many years up to 2007, interest rates used as basis for lending were low among Western countries. This is because money in those countries at that particular time was cheap (Berend, 2013). In United States, some banks lent to poorer people who had less chance of paying back their loans than the

traditional customers (Maina, 2016). In an assessment of how lending practices influenced performance of commercial banks, Maina (2016) established that interest rates result in slowdown in borrowing but consequently result in positive financial performance in terms of revenues for commercial banks.

Several studies have examined the relationship between central bank regulations and financial performance of banks across the world. For instance, Vianney (2013) examined the effect that banking sector regulation had on financial performance of banks in Rwanda. The findings indicated that the various measures of regulation applied significantly explained the various in financial performance of banks. The focus of the study was on three regulations: capital requirement ratio, liquidity ratio and management efficiency ratio. In another study, Kipruto, Wepukhulu and Osodo (2016) examined how different regulations affected the performance of commercial banks in Kenya. The specific regulations looked at included: capital adequacy, asset quality, management efficiency and liquidity management. This study used financial performance as the dependent variable and not the loan book which represents the level of lending in an economy. This study sought to examine the effect that various banking regulation have had on the level of lending among commercial banks in Kenya.

1.1.1 Commercial Banks in Kenya

According to the Central Bank of Kenya, there are 43 licensed commercial banks in Kenya. Three of the banks are public financial institutions with majority shareholding being the Government and state corporations (CBK, 2016). The rest are private financial institutions. Of the private banks, 27 are locally owned commercial banks while 14 are foreign owned commercial banks. The banking industry in Kenya is regulated by the Central Bank of Kenya which is given the legal authority of formulating and implementing monetary and fiscal policies. The Central bank of Kenya is the lender of last resort in Kenya and is the banker to all the commercial banks operating in the country. The main duty of The Central Bank of Kenya is to ensure proper functioning of the Kenyan financial system, the liquidity in the country and the solvency of the Kenya shilling (CBK, 2016). However, the banking industry in Kenya faces a number of challenges stemming from unstable macroeconomic environment such as frequently changing interest rates and mandatory deposits. This is likely to affect their financial performance and the lending trends.

Commercial banks were selected because they have witnessed significant changes in regulations that have affected their lending over the past decade. First issue is formation of mergers and acquisitions resulting from bankruptcy issues for example Dubai and Chase Bank. Bankruptcy issues in some of these banks have been worse that they have been placed under statutory management. Some of commercial banks have also been affected by increased non-performing loans. All these issues are as a result of banking regulations and have had an effect on lending among commercial banks (Were & Wambua, 2014).

1.1.2 Banking Regulations

Banking regulations form a major part of the macroeconomic environment that is very critical in enhancing the financial performance of banks. The performance of banks and financial development of any economy are largely dependent on the short run stabilization of the monetary policy of any economy (Griffith-Jones & Rodriguez, 2016). Financial performance therefore plays a very significant role in implementation of banking regulations. There is a very high degree of interdependence between banking regulations implementation and the financial performance of commercial banks in an economy (Ju & Lo, 2012). The main reason behind this interdependence results from the fact that commercial banks are the main agents of banking regulations implementation within any economy. The performance of monetary policy would therefore depend entirely on the level of financial performance within the banking industry (Benhabib, Miao & Wang, 2014).

According to Kodongo (2017), banking regulations stability is very essential for financial stability in an economy and this also leads to stable asset prices. The study further asserts that stability in monetary policy simply implies that there is a stable and low rate of inflation in an economy. The monetary stability enables organizations to achieve high levels of financial performance because of the stable prices. However, Caruana (2005) further argues that having stability in banking regulations is not a guarantee that there would be no financial stress in the economy. The study further indicates that there are incidents when some developments in the financial sector may lead to financial stress and subsequent poor financial performance among the commercial banks.

The basic idea guiding banking regulations is the he CAMELS, which stands for Capital adequacy, Asset quality, Management, Earning and Liquidity and Sensitivity. In United Sates, CAMELS is used to rate commercial banks on a five-point scale, where banks scoring either 1 or 2 present few if any supervisory concerns. On the other hand, banks scoring either 3, 4 or 5 are deemed to present either a moderate or an extreme degree of supervisory concern. In India, Makkar and Singh (2013) established that there is a significant difference in the Capital Adequacy, Asset Quality and Earning Capacity of public and private sector banks in India, while there is no significant difference in the Management, Liquidity Position and Sensitivity to market risk of the two different banks groups. In Turkey, Yuksel, Dincer and Hacıoglu (2015) noted that the three components (Asset Quality, Management Quality, and Sensitivity to Market Risk) of CAMELS have effects on credit ratings whereas the ratios related to Capital Adequacy and Earnings are not effective. In an assessment of the effects of CAMEL variables on bank efficiency in Kenya, Kongiri (2012) indicated that Capital Adequacy, Earnings and Liquidity ratio have a negative relationship to efficiency ratio while Management quality and Asset Quality have a positive relationship.

1.2 Statement of the Problem

The collapse of some banks like Chase Bank, Dubai and Imperial Bank intensified the need for banking regulations among commercial banks to safeguard losses of customers in the event of collapse of banks. With this in mind, the Central Bank of Kenya in 2013 published Risk Management Guidelines for Commercial banks in Kenya. The other banking regulations that have an influence on operations of the central bank include Prudential Guidelines. However, the type of banking regulations that any given country adopts is a major determinant on the financial operations of most financial institutions operating in that economy. Banking regulations have the potential to trigger or inhibit investment activities through provision of affordable and denying access to credit respectively (Baker & Wurgler, 2015).

Commercial banks are usually considered around the globe as the most appropriate channels of implementing monetary policy by most Central Banks in many countries. This leaves the commercial banks in a vulnerable situation that is likely to affect their financial performance due to changes occurring in the macroeconomic environment. Kenya has experienced unstable macro environment in the last few years which led to changes in monetary policy. These changes in

banking regulations forced most of the commercial banks to shift the effects to their customers. Shifting these changes to customers may have an impact on the financial performance of the banks (Hoque, Andriosopoulos, Andriosopoulos & Douady, 2015).

Studies on banking regulations and bank performance indicate different results on the existing relationship; Ajayi and Atanda (2012) carried out a study on monetary policy and bank performance in Nigeria. The findings confirmed that bank rate, inflation rate and exchange rate are total credit enhancing, while liquidity ratio and cash reserves ratio exert negative effect on banks total credit. Another finding indicated that although only cash reserve ratio and exchange rate found to be significant. Taylor and Smits (2016) carried out a study on bank holding company regulation in Kenya, Nigeria and South Africa. The study established that various banking regulations measures instituted in the country over the years have directly and indirectly affected performance of the banking sector in a number of ways while includes banks' profitability, deposit and savings mobilization loans and advances. The effectiveness of bank's performances depends on the instruments used in macroeconomic policies and the prevailing economic conditions. In United States, Berrospide, Correa, Goldberg and Niepmann (2016) assessed the effect of regulation on International banking. From the findings, foreign country's tightening of limits on loan-to-value ratios and local currency reserve requirements increase lending growth in the United States through the U.S. branches and subsidiaries of foreign banks.

Kenya varies her monetary frequently and there is need to find out the effect of these variations on the performance of commercial banks. Furthermore, most of the above studies have focusses on financial performance and not lending. This is therefore a research gap the study sought to address by answering the question; what are the effect of banking regulations on lending among commercial banks in Kenya?

1.3 Objectives

1.3.1 General Objective

To assess the effect of banking regulations on lending among commercial banks in Kenya

1.3.2 Specific Objectives

To achieve this, the study was guided by the following objectives:

1. To determine the effect of liquidity management regulation on lending among commercial banks in Kenya
2. To assess the effect of management efficiency regulation on lending among commercial banks in Kenya
3. To establish the role of capital adequacy regulation on lending among commercial banks in Kenya
4. To determine the effect of asset quality regulation on lending among commercial banks in Kenya

1.4 Research Questions

1. How does liquidity management regulation affect lending among commercial banks in Kenya?
2. What is the effect of management efficiency regulation on lending among commercial banks in Kenya?
3. How does capital adequacy regulation affect lending among commercial banks in Kenya?
4. In which ways does asset quality regulation affect lending among commercial banks in Kenya?

1.5 Significance of the Study

The findings of this study would help in enlightening the key decision makers in the government and the Central Bank of Kenya (CBK) particularly on the impact of banking regulations on commercial banks. The information acquired from this study would be useful to policy-makers both in the government and the CBK for purposes of strengthening policy considerations in the banking sector. Such policy improvement may be handy in enhancing the guidelines on how to improve the performance and effectiveness of banks in an effort to enhance their lending programs for the benefit of the customers.

The study would be useful to other stakeholders like: investors and managers in formulating and planning areas of intervention and support for the lending products in the sector. The

management may borrow the information and use it to better improve the services and performance to reap the benefits. Finally, the study would provide information on the vision 2030 as regards commercial banks and their role in attainment of the vision.

Findings of the study would be particularly useful in providing additional knowledge to existing and future institutions on effect of banking regulations on lending among commercial banks in Kenya. This would expand their knowledge on effect CBK regulations on lending to further study. The study would be a source of reference material for future researchers on related topics; it would also help other academicians who undertake the same topic in their studies. The study would also highlight other important relationships that require further research.

1.6 Justification of the Study

Developing strong lending policies which is effective in the banking industry is an essential function. This study would assess how banking regulation affected lending among commercial banks. This study would therefore contribute towards formulation and development of sound banking regulation that would significantly influence lending among commercial banks. The study would come up with recommendations to the banking sector on regulations that would promote and encourage lending among commercial banks.

1.7 Scope

The study focused on 43 licensed commercial banks in Kenya. The study focused on banking regulations and their relationship with lending patterns of commercial banks. The study used secondary data which was collected from all the 43 licensed commercial banks in Kenya.

1.8 Assumptions of the Study

The study made the following assumptions: first, the study assumed that all listed commercial banks strictly follow the requirements, regulations and standards set by all regulators in the financial sector in Kenya. The study also assumed that all commercial banks in Kenya engage in lending activities. The study also assumed that all information for analysis of the research findings were readily obtained from regulatory bodies in Kenya in the financial sector including the Central Bank of Kenya and the Capital Market Authority.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter examines the past literature from early researchers that is appropriate to this study. The literature has been organized according to; theoretical review and an empirical review in terms of the study objectives. The chapter also explores the gaps in literature and a conceptualization on the relationships between research variables.

2.2 Theoretical Review

This section will present a review of the theories applicable to the study. They include the liquidity premium theory, portfolio theory, and credit market theory. It shows how the theories are used to connect to the variables in the effort to discuss the topic of study.

2.2.1 The Liquidity Premium Theory

This theory was proposed by Hicks (1945). The liquidity premium theory assumes that investors require a liquidity premium to induce them to lock up their funds for longer-term maturity. It therefore, states that the interest rate on a long-term bond will equal an average of short-term interest rates expected to occur over the life of the long-term bond, plus a premium that responds to supply and demand conditions for that bond. The liquidity premium theory modifies the expectations hypothesis by assuming that investors are risk averse; therefore, they will demand a premium for long term bonds because of interest rate risk.

The liquidity premium theory's main assumption is that bonds of different maturities are substitutes, but not perfect substitutes, which means that the expected return on one bond does influence the expected return on a bond of a different maturity (Heizer, 2016). Liquidity premium theory also allows investors to prefer one bond maturity over another. Investors tend to prefer shorter-term bonds because these bonds bear less interest-rate risk. As such, if the investors were to hold bonds of longer maturities they must be offered a liquidity premium to induce them to do so. It is appropriate to this study because it helps to expound on the first variable which discusses the liquidity management regulations.

Rephael, Kadan and Wohl (2015) in diminishing liquidity premium established that characteristic liquidity premium of U.S. stocks has significantly declined over the past 4 decades. Ali and Boadu (2016) used liquidity premium theory to analyze of the bid-ask spread and its implication for portfolio returns. From the findings, it was noted that during the financial crisis, the global stock market saw a substantial decline in asset prices and a period of high volatility, and periods of extremely tough markets total trade in. This theory links liquidity management regulation and lending among commercial banks in Kenya.

2.2.2 Credit Market Theory

The theory was formulated by Brunner (1952). The Credit Market Theory states that the terms of credits clear the market and that if collateral and other pertinent restrictions remain given, then it is only the lending rate that determines the amount of credit that is dispensed by the banking sector (Koch & MacDonald, 2014). Therefore, with an increasing demand for credit and a fixed supply of the same, interest rates will have to rise. Any additional risk to a project being funded by the bank should be reflected through a risk premium that is added to lending rate to match the increasing risk of default. Subsequently, there exist a positive relationship between the default probability of a borrower and the interest rate charged on the advance. It is thus believed that the higher the failure risks of the borrower, the higher the interest premium.

Although this theory does not explicitly discuss how collateral would affect the risk premium, it creates the impression that collateral has no effect on lending rate, and if a risky borrower would wish to face the same lending rate as a borrower with a lower risk, then all that is required is to pledge more collateral to lower his risk profile and therefore enjoy a lower risk premium. This brings about the ‘moral hazard’ and ‘adverse selection’ phenomena, firstly because of information asymmetry existing between the lender and borrowers (Bouwman, 2013). The borrower has a more accurate assessment of the risk profile of this investment that is not known by the lender and thus may perform secret actions to increase the risk of his investment without the realization of the lender. The adverse selection problem appears as lenders raise their interest rates to shield themselves from default and on the other hand attract only high-risk borrowers and eliminate low risk borrowers. Sassi (2014) looked at credit markets development and economic growth. Under credit market imperfections, the study predicted a negative effect of the development of consumer credit market and a positive effect of the development of investment

credit market on economic growth. This theory will help to explain the role of asset quality and capital adequacy regulations to lending in commercial banks.

2.2.3 Information Asymmetry Theory

The asymmetric information theory was advanced by Akerlof (1970) who won the Nobel Prize for their contribution to economic theory. Akerlof (1970) posited that there is a potential for market failure in situations where the buyer and seller possess asymmetrical valuation information as illustrated by the ‘lemons’ problem. Vickrey and Mirrlees, also nobel laureates, explored economic transactions in the real world, where not all players possess the same information about the costs and benefits of a given deal.

According to Cassar, Ittner and Cavalluzzo (2015), information asymmetry occurs when the owners of the business are more knowledgeable on risks and prospects of the business as opposed to lenders. Information asymmetry is a condition where the participants in any undertaking are not knowledgeable with relevant information. Information asymmetry in debt markets come about when borrowers that seek loans are well informed concerning the potential returns and risks in respect to the investments the funds are aimed at. On the other hand, the lender lacks significant informer as compared to (Moro, Fink & Maresch, 2015). There are two problems associated with information asymmetry that is the adverse selection and the moral hazards. The moral hazards entail (monitoring of entrepreneurial behavior) while and adverse selection entails (making errors in lending decisions).

When there is a market characterized by imperfect information, lenders are unable to have discrimination between several borrowers. It therefore becomes hard for financial institutions to control these challenges as monitoring and appraisal needs numerous resources which may not be cost effective in times when lending involves only small amounts. Furthermore, the lenders must incur cost to obtain information for screening and monitoring credit applications. Information asymmetry arises in financial institutions during assessment of lending (Bhattacharya, Desai & Venkataraman, 2013). Moreover, there is inadequate information for assessment of the commitment and the competence of entrepreneurs and this creates two types of risks for the Banker. Information asymmetry theory is applicable in this study as it shows how credit valuation can be done using information which would be relevant during the credit appraisal process by looking at credit policies and how they impact the financial performance

(Gao & Zhu, 2015). This theory is relevant for this study because it explains the role played by information on lending among commercial banks.

2.3 Empirical Review

2.3.1 Liquidity Management Regulations and Lending among Commercial Banks

Liquidity is, according to Owino (2013), a financial term that means the amount of capital that is available for investment. Currently, most of this capital is credit, rather than cash. Bank Liquidity simply means the ability of the bank to maintain sufficient funds to pay for its maturing obligations. It is therefore, the bank's ability to immediately meet cash, withdrawals obligations and legitimate new loan demand while abiding by existing reserve requirements.

Asset Liability management (ALM) is according to Alhassan, Brobbey and Asamoah (2013), the practice of managing a business so that decisions and actions taken in accordance to coordination of assets and liabilities to ensure effective utilization of a firm's resources so as to increase its profitability. ALM involves the management of the total balance sheet dynamics as well as the measurement of risks and conscious decision making with regard to asset liability structure in order to maximize the interest earnings within the framework of perceived risks. ALM is not only meant for risk eradication but also the management such that the volatility of net interest income is reduced in the short run and economic value of the bank is protected in the long run. The ALM function involves controlling the volatility of net income, net interest margin, capital adequacy, liquidity risk and ensuring an appropriate balance between growth and risk.

According to Bouwman (2013), a strong capital base in the banking system and in all its components is likely to limit future liquidity shocks management, this is a provoking idea for the management of the financial institutions to think about and act. However, how and when to act are the questions which led to asset liability management; a management tool to monitor and manage various aspects of risks associated with the balance sheet management, including the management of exposure of the financial institutions.

Guthua (2013) examined the effect of asset liability management on the liquidity risk of Commercial Banks in Kenya and concluded that banks have always been prone to runs because one of their principle social purposes is to perform maturity transformation, also known as time intermediation. In other words, they take demand deposits and other short-term funds and lend

them back out at longer maturities. Maturity transformation is useful because households and businesses often have a strong preference for a substantial degree of liquidity, yet much of the useful activity in the economy requires assured funding for multiple years. Banks square this circle by relying on the fact that households and firms seldom take advantage of the liquidity they have obtained. In particular, deposits are sticky. Demand deposits can theoretically all be withdrawn in a single day, yet their average balances show remarkable stability in normal times (Mili, Sahut, Trimeche & Teulon, 2016). Therefore, banks can lend out the funds for longer periods with a fair degree of assurance that the deposits will remain available or that equivalent deposits can be obtained from others as needed, perhaps with a modest boost in deposit rates.

Owino (2013) sought to establish the impact that credit reference bureaus have had on credit risk management, since their introduction, among selected commercial banks in Nairobi, Kenya. The study revealed that liquidity plays a crucial role in determining financial distress. The objective of liquidity management is therefore, to ensure that commercial banks capable of fully meeting their financial obligations in time. Banks liquidity is directly affected by asset liability management decisions in the management of the balance sheet of commercial banks. Asset liability management involves the management of the total balance sheet dynamics and it involves quantification of risks and conscious decision making with regard to asset liability structure in order to maximize the interest earnings within the framework of perceived risks.

2.3.2 Management Efficiency Regulations and Lending

The efficient management regulations involve the complexity and scope of a loan review system which varies according to the size of an institution, type of its operations, and management practices. Systems may include components that are independent of the lending function or may place some reliance on loan officers. Although smaller institutions are not expected to maintain separate loan review departments, it is essential that all institutions have an effective loan review system.

Richards (2017) conducted an investigation that focused on what management does to identify issues before they become problems. The author insisted that the identification and management of risk among groups of loans may be at least as important as the risk inherent in individual loans. The study noted that a loan portfolio management (LPM) which is the process by which risks that are inherent in the credit process are managed and controlled made it possible to

regulate loan management. Because review of the LPM process is so important, it is a primary supervisory activity. Assessing LPM involves evaluating the steps bank management takes to identify and control risk throughout the credit process.

Koch and MacDonald (2014), in the study titled; bank management; found out that it is the quality of a bank's loan portfolio that determines the risk to depositors and to the FDIC's insurance fund to a great extent. The study concluded that lending policies should be clearly defined and set forth in such a manner as to provide effective supervision by the directors and senior officers. This is because the board of directors of every bank has the legal responsibility to formulate lending policies and to supervise their implementation

Olokoyo (2011) conducted a study investigating lending policies and their impact on the levels of non-performing loans among commercial banks in Kenya and found a significant association between lending policies and non-performing loans. The study concluded that lending policies enabled the banks to lend prudently and lowered the risk level to the banks, and strict adherence to lending policies therefore has led to reduced non-performing loans.

2.3.3 Capital Adequacy Regulations and Lending

Capital adequacy is the range to which a bank's assets exceed its liabilities, which is also a measure of the ability of the bank to withstand a financial loss (Mili *et al.*, 2016). Bank regulators are extremely concerned about capital adequacy because their mandate is to prevent bank panics and contagions. For example, a bank that has a high ratio of capital to assets is likely to easily withstand a sudden loss than another bank with a low capital-asset ratio. For this reason, financial regulators have focused on capital adequacy, but regulations have evolved considerably over the years. From World War II until the early 1980s, regulators treated capital adequacy as just one factor in their evaluations of the overall health of a bank (Posner, 2015).

Batani, Vakilifard and Asghari (2014) sought to investigate the effect of capital adequacy regulations on savings and credit cooperative societies in Nairobi by comparing commercial banks to SACCOs to establish their relationship. The results of the study indicated that SACCOs had benefited significantly from the regulations in various ways such as, managing credit risk, improved public confidence, providing a safety net for members' deposits, provision of operating capital, increased lending capacity, providing a base for future growth, and preventing

insolvency. SACCOs had previously faced various challenges in complying with capital adequacy regulations. These were reduced pay-out on members' funds, recruitment of new members, restricted avenues for investment, and reduced lending capacity (Oloo, 2010). The SACCOs had engaged in strategies to meet capital adequacy.

According to Mili, Sahut and Trimeche (2014), efforts to meet Regulatory Standards is a major aspect common to various sectors that build any economy is the presence of a body with authority to determine standards of operation for the sector involved. Locally, banks are regulated by the Central Bank of Kenya, whereas insurance companies are regulated by the Insurance Regulatory Authority. Deposit-taking SACCOs are regulated by Sacco Societies Regulatory Authority, SASRA. The Central Bank of Kenya (CBK) is responsible for directing the minimum capital requirements as they apply to commercial banks and non-bank financial institutions. These guidelines have been heavily influenced by the Basel Accord. It states that an institution's minimum capital requirement will be calculated by dividing the total capital by the sum of the risk weighted assets for credit risk, market risk and operational risk. Institutions under these guidelines are required to maintain a core capital of not less than eight per cent of total risk weighted assets plus risk weighted off-balance sheet items, and not less than eight per cent of its total deposit liabilities; and a total capital of not less than twelve per cent of its total risk weighted assets plus risk weighted off-balance sheet items (Ogeto & Administration, 2014).

2.3.4 Asset Quality Regulations and Lending

Nyaundi (2015) noted that asset quality was as loan quality has been defined as the overall risk attached to the various assets held by an individual or institution. It measures how well a financial institution predicts the credit risk of their assets and how well they manage them. On the other hand, financial performance is a measure of how well a firm can use assets from its primary mode of business and generate revenues. This term is also used as a general measure of a firm's overall financial health over a given period of time and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation.

Nzoka (2015) sought to determine the impact of assets quality on the financial performance of commercial Banks in Kenya, between 2010 and 2014. The results of the study indicated that all the asset quality factors had a fairly statistical significant impact on financial performance. This was due to the fact that assets quality cannot solely determine the financial performance of

commercial banks, unless other factors such as capital adequacy, management efficiency, earnings performance and liquidity are considered. The relationship between asset quality and financial performance was confirmed to be negative. Based on the findings, the study recommended that for high assets quality levels to be achieved, improved investment assets levels and the low rate of Non-Performing Assets are to be realized through credit risk identification, measurement, monitoring and controlling.

Cheruiyot (2016) examined the persistence of bank asset quality on bank lending behavior in Ghana and found that the impact of the deterioration of bank asset quality (in terms of high levels of non-performing loans) on bank lending behavior is persistence rather than contemporaneous. Further, the study established that bank deposit mobilization, intermediation spread and equity influenced bank lending behavior.

According to Were and Wambua (2013), Banks always sought to maximize their risk adjusted rate of return by maintaining credit risk exposure within acceptable parameters. Credit risk is therefore; rose due to the use of collateral substitutes, heavy sector and geographical loan concentration and the effect of defaults. For most banks, loans are the largest and most obvious source of credit risk; however, other sources of credit risk exist throughout the activities of a bank, including in the banking book and in the trading book, and both on and off the balance sheet. Alhassan, Brobbey and Asamoah (2013) also maintain that banks are increasingly facing credit risk or counterparty risk in various financial instruments other than loans, including acceptances, interbank transactions, trade financing, foreign exchange transactions, financial futures, swaps, bonds, equities, options, and in the extension of commitments and guarantees, and the settlement of transactions.

2.4 Research Gap

The study has examined several studies on how bank regulation and lending in Kenya. Guthua (2013) assessed how asset liability management affected liquidity risk of commercial banks. Although this study was done in the banking sector, it however did not cover lending. This is similar to Owino (2013), whose study though done among commercial banks, it related to credit risk management unlike lending. This creates a gap which the current study seeks to fill. Olokoyo (2011) investigated how lending policies affected level of nonperforming loans NPLs

among commercial banks in Kenya. Although the study was on lending, it covered how such policies of lending affected NPLs. Bateni, Vakilifard and Asghari (2014) investigated how capital adequacy affected performance. The study however used SACCOs to compared with commercial banks. In comparison to commercial banks, SACCOs have limited scale of operations. Nzoka (2015) evaluated how asset quality affected financial performance of commercial banks. This results into conceptual, contextual and time frame gaps. This is because in the study (Nzoka, 2015), financial performance is different from lending of commercial banks. The study covered a period of 2010 to 2014. There has been significant development in the banking sector from 2014 to current that have had an influence on lending operations in the Kenyan commercial banks. The current study factored in these gaps in terms of time frame and the conceptual gaps.

2.5 Conceptual Framework

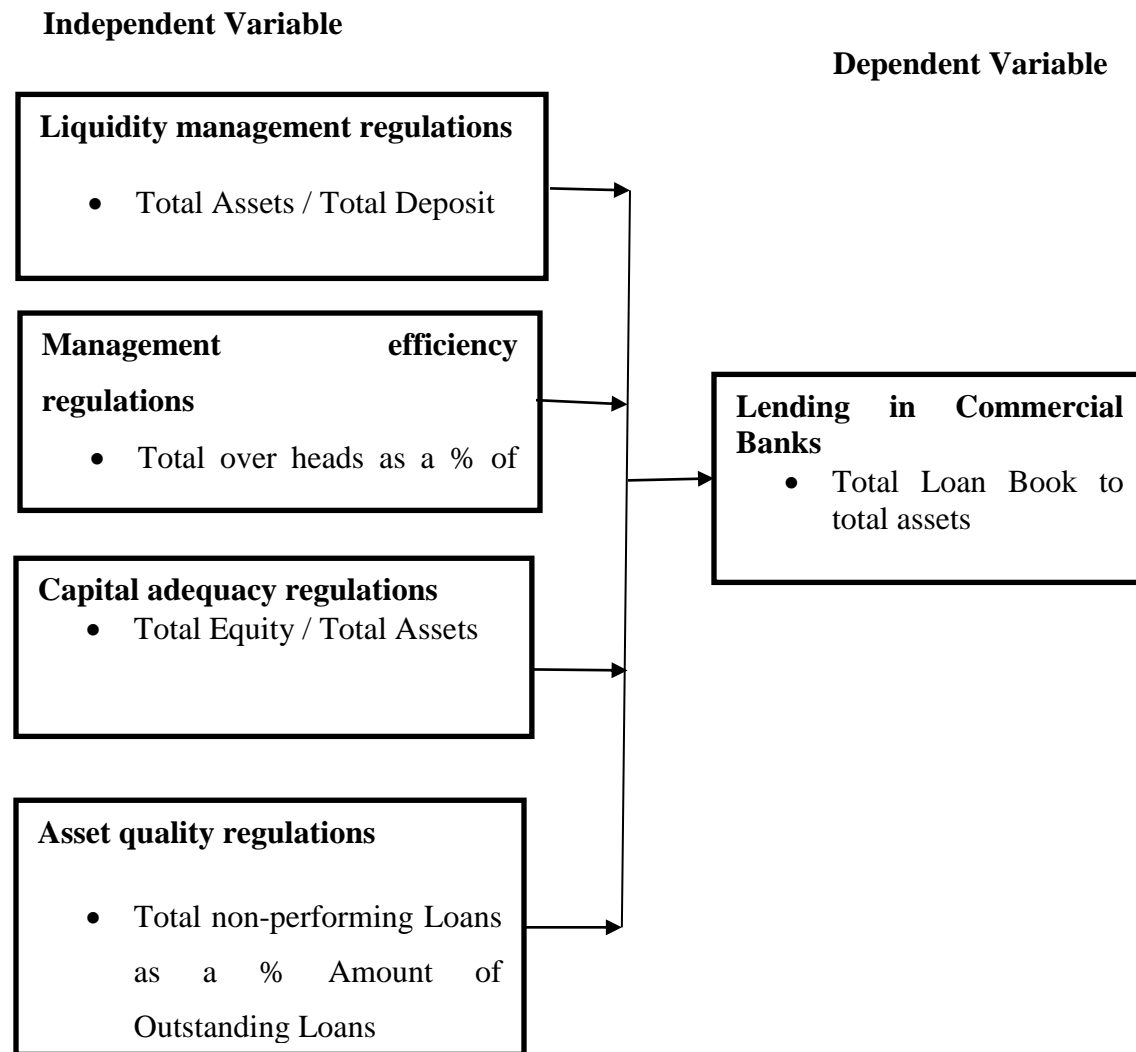


Figure 2. 1 Conceptual Framework

2.6 Operationalization of Variables

Table 2.1: Operationalization of Variables

Objective	Variable Type	Type of data	Kind of Measure
To determine the effects of liquidity management regulations on lending among commercial banks in Kenya	Independent Regulations and policies	Descriptive Regression	Current Assets/Current Liability
To assess the effects of management efficiency regulations on lending among commercial banks in Kenya	Independent Regulations and policies	Descriptive Regression	Total over heads as a % of Total revenue
To establish the role of capital adequacy regulations on lending among commercial banks in Kenya	Independent Regulations and policies	Descriptive Regression	Total Equity/ Total Assets
To determine the effects of asset quality regulations on lending in commercial banks in Kenya	Independent Regulations and policies	Descriptive Regression	Total non-performing Loans as a % Amount of Outstanding Loans
Lending in Commercial Banks	Dependent	Descriptive Regression	Total Loan Book to total assets

2.7 Summary of Literature Review

This chapter has reviewed the literature from different scholars that covered the three study variables (liquidity management regulations, capital adequacy regulations asset quality regulations, and asset quality regulations) Scholars such as Guthua (2013) who sought to establish the effect of asset liability management on the liquidity risk of Commercial Banks in Kenya, Owino (2013) who investigated the effect of the lending policies on the levels of non-performing loans of commercial banks in Kenya, and Nyaundi (2015) who sought to determine the impact of capital adequacy requirements on liquidity of commercial banks in Kenya. Other local studies include; Ogeto and Administration's (2014) the effect of interest rates spread and management efficiency on the growth of lending among commercial banks in Kenya, and Oloo (2010) who surveyed the banking survey report, the best banks this decade 2000-2009, think business limited, Kenya. Although the studies were focused on commercial banks in Kenya in

the recent past, they failed to focus on the policies that affected the lending process hence the gap in research.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

In this chapter, the researcher discusses the intended research design, target population, sampling technique and sampling size, data collection, data analysis and the ethical considerations for the study.

3.2 Research Design

The study adopted a descriptive research design. A descriptive research design determines and reports the way things are Maxwell (2012) observed that a descriptive research design is used when data are collected to describe persons, organizations, settings or phenomena. The design also has enough provision for protection of bias and maximized reliability (Creswell, 2012). This design was chosen because of its ability to build a profile on a phenomenon as the case is in the current study.

3.3 Target Population

The target population is a group of elements to which the researcher wants to make inference to make conclusion on characteristic of the whole population (Mugenda, 2008). The target population of this study comprised 43 commercial banks that operated in Kenya by December 2017. The use of commercial banks enabled the researcher to generalize the findings on the entire banking sector for informed decision making. The study used secondary data extracted from the published financial statements. Secondary data was used because it was readily available and saved on the costs to be incurred in the field when using questionnaires.

3.4 Sample Size and Sampling Procedure

A sample is a subset of the population that had similar characteristics as the population scientifically selected to represent the population. Since the unit of analysis is commercial banks in Kenya, the study targeted all the 43 licensed commercial banks as at December 2017. Since the population was small and easily accessible within Kenya, all the banks were included in the study hence a census study. There was no sampling. According to Mugenda and Mugenda

(2003), a census can be adopted when the population comprises of 200 or less items and are easily accessible to participate in the study.

3.5 Data Collection Instruments

Creswell (2002) defines data collection as means by which information is obtained from the selected subjects of an investigation. The study used secondary data which was collected from all the 43 licensed commercial banks in Kenya. Secondary data was collected on CBK Annual reports and relevant financial reports from respective commercial banks. Structured data collection sheet for secondary data was drafted. According to Neuman (2013), a data collection sheet refers to a ‘tool’ for collecting and recording secondary information about a particular issue of interest from published records.

3.6 Validity and Reliability

Validity of instruments is the degree to which an instrument used in the measurement process measures what it is supposed to (Kothari, 2004). Reliability on the other hand is the degree to which research instrument yields findings that are consistent every time it is administered to the same subjects (Yin, 2013). The study engaged experts in banking regulation and lending to establish the data collection sheet measures valid results.

3.7 Data Collection Procedure

Data collection is gathering empirical evidence in order to gain new insights about a situation and answer questions that prompt undertaking of the research (Kothari, 2004). A data collection sheet was filled by the researcher on examining records from the Bank supervision report at the Central Bank of Kenya. The use of data collection sheet was important in this case because it summarises the type of data sought by the researcher in a standardized format (Mugenda, 2008). The study collected data over a five-year period (2012-2016). The period was selected because numerous changes had occurred in the banking sector like passing of interest cap that had influenced lending of commercial banks.

3.8 Diagnostic Tests

The researcher carried out diagnostic tests to determine the fitness of the regression model. The specific tests that were performed include; Autocorrelation, Multicollinearity, Normality Test and Heteroscedasticity.

3.8.1 Multicollinearity

Multicollinearity (also collinearity) is a phenomenon in which one predictor variable in a multiple regression model can be linearly predicted from the others with a substantial degree of accuracy. It is a situation where one of the dependent variables in the model is highly related with the independent variable. Multicollinearity tests according to Iacobucci, Schneider, Popovich and Bakamitsos (2017) seek to determine whether two or more explanatory variables in a multiple regression model are linearly related. Multicollinearity was detected using the Variance Inflation Factor VIF. Multicollinearity was detected using Variance of Inflation Factor VIF. If VIF lies between 1 and 5, then there is no multicollinearity while VIF less than 1 or greater than 10 indicates presence of multicollinearity (Cohen, Cohen, West & Aiken, 2013).

3.8.2 Normality

Normality test was done to test whether the data set is normally distributed. Normality tests were used to determine if a data set is well-modeled by a normal distribution and to compute how likely it is for a random variable underlying the data set to be normally distributed. Normality was the likelihood that the collected data relating to a certain phenomenon was normally distributed over the population sample (Kothari, 2004). Gujarati and Porter (2009) recommend that before actual data analysis via regression analysis and correlation analysis, it is important to ascertain that the normality condition is met. Normality Tests was done using Skewness and Kurtosis. According to Kothari (2004), values of Skewness and Kurtosis between -2 and +2 indicate normality of the data set.

3.8.3 Autocorrelation Test

Autocorrelation is a characteristic of data in which the correlation between the values of the same variables is based on related objects (Hudson & Ishizu, 2016). Auto correlation therefore occurs where the covariance and correlation between different error terms are all not equal to

zero. That is the disturbances are independently distributed (Field, 2009). Autocorrelation was detected using Durbin Watson Statistics.

According to Field (2009), the value of Durbin Watson d lies between 0 and 4. If d equals 2, there is no autocorrelation. If d is substantially less than 2, there is positive serial correlation. If d is less than 1.0, the researcher should get concerned since small values of d indicate successive error terms are positively correlated. However, if d is greater than 2, it shows that the successive error terms are negatively correlated. Autocorrelation was done using Durbin Watson Statistics.

3.8.4 Heteroscedasticity

Heteroscedasticity is useful in examining whether there is difference in residual variance of the observation period to another period of observation (Godfrey, 2008). Regression analysis assumed that the variance of the error term remains constant across observations, if not the random variables are said to be heteroscedastic. According to Anderson, Sweeney, Williams, Camm and Cochran (2016), regression analysis is not optimal when heteroskedasticity is present because it gives equal weight to all observations when, in fact, observations with larger disturbance variance contain less information than observations with smaller disturbance variance. Additionally, the standard errors are biased when heteroskedasticity is present leading to bias in test statistics and confidence intervals (Machado & Silva, 2013). Heteroscedasticity was tested using scatter plots.

3.8.5 Hausman Test

Hausman Test was used to decide whether the model selected was fixed or random affect. P values less than 0.05 imply fixed rather than random effect.

3.9 Data Analysis Techniques

The collected data was inspected for completeness and accuracy to ensure that it conforms to records as per Central Bank of Kenya Supervision report. Data was then analyzed using descriptive statistics, correlation analysis and multiple regression analysis with the help of SPSS version 23.0.

The Panel data regression model for the study was specified as follows:

$$Y_{it} = \beta_0 + \beta_{1i}X_{1t} + \beta_{2i}X_{2t} + \beta_{3i}X_{3t} + \beta_{4i}X_{4t} + e_{it}$$

Where,

Y_{it} = Commercial Bank Lending (Total Loan Book) to total assets of bank i at time t

X_{1t} = Liquidity management regulations (Liquidity Ratios) at time t

X_{2t} = Management Efficiency Regulations (Management Efficiency Ratios) at time t

X_{3t} = Capital Adequacy Regulations (Adequacy Ratios) of the bank at time t

X_{4t} = Asset Quality Regulations (Asset Quality Ratios) at time t

e_{it} = is the error term

Whereby:

β_0 = the minimum Y when the rest of the variables are held at a constant zero

The analyzed data was presented in the form of tables, graphs and charts.

CHAPTER FOUR

RESULTS AND FINDINGS

4.1 Introduction

This chapter presents secondary data collected from the banks audited financial statements of 43 commercial banks regulated and supervised by Central Bank of Kenya. The section on diagnostic analysis test examines autocorrelation, multicollinearity, normality test and heteroscedasticity tests carried out on the study variable to establish the significance of the variables on the study. Data analysis was examined to establish the effect of independent variable on dependent variable. This chapter discusses the pre-estimation of the diagnostic test carried out on the data to evaluate its appropriateness on the envisaged analysis.

4.2 Diagnostic Tests

The researcher carried out diagnostic test to determine the fitness of regression model in establishing the effect of banking regulations on lending among commercial banks in Kenya. The findings normality, multicollinearity, autocorrelation and heteroscedasticity are indicated in the subsequent sections.

4.2.1 Normality

The researcher conducted normality test to establish whether the data was normally distributed. Normality test was conducted by use of skewness and kurtosis. According to Kothari (2004), values of Skewness and Kurtosis between -2 and +2 indicate normality of the data set. The findings are indicated in Table 4.2.

Table 4.1: Normality

	Mean	Std. Dev	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
liquidity	1.45	.207	1.25	.374	1.72	.733
Management	.589	.199	.454	.374	-.181	.733
Capital	.157	.024	.239	.374	.010	.733
Asset	6.65	3.75	.413	.374	-.396	.733
Lending	.588	.364	2.29	.374	5.56	.733

Table 4.2 shows that liquidity management regulations had a mean of 1.45 with standard deviation of 0.207, a Skewness of 1.25 and kurtosis of 1.723. This indicates that liquidity management regulation was both kurtosis and skewed therefore normally distributed. Management efficiency regulations had a mean of 0.589 with standard deviation 0.199, Skewness of 0.54 and kurtosis of -0.181. This indicates that management efficiency regulation was both kurtosis and skewed since the value ranged between +2 and -2. Capital adequacy regulation had regulation had a mean of 0.157 with standard deviation of 3.75, Skewness of 0.143 and kurtosis of -0.396. This shows that the variable was both kurtosis and skewed. Asset quality regulations had a mean of 6.65 with a standard deviation of 3.75, Skewness of 0.413 and kurtosis of -0.396 an indication that the variable was skewed and kurtosis. Since the values for kurtosis and Skewness were greater than -2 and +2 then lending in the commercial bank was not skewed and kurtosis.

From the findings, liquidity management regulation, management efficiency regulations, capital efficiency regulations and asset quality regulation were normally distributed since they were skewed and kurtosis. Lending in the commercial banks was not normally distributed since the variable was not skewed and kurtosis.

4.2.2 Multicollinearity

The researcher conducted multicollinearity test to establish whether the dependent variable was related with the independent variable. Multicollinearity was detected using the Variance Inflation Factor VIF. If VIF lies between 1 and 5, then there is no multicollinearity while VIF less than 1 or greater than 5 indicates presence of multicollinearity (Cohen, Cohen, West & Aiken, 2013). The findings are indicated in Table 4.3.

Table 4.2: Multicollinearity

	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
Liquidity Management Regulations	.248	4.03
Management Efficiency Regulations	.504	1.98
Capital Adequacy Regulations	.741	1.34
Asset Quality Regulations	.212	4.72

a. Dependent Variable: Lending in Commercial Banks

The findings in Table 4.3 indicates that liquidity management regulations had a VIF of $4.03 < 5$ an indication of no multicollinearity. Management efficiency regulation had a VIF of $1.98 < 5$ an indication of no multicollinearity. Capital adequacy regulations had a VIF of $1.34 < 0.5$ an indication of no multicollinearity and asset quality regulation had a VIF of $4.72 < 0.5$ an indication of no multicollinearity.

From the findings, independent variables (Management efficiency regulations, Capital adequacy regulation and Asset quality regulations) were not related to the dependent variable (Lending in Commercial Banks) since their VIF was less than 5. This is in agreement with Iacobucci, Schneider, Popovich and Bakamitsos (2017) who determined whether two or more explanatory variables in a multiple regression model are linearly related. Cohen, Cohen, West and Aiken (2013) stated that if VIF lies between 1-5, then there is no multicollinearity while VIF less than 1 or greater than 5 indicates presence of multicollinearity.

4.2.3 Autocorrelation

The researcher conducted autocorrelation analysis to establish whether covariance and correlation between different error terms are greater or less than zero. The researcher used Durbin Watson Statistics to detect Autocorrelation. The findings are indicated in Table 4.4.

Table 4.3: Autocorrelation

Model	Std. Error of the Estimate	Durbin-Watson
1	.08053	1.294

- a. Dependent Variable: Lending
- b. Predictors: (Constant), Asset, Capital, Management, liquidity

Table 4.4 shows that Durbin Watson value was 1.294 which is between 1 and 3, an indication that that there is no serial correlation on the variables. According to Field (2009), the value of Durbin Watson lies between 0 and 4. If d lies between 1 and 3, there is no autocorrelation. If d is substantially less than 1, there is positive serial correlation. If d is less than 1.0, the researcher should get concerned since small values of d indicate successive error terms are positively correlated. However, if d is greater than 3, it shows that the successive error terms are negatively correlated (Fomby & Guilkey, 1978).

4.2.4 Heteroscedasticity

The researcher conducted heteroscedasticity to examine the variance of error term remained constant across all the observations. The researcher conducted the test by us of scatter plot diagram. The findings are indicated in Figure 4.1.

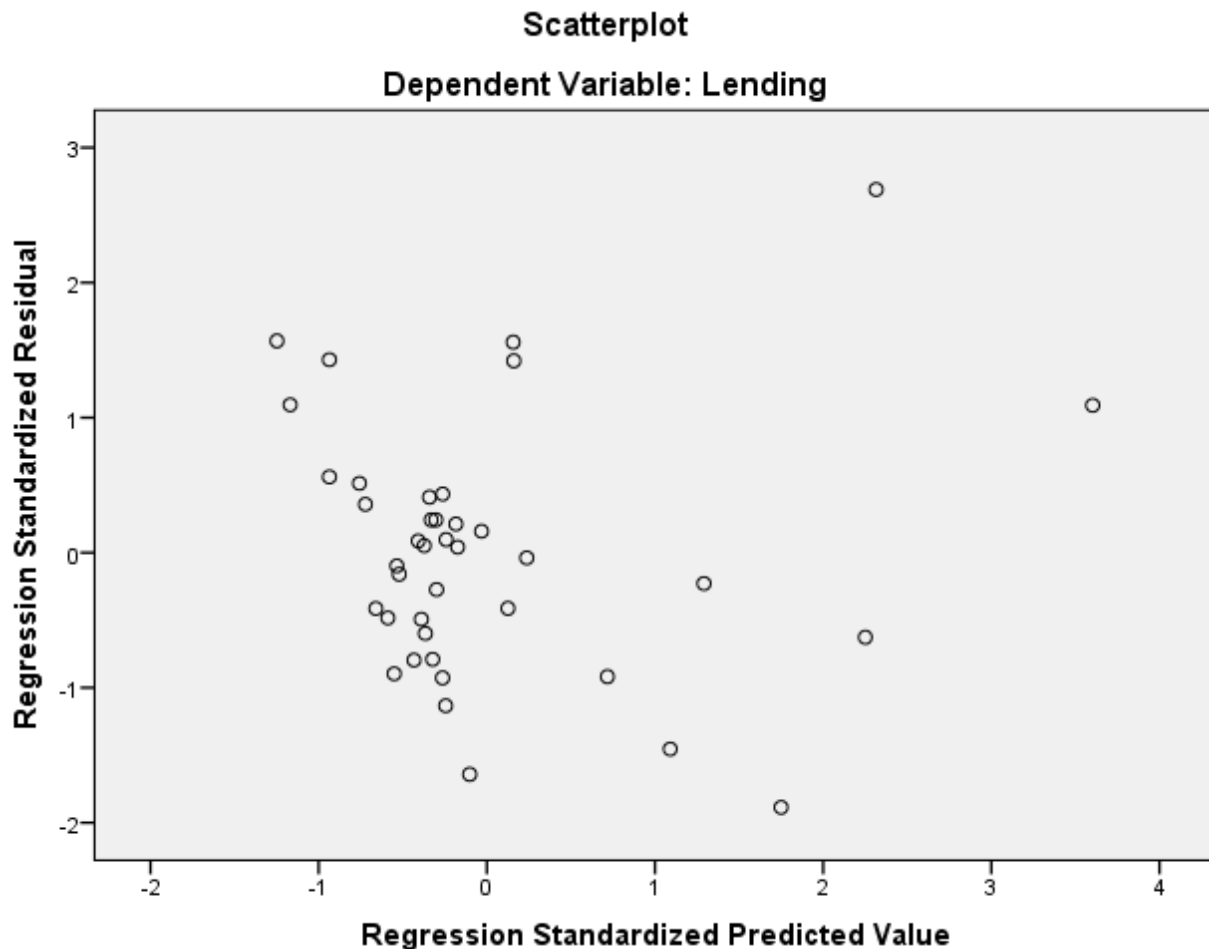


Figure 4.1: Heteroscedasticity

From the findings, Figure 4.1 indicates that the variance of the error term remained constant across observations since the plots had a uniform pattern; therefore, there was no presence of heteroscedastic among variables. This indicates that variance of error term remained constant across all the observations therefore, the error term was not biased hence reliable confidence intervals were sought. Machado and Silva (2013) indicates that standard errors are biased when heteroskedasticity is present leading to bias in test statistics and confidence intervals.

4.2.5 Hausman Test

The findings of the Hausman test are shown below.

---- Coefficients ----

	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	fixed	random	Difference	S.E.
AssetQuali~s	.0171361	.0103768	.0067592	.0063258
CapitalAde~s	1.403743	2.052225	-.6484822	.3993513
Management~n	-.2756606	-.2236226	-.052038	.1046732
LiquidityM~n	1.978564	1.920075	.0584893	.1780451

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

$$\chi^2(4) = (b-B)'[(V_b-V_B)^{-1}](b-B)$$

$$= 3.23$$

$$\text{Prob}>\chi^2 = 0.5204$$

Thus, this was a random rather than fixed effect as indicated by the findings.

4.3 Correlation Analysis

The researcher conducted correlation analysis to establish the relationship between banking regulations on lending among commercial banks in Kenya. The findings are as indicated in Table 4.5.

Table 4.4: Correlation Analysis

		Lending	liquidity	Management	Capital	Asset
Lending	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	40				
liquidity	Pearson Correlation	.956**	1			
	Sig. (2-tailed)	.000				
	N	40	40			
Management	Pearson Correlation	.509**	.626**	1		
	Sig. (2-tailed)	.001	.000			
	N	40	40	40		
Capital	Pearson Correlation	.333*	.183	.128	1	
	Sig. (2-tailed)	.036	.257	.431		
	N	40	40	40	40	
Asset	Pearson Correlation	-.703**	-.826**	-.676**	.094	1
	Sig. (2-tailed)	.000	.000	.000	.564	
	N	40	40	40	40	40

** . Correlation Is Significant at the 0.01 Level (2-Tailed).

Table 4.5 shows the findings of correlation analysis. Huber (2004) held that in the interpretation of results for the linear relationships in the study, for a weak correlation, “r” ranges from ± 0.10 to ± 0.29 ; in a moderate correlation, “r” ranges between ± 0.30 and ± 0.49 ; while in a strong correlation, “r” ranges from ± 0.5 and ± 0.9 .

Table 4.1 shows that liquidity management regulations have a strong Pearson correlation of 0.956, with a p value of $0.00 < 0.05$; an indication that the variable significantly influenced lending in commercial banks. Management efficiency regulations had strong a Pearson correlation of 0.509 an indication of strong positive correlation with lending in commercial banks, with the p value $0.01 < 0.05$ an indication that the study variable significantly influenced lending in commercial banks. Capital adequacy regulations had a Pearson correlation of 0.333 an indication of moderate positive correlation with lending in commercial banks, the p value was $0.036 < 0.05$ an indication of that the variable influenced lending in commercial banks. Asset adequacy regulation had a Pearson correlation of -0.703 an indication of strong negative

correlation with lending of commercial banks, the p value $0.00 < 0.05$ an indication that the variable significantly influenced lending in commercial banks.

The findings show that liquidity management regulations had the strongest Pearson correlation followed by asset adequacy regulations, management efficiency and capital adequacy regulations consecutively. The p values of the study variables were less than 0.05 an indication that the independent variables significantly influenced lending in commercial banks in Kenya.

4.4 Regression Analysis

The researcher conducted regression analysis to establish the effects of banking regulations on lending among commercial banks in Kenya. The findings of Model Summary, ANOVA and Regression Coefficients are as indicated in subsequent sections.

4.4.1 Model Summary

The findings of coefficient of correlation and coefficient of determinations was identified by the researcher. The findings are indicated in Table 4.6.

Table 4.5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.978 ^a	.956	.951	.08053

a. Dependent Variable: Lending

b. Predictors: (Constant), Asset, Capital, Management, liquidity

Table 4.6 shows that coefficient of correlation was 0.978; an indication that the study variable significantly influenced lending in the commercial bank. Coefficient of determination was 0.956 which translates to 95.6%. This indicates that variations in dependents variable was experienced by the independent variable (asset quality regulations, management efficiency regulations, capital adequacy regulation). The residual of 4.4% could be explained by other factors beyond the scope of the current study.

4.4.2 ANOVA

An ANOVA was carried out at 5% level of significant level. A comparison between $F_{\text{Calculated}}$ and F_{Critical} was carried out. The findings are indicated in Table 4.7.

Table 4.6: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	4.951	4	1.238	190.848	.000 ^b
Residual	.227	35	.006		
Total	5.178	39			

a. Dependent Variable: Lending

b. Predictors: (Constant), Asset, Capital, Management, liquidity

Table 4.7 shows that that $F_{\text{Calculated}}$ was 190.848 and F_{Critical} was 2.641. Since $87.982 > 2.641$ indication that the overall regression model significantly influenced the study. The p value was $0.00 < 0.05$ an indication that the study variables significantly influenced lending in commercial banks.

4.4.3 Coefficients

To determine the individual factor influencing effect of banking regulations on lending among commercial banks in Kenya, the following coefficient were generated.

Table 4. 7: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-2.466	.201		-12.281	.000
Liquidity management regulations	1.920	.125	1.096	15.420	.000
Management Efficiency Regulations	-.224	.091	-.123	-2.460	.019
Capital Adequacy Regulations	2.052	.612	.138	3.353	.002
Asset Quality Regulations	.010	.007	.107	1.391	.173

a. Dependent Variable: Lending in Commercial Banks

The following regression model is formulated based on findings in Table 4.7; $Y_{it} = -2.466 + 1.920X_{1t} - 0.224X_{2t} + 2.052X_{3t} + 0.010X_{4t}$

Where, Y_{it} = Commercial Bank Lending (Total Loan Book) to total assets of bank i at time t, X_{1t} = Liquidity management regulations (Liquidity Ratios) at time t, X_{2t} = Management Efficiency Regulations (Management Efficiency Ratios) at time t, X_{3t} = Capital Adequacy Regulations (Adequacy Ratios) of the bank at time t, X_{4t} = Asset Quality Regulations (Asset Quality Ratios) at time t

From the findings, if all factors (liquidity management regulations, asset quality regulations, management efficiency regulations, capital adequacy regulation) were held constant, lending in commercial bank would be at -2.466. A unit increase in liquidity management regulations when all other factors were held constant, lending in commercial banks would be at 1.920. A unit decrease in management efficiency regulations when all the other factors were held constant, lending in commercial banks would be at -0.224. A unit increase in capital adequacy regulation when all the other factors were hold constant, lending in commercial banks would be at 2.052. A unit increase in asset quality regulations when all other factors were held constant, lending in commercial bank would be at 0.173.

The p value of liquidity management regulations was $0.00 < 0.05$; an indication that the variable significantly influenced lending in the commercial banks. This is similar to a study by Owino (2013) who stated that the bank's ability to immediately meet cash, withdrawals obligations and legitimate new loan demand while abiding by existing reserve requirements. The study also stated that Banks liquidity is directly affected by asset liability management decisions in the management of the balance sheet of commercial banks.

The p value of management efficiency regulation was $0.019 < 0.05$; an indication that the variable significantly influenced lending in commercial banks. This is similar to a study by Richards (2017) who noted that a loan portfolio management (LPM) which is the process by which risks that are inherent in the credit process are managed and controlled made it possible to regulate loan management.

The P value of capital adequacy regulations was $0.002 < 0.05$; an indication that the variable significantly influenced lending in commercial banks. This is in agreement with Bateni, Vakilifard and Asghari (2014) who indicated that SACCOs had benefited significantly from the regulations in various ways such as, managing credit risk, improved public confidence, providing a safety net for members' deposits, provision of operating capital, increased lending capacity, providing a base for future growth, and preventing insolvency.

The p value of asset quality regulations was $0.173 < 0.05$, an indication that the variable negatively influenced lending in commercial banks. On the contrary, a study by Nyaundi (2015) stated that asset quality was as loan quality has been defined as the overall risk attached to the

various assets held by an individual or institution. It measures how well a financial institution predicts the credit risk of their assets and how well they manage them.

4.5 Discussions

Liquidity management regulation significantly influenced lending in commercial banks. This is supported by Alhassan, Brobbey and Asamoah (2013) who noted that liquidity management is meant to manage the volatility of net interest income which is reduced in the short run and economic value of the bank is protected in the long run. Liquidity management regulations involve controlling the volatility of net income, net interest margin, capital adequacy, liquidity risk and ensuring an appropriate balance between growth and risk.

Asset quality regulations negatively influenced lending in commercial banks. This is in disagreement with Cheruiyot (2016) who stated that the persistence of bank asset quality on bank lending behavior in Ghana and found that the impact of the deterioration of bank asset quality (in terms of high levels of non-performing loans) on bank lending behavior is persistence rather than contemporaneous. Similarly, Nyaundi (2015) noted that asset quality was as loan quality has been defined as the overall risk attached to the various assets held by an individual or institution. It measures how well a financial institution predicts the credit risk of their assets and how well they manage them.

Management efficiency regulation significantly influenced lending in commercial banks. This is similar to a study by Koch and MacDonald (2014) who established that lending policies should be clearly defined and set forth in such a manner as to provide effective supervision by the directors and senior officers. Similarly, Olokoyo (2011) indicated that lending policies enabled the banks to lend prudently and lowered the risk level to the banks, and strict adherence to lending policies therefore has led to reduced non-performing loans.

Capital adequacy regulations significantly influenced lending in commercial banks. This is in agreement to Mili *et al.* (2016) who stated that capital adequacy is the range to which a bank's assets exceed its liabilities, which is also a measure of the ability of the bank to withstand a financial loss. Similarly, Mili, Sahut and Trimeche (2014) stated that banks are regulated by the Central Bank of Kenya, whereas insurance companies are regulated by the Insurance Regulatory Authority in Kenya.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the overview of the research findings, conclusion and recommendations based on the study's objectives. The objectives of the study influencing effect of banking regulations on lending among commercial banks in Kenya were the following; asset quality regulations, management efficiency regulations and capital adequacy regulation. This chapter also suggests areas for further studies.

5.2 Summary of Findings

Commercial banks in Kenya were the main focus of the study. The effect of effect of banking regulations on lending among commercial banks in Kenya was studied. Secondary data was collected on CBK Annual reports and relevant financial reports from respective commercial banks in Kenya. The study focused on three research objectives; asset quality regulations, management efficiency regulations and capital adequacy regulation.

5.2.1 Asset Quality Regulations and Lending among Commercial Banks

From the findings, the p-value of asset quality regulations ($p=0.173$) is greater than 0.05. This shows that asset quality has an insignificant positive influence on lending among commercial banks. An increase in asset quality regulation leads to an increase in leading among commercial banks in Kenya. The finding contradicts Nzoka (2015) who sought to determine the impact of assets quality on the financial performance of commercial Banks in Kenya, between 2010 and 2014. It was revealed from this study that the relationship between asset quality and financial performance was confirmed to be negative.

The findings coincide with the findings of Were and Wambua (2013) who established a positive correlation between asset quality and total loans issued by commercial banks. The study notes that as the quality of assets controlled by the bank in the form of loans improve in quality, the total loan issued also increases. Alhassan et al. (2013) further noted that banks are increasingly facing credit risk or counterparty risk in various financial instruments other than loans, including acceptances, interbank transactions, trade financing, foreign exchange transactions, financial

futures, swaps, bonds, equities, options, and in the extension of commitments and guarantees, and the settlement of transactions.

5.2.2 Management Efficiency Regulations and Lending among Commercial Banks

Management efficiency regulations have a significant influence on lending among commercial banks. The beta coefficient of the regression was however negative denoting an inverse and significant relationship between management efficiency and lending among commercial banks. Management efficiency is reflected in the lending policies adopted by an organization. Olokoyo (2011) conducted a study investigating lending policies and their impact on the levels of non-performing loans among commercial banks in Kenya and found a significant association between lending policies and non-performing loans.

This is consistent with the findings of Richards (2017) who noted that as the level of efficiency decreases, the level of bad debts and provisions for bad loans increase which force commercial banks to reduce their loan book. This explains the inverse relationship between management efficiency and the level of lending among commercial banks. Koch and MacDonald (2014) noted that lending policies need to be clearly defined and set forth in such a manner as to provide effective supervision by the directors and senior officers if the level of bad debts and their provisions are to be maintained at low levels.

5.2.3 Capital Adequacy Regulation and Lending among Commercial Banks

The findings of the study indicated that capital adequacy has a significant influence on lending among commercial banks. The beta coefficient was positive from regression results indicating that an increase in capital adequacy would bring about improvement in lending among commercial banks. This finding is in line with Bateni, Vakilifard and Asghari (2014) who sought to investigate the effect of capital adequacy regulations on savings and credit cooperative societies. It was revealed from this study that SACCOs had benefited significantly from the regulations in various ways such as, managing credit risk, improved public confidence, providing a safety net for members' deposits, provision of operating capital, increased lending capacity, providing a base for future growth, and preventing insolvency.

Capital adequacy determines the lending levels of commercial banks because it determines the amount available for lending. As noted by Bateni et al. (2014), capital adequacy is the range to

which a bank's assets exceed its liabilities, which is also a measure of the ability of the bank to withstand a financial loss. Mili, Sahut and Trimeche (2014) noted that an institution's minimum capital requirement will be calculated by dividing the total capital by the sum of the risk weighted assets for credit risk, market risk and operational risk.

5.2.4 Liquidity Management Regulation and Lending among Commercial Banks

Liquidity management regulation significantly influenced lending among commercial banks. With a beta coefficient being positive, it shows that an increase in liquidity management regulation would significantly result into an increase in lending among commercial banks. Owino (2013) sought to establish the impact that credit reference bureaus have had on credit risk management, since their introduction, among selected commercial banks in Nairobi, Kenya. The study revealed that bank liquidity is directly affected by asset liability management decisions in the management of the balance sheet of commercial banks.

It is from being liquid that commercial banks can afford to extend credit facilities as and when clients apply. It is not possible for banks to create loans from the deposits that they do not have. Liquidity is related to the amount of capital that is available for investment. Bank Liquidity is about the ability of the bank to maintain sufficient funds to pay for its maturing obligations. It is therefore, the bank's ability to immediately meet cash, withdrawals obligations and legitimate new loan demand while abiding by existing reserve requirements (Guthua, 2013).

5.3 Conclusion of the study

The study concludes that asset quality has no significant influence on lending among commercial banks. Asset quality has a positive but insignificant relationship between asset quality and lending among commercial banks. Management efficiency regulations have significant influence on lending among commercial banks. There exists an inverse and significant relationship between management efficiency and lending among commercial banks. Capital adequacy had significant influence on lending among commercial banks. An increase in capital adequacy would bring about improvement in lending among commercial banks. Liquidity management regulation significantly influenced lending among commercial banks. An increase in liquidity management regulation would significantly result into an increase in lending among commercial banks.

5.4 Recommendations

The study recommends that commercial banks should improve client profiling for better management of non-performing loans for better risk taking. Commercial banks should redesign the operating for corporate loans developing a workflow management tool to facilitate collaboration between credit and commercial units. The study further recommends that commercial banks should optimize legal services and launch a legal collateral recovery data quality program.

The study further recommends that commercial banks should cut down their operating expenses for increased profits in the organization. The study further recommends that commercial banks should increase their revenue by increasing the number of customers, average transaction size and increase the frequency of transactions per customer. Commercial banks should also adopt technology for increased revenue. The study recommends that investors in the commercial banks should increase the amount invested. Commercial banks should increase the total number of assets and reduce the liability of the organization. The study further recommends that everything a company spends money on must be beneficial to operational efficiency for increased income.

The study recommends that commercial banks should increase liquidity management regulations for increased lending in commercial banks. Management should increase total amount of assets of their banks. The study recommends that administration of commercial banks should focus on simultaneously increasing total assets and total deposits.

5.5 Limitations of the Study

The study was limited to secondary data collected using data collection sheet. However, secondary sources may not offer first hand source of information to respondents. It was therefore good if both primary and secondary data were employed.

The study was limited to 43 commercial banks operating in Kenya. In short, the study was limited to the banking sector in Kenya. However, detailed comparison can be enhanced when other firms in the financial sector including SACCOs and microfinances were included. Thus, future studies should consider this.

5.6 Suggestions for Further Studies

The current study focused in the banking sector among commercial banks. Future studies should be done in other lending institutions including SACCOs. Additionally, the focus of the future studies could be on listed commercial banks on NSE. The current study was done using secondary data collected using data collection sheet. To enhance first hand source of information, future studies should use both primary and secondary data.

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APPENDICES

APPENDIX I: LIST OF COMMERCIAL BANKS

- 1) African Banking Corporation Ltd
- 2) Bank of Africa Kenya Ltd
- 3) Bank of Baroda Ltd
- 4) Bank of India Ltd
- 5) Barclays Bank of Kenya Ltd
- 6) CFC Stanbic Bank Ltd
- 7) Charterhouse Bank Ltd
- 8) Chase Bank Kenya Ltd
- 9) Citibank N.A Ltd
- 10) Commercial Bank of Africa Kenya Ltd
- 11) Co-operative Bank of Kenya Ltd
- 12) Credit Bank Ltd
- 13) Development Bank of Kenya Ltd
- 14) Diamond Trust Bank Kenya Ltd
- 15) Dubai Bank Kenya Ltd
- 16) Ecobank Kenya Ltd
- 17) Equatorial Commercial Bank Ltd
- 18) Equity Bank Ltd
- 19) Family Bank Limited
- 20) Fidelity Commercial Bank Ltd
- 21) Fina Bank Ltd
- 22) First community Bank Limited
- 23) Giro Commercial Bank Ltd
- 24) Guardian Bank Ltd
- 25) Gulf African Bank Limited
- 26) Habib Bank A.G Zurich
- 27) Habib Bank Ltd
- 28) Imperial Bank Ltd

- 29) I &M Bank Ltd
- 30) Jamii Bora Bank Limited
- 31) Kenya Commercial Bank Ltd
- 32) K-Rep Bank Ltd
- 33) Middle East Bank (K) Ltd
- 34) National Bank of Kenya Ltd
- 35) NIC Bank Ltd
- 36) Oriental Commercial Bank Ltd
- 37) Paramount Universal Bank Ltd
- 38) Prime Bank Ltd
- 39) Standard Chartered Bank Kenya Ltd
- 40) Trans-National Bank Ltd
- 41) UBA Kenya Bank Limited
- 42) Victoria Commercial Bank Ltd
- 43) Housing Finance Ltd

<https://www.centralbank.go.ke/index.php/bank-supervision/commercial-banks-mortgage-finance-institutions>

APPENDIX II: DATA USED

Liquidity Management Regulation	Management Efficiency Regulations	Capital Adequacy Regulations	Asset Quality Regulations	Lending Commercial Banks in
2.1	0.62	0.21	1.29	1.96
1.9	0.7	0.18	1.75	1.63
1.88	0.66	0.18	2.38	1.34
1.84	1.04	0.17	2.74	1.06
1.75	1.01	0.17	2.99	1.03
1.71	0.99	0.17	3.09	0.86
1.64	0.9	0.16	3.25	0.77
1.53	0.85	0.16	3.3	0.77
1.52	0.76	0.16	3.32	0.76
1.51	0.73	0.16	3.33	0.6
1.49	0.72	0.15	3.4	0.59
1.46	0.71	0.15	3.5	0.54
1.46	0.7	0.15	3.65	0.53
1.44	0.7	0.15	4.3	0.53
1.44	0.67	0.15	4.34	0.51
1.43	0.67	0.14	4.77	0.5
1.43	0.63	0.14	5.21	0.5
1.43	0.6	0.13	5.58	0.49
1.42	0.6	0.13	6.02	0.46
1.42	0.54	0.13	7.25	0.46
1.41	0.54	0.12	7.32	0.45
1.4	0.52	0.18	7.4	0.42
1.39	0.52	0.16	7.66	0.42
1.39	0.51	0.14	7.88	0.41
1.39	0.51	0.16	8.08	0.41
1.37	0.47	0.16	8.25	0.41
1.36	0.46	0.15	9.56	0.41
1.35	0.43	0.13	9.72	0.39
1.34	0.42	0.14	9.86	0.39
1.3	0.41	0.19	10.17	0.37
1.3	0.39	0.1	10.27	0.37
1.29	0.39	0.14	10.35	0.36
1.29	0.34	0.14	10.48	0.36
1.29	0.33	0.16	10.91	0.34
1.28	0.28	0.17	10.99	0.32
1.23	0.21	0.19	11.03	0.32
1.18	0.44	0.21	11.79	0.3

1.17	0.77	0.2	12.02	0.27
1.13	0.43	0.19	16.78	0.26
1.54	0.39	0.13	0.23	0.67