EFFECT OF INTEREST RATE CAPPING ON LOAN VOLUMES OF COMMERCIAL BANKS IN KENYA

PATRICK KIPKURUI KIPSANG

A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF SCIENCE IN FINANCE, SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI

NOVEMBER, 2019

DECLARATION

I, the undersigned, declare that this is my original work and has not been presented to any institution or university other than the University of Nairobi for examination.

Signed: _____Date: _____

PATRICK KIPKURUI KIPSANG

D63/71204/2014

This research project has been submitted for examination with our approval as the University Supervisors.

Signed: _____Date: _____

DAN CHIRCHIR

Lecturer, Department of Finance and Accounting

School of Business, University of Nairobi

Signed: _____Date: _____

DR. CYRUS IRAYA

Senior Lecturer, Department of Finance and Accounting

School of Business, University of Nairobi

ACKNOWLEDGEMENT

To God, who made all this possible. All glory unto him.

I sincerely acknowledge my supervisors, Dan Chirchir and Dr Cyrus Iraya, first and foremost, for agreeing to be my supervisors. I am grateful for their systematic guidance constructive criticism, open door policy and above all for the time and effort as they supervised me throughout the project process.

I also thank the university administration for providing a conducive environment in reference to infrastructure and other support that was directly or indirectly linked to the study.

Thank you to all my friends who contributed to the completion of this academic document both directly and indirectly. They provided me with logistical and moral support that gave me every reason to work harder and ensure that this study becomes a success.

DEDICATION

This project paper is dedicated to family, who have always encouraged and supported me throughout my life. They have been, and still are, the pillar of strength in my life. I thank you.

To my friends, finishing this project would have been impossible if it were not for your constant impetus in concluding this project. Also for your wonderful support and great input, you are much appreciated.

TABLE OF CONTENTS

LIST OF TABLES

ABREVIATIONS AND ACRONYMS

ANOVA   Analysis of Variance

CAR   Cumulative Abnormal Returns

CBK   Central Bank of Kenya

CBR   Central Bank Rate

CMA   Capital Markets Authority

GDP   Gross Domestic Product

KCB   Kenya Commercial Bank

NSE   Nairobi Securities Exchange

SPSS   Statistical Package for Social Sciences

ABSTRACT

The question of whether shifts in interest rates affect loan volumes of firms have been widely examined in both academic and policy circles and there are proponents and opponents in interest rate capping. This research attempted to find out how capping of interest rate influences loan volumes among banking institutions in the country. It adopted descriptive research design. Intended population was 42 commercial banks authorized by the Central Bank of Kenya. Statistics were scrutinized by means of descriptive, correlation and logit regression analyses. The correlation findings indicated before capping, asset quality and loan volumes of banks are negatively and substantially correlated (r=-0.449, p=000). After the capping, association between asset quality and loan volumes in these institutions remained negative and substantial but increased (r=-0.635, p=000). Logit results indicated a statistically substantial connection between asset quality (p=0.0277, OR=2.212524) and loan volumes of banks. The odds ratio OR=2.212524 implies that there is a significant difference on the effect of asset quality on loan volumes of banks in Kenya a result of interest rate capping. Logit results indicated statistically significant relationship between liquidity (p=0.0021, OR=1.179336) and loan volumes of commercial banks. The odds ratio OR=1.179336 implies that there is a significant difference on impact of liquidity on loan volumes of banks as a result of interest rate capping. The model results indicated a statistically significant relationship between capital adequacy (p=0.003, OR=0.939876) and loan volumes of commercial banks. The odds ratio OR=1.179336 implies that there is a significant difference on the effect of capital adequacy on loan volumes of commercial banks arising from interest rate capping. The study concluded that capital adequacy, asset quality, liquidity influences loan volumes of banks. This research recommends that banks should emphasize on other avenues of conducting business. For instance, leveraging by different product offerings in the market, as well as investing in other ventures to add onto the income from the main business. It will make banks more stable, which will increase the profit margins. The research suggests that banks should utilize existing resources accordingly to boost profit and carry out more functions. These entities ought to comply with existing rules, as established by the supervisory body. It will also reduce instances of having bad loans. The authorities will also be able to access relevant and timely information on banks' behaviors. This work adds that banking entities should incorporate proper risk managing policies in order to promote profits and reduce risks, subsequently adding more wealth for its shareholders.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

A key factors put into consideration by both the debtors and creditors in lending processes is loan pricing. Banks cannot levy loan charges that are too low which will not be adequate to indemnify the deposit cost given to depositors, expenditure from general operations and loss of revenue from non-performing loan book. Likewise, they are unlikely to levy too high charges that won't allow them to retain customers (Stiglitz & Weiss, 2001). The establishment of interest rate caps implies that commercial banks are limited on the extent to which they charge interest rates and this has a direct effect on their revenues which in effect may affect their lending levels. According to Yin and Yang (2013), changes in the central bank interest rate can affect individual bank's loan volume by changing the required rate of return.

The research derived heavily from loanable funds theory of interest rates, classical and financial repression theories. This theory supports that interest rates spread determination is founded on the market forces of demand and supply of loanable funds. Equilibrium rate of interest is recognized as level that equalizes supply and demand for loanable funds and this goes against interest rate capping. Classical theory posits that the economy is viewed as being able to regulate itself. As a result, it applies savings and investments to establish the equilibrium interest rate obtainable from the point where the investments and the savings curves intersect (Oost, 2002). Financial repression theory recognizes government direct control over the financial system and controlling the fiscal resources. Interest rate capping is one way in which the government can exercise this control.

1

In Kenya, the bill on interest rates cap was enacted on the 24th August 2016 and effected on 14th September 2016. This move aimed regulating interest rates required interest rates to be capped 4.0 percent more than rate of the central bank (CBR) (CMA, 2016). There have been arguments that these capping restrictions could mean unconventional lending of financial institutions like government borrowing and or absolute withdrawal from specific locales for example rural areas or market segments that are expensive or rural areas when the capping becomes unprofitable. The current study will ascertain whether the capping has affected loan volumes among banks in the country.

1.1.1 Interest Rate Capping

The cost a borrower incurs for using funds lent by a financial entity is its interest rate (Chovancova, 2001). An interest rate cap in turn is an apex advanced on rates of interest (Villegas, 1982). This determines possible highest interest rate banks could advance to users. Interest rate capping is used by the state to regulate the financial industry. Interest rate caps are alternatively described as interest rate that are acceptable to vary, but which can't exceed a declared interest cap. The interest rate can hence move up and down, but cannot at all go above the cap rate (Ariemba, Kiweu & Riro, 2015). Capping of interest rates indicates that, some lenders were restricted from issuing loans that attract a higher interest than the one accepted by law. This is mostly common when it comes to issues of transparency, limited disclosure need as well as low financial knowledge (Miller, 2013).

According to Miller (2013), many reasons which make governments choose to employ caps on rates of interest mostly consist of political and economic objectives. For instance, a reason would be in order to aid an industry which experiences failure, or sectors which may need better financial resources. A market failure normally results when financial

institutions are unable to distinguish among various risk selections, market information asymmetries and moral hazards. An interest rate cap is an important tool for supporting a sector till it gains the ability to sustain itself.

The capping of interest rates is also essential in protecting the public from exploitation from lenders, as well as protecting public interest through provision of affordable loans, thereby increasing investment and income flow. Also, the capping of interest rates is an avenue of considering all parties in lending, including low-income customers, hence a fight of social harm (OFT, 2010). Although it is theoretically easy, there is a large disparity in the ways or methods that the government initiates the capping of interest rates limits in loans. Many states are basing their own strategy on the religion related rules while others are using the flexible approaches that suit their economy. Some are just assumptions like, for instance no loans with interest rates exceeding say, 40% interest per annum, or 3% per month, instead of introducing a rigid rate that seem to be discriminative as well as exploitative. The sense of this is that, capping of interest rates with a rigid rate, also impact the economy at large extents, hence reducing the surplus, which is commonly used for investments (Helms & Reille, 2004).

1.1.2 Loan Volumes

Loan volumes represent combined loan amounts possessed in a financial entity (Barnor, 2014). It may also be loans owed to lenders, mostly labelled as assets on the statement of financial position. (Khan & Sattar, 2014). Credits generate considerable resources, and banks could incorporate this into their reports as some of the best sources of income. In light of this, banks may face risks of liquidity as any progress on assets depends on clients. (Kithinji, 2010). Hamisu (2011) notes how generating credit without is potentially risky to

both lenders and creditors. One of this risks is one party failing to adhere to the agreement on the required period will greatly jeopardize bank's businesses, hindering it from smooth operations. On one hand, operating accounts of high credit standing and corresponding chance with high liquidation risk places contributors' assets in great risk.

Total loans and advances are perceived to be the assets for the bank. As such the rise in lending to the public by banks directly implies the growth in the balance sheet for the bank and ultimately improved financial performance via increased interest earnings and loans by bank. On one hand, increased bank lending to the public implies welfare to the public via increased access to loans and advance that in turn increases their personal household consumption. As such the size of the bank, amount of demand deposits, the amount of loans and the level of capitalization of the bank all have a bearing in influencing resources available for lending to the public (Loderer, 2009).

There are no specific measures of a bank's loan levels. However, going by the changes that occurs in the financial statements these are the financial position statement and comprehensive income statement, one can determine whether the firm bank loan levels are increasing or not. The key indicators to establish the growth of credit level is increase in total assets which is given by increase in loans, advances and interest income (Loderer, 2009). This study will measure loan volume using loan book value in a given period.

1.1.3 Interest Rate Capping and Loan Volumes

Since interest rates capping tends results in adverse biases and market distortion, financial institutions are more comfortable advancing loans to low risk clients which creates massive inefficiencies in the activity of financial intermediation. Ramsey (2013) argues that this distinction eliminates those in dire need of financial support due to being classified as high

risk borrowers. However, financial institutions could still make profits despite government's interest rate capping by engaging in alternative income generating activities for example non-funded income and cost reductions. Interest rate capping restrictions may drive the need for unconventional lending in the industry for example lending to state or absolute withdrawal from specific sectors such as rural places or expensive market industries or rural areas when the capping becomes unprofitable (Helms & Reille, 2004).

Diamond and Rajan (2006) holds that the cost of borrowing is reduced by low interest rate, which in turn drives the investment activities and high consumer durables purchase. Banks may also ease lending policy given an expectation that economic activities will strengthen, thereby boosting spending power by businesses and households. Low interest rate may trigger investing into stocks, raising households' financial assets. The impact of this may be increased consumer spending, making firms' investment projects more attractive. The main concern for the empirical analysis arises from the fact that banks heterogeneously react to changes in monetary policy. These varied responses by commercial banks emanate from their diverse balance sheet dynamics. There are therefore other mechanisms that play an important role in influencing bank's lending activities despite change of policy on interest rate such as liquidity levels and bank size (Bolton & Freixas, 2006).

Stiglitz and Weiss (2001) posit that loan pricing or interest rate is a key factor that is put into consideration by both borrower and lending sectors while making lending decisions. Banks cannot levy loan charges that are too low which will not be adequate to cover costs of deposits paid, general expenses and loss of revenue from non-performing loan book. Likewise, levying too high charges may disallow any meaningful relationship with their clients. The pricing model should factor the adverse selection and a moral hazard incidence

from setting in since it is extremely difficult to gauge the behavior of individuals and firms from the onset of the relationship.

1.1.4 Commercial Banks in Kenya

A bank is a business which carries out, or intends to conduct banking activities in Kenya. Commercial banking business involves accepting deposits, giving credit, money remittances and any other financial services. The industry performs a very essential role in the financial industry with a lot of emphasis on mobilizing of savings and credit provision in the economy. As stated in the Bank Supervision yearly Report (2018), the banking industry is under the sole authority of the Central Bank which regulates the other banks. The industry also has 1 mortgage finance, 42 commercial banks and 13 microfinance banks. Among the 42 commercial banks in the country 30 Kenyan-owned banks while 12 foreign owned. 11 of 42 are listed at the NSE.

Over the last decade, Kenya has faced a rapid growth of banks loan levels resulting from the adoption of new technology and financial innovation. This has led to the introduction of new products and services which has increased accessibility, flexibility and convenience of banking products and service (Irungu, 2013). The sector is regulated according to Banks Act together with its Prudential Guidelines. Locally, banking sector is a key participant in this industry, primarily with addition of savings together with providing credit (Were & Wambua, 2013). The adoption of a monetary policy in the determination of the bank's market value together with specific factors such as current and future earnings, capital sources, prices of stock, returns to capital and desired capital structure affect banks' returns on stock (Lilian, Mungai & Eddie, 2014).

In Kenya, interest rates have been fluctuating over the last few years until recently when interest rate capping was assented into law on 24th August 2016 and this led to cap on rates at 4.0% more than (CBR) and floor on deposit rates at 70% of the same. The floor was however repealed in August 2018. In the past, the banking industry in Kenya has grown exponentially in terms of lending levels. The growth can be attributed to several valid factors such as resilience by banks to reduce their rates following the introduction of the KBRR (Cytton, 2016).

1.2 Research Problem

The question of whether shifts in interest rates affect loan volumes of firms have been widely examined in both academic and policy circles and there are proponents and opponents in interest rate capping. Proponents argue that establishment of rates of interest ceilings guards the public interest seeing to it that a reasonable and fair interest rate is advanced on loans. In this context, an interest rate cap could also be beneficial in the sense that it limits credit access to some low-income and impaired consumers, since they mitigate social harm (OFT, 2010). On the other hand, opponents argue that although the good intentions, interest rate caps could actually cause harm to populations of low-income by causing price transparency to reduce and limiting their access to finance (Maimbo & Henriquez, 2014).

Over the last decade, Kenya has faced a rapid growth of banks loan levels following the adoption of new technology and financial innovation. This has led to the introduction of new products and services which has increased accessibility, flexibility and convenience of banking products and services. Financial liberalization has promoted competition in the banking sector through fair and equitable banking practices with a strong emphasis on

access to banking services. However, the variation in interest rates in addition to the adoption of capping which was done during month of September in the year 2016 that regulated the rate of loans and amount they can pay for customer deposits might affect the loan levels of banks in Kenya and that is what the current study seeks to investigate.

Several studies have documented how capping affected different sectors of economy. However, a lot of research has been centered on effect of capping other variables apart from loan volumes. Nodeng, Rosenboom and Wang (2013) established the impact of state intervention on securities performance of the US during times of financial crisis. Their results showed bank capital provisions in the state positively impacted how borrowing companies perform. McClain and Meier (2013) did an examination of the costs and benefits of cap and trade, alongside an investigation of the actual functioning of the system in America. Their study revealed that the caps were responsible for the reduction of profits of financial institutions that ended up affecting the entire economy in development terms. Nkwoma (2014) noted that deregulating rates of interest of Nigerian banking industry increased lending, meaning greater-profit among banks.

In Kenya, Kimani (2018) conducted an investigation on how interest rate cap affected microfinance banks in the country and his results revealed that the move to cap interest rates created negligible impact on growth of these banks. His results showed that control of the interest rates wasn't a key determinant on the decision by commercial banks to give out loans. Maluki (2018) conducted an investigation on how the announcement of capping impacted share returns in commercial banks, and concluded prices of shares are significantly impacted by decision to cap interest rates. The results of the study indicate that the rate chosen by commercial banks significantly affects credit growth. Othigo (2017)

conducted an investigation on how the announcement of an interest rate cap affects the shares of Kenya's listed commercial banks. The results of his study showed a negative effect on share returns resulting from the interest rate cap. Kimunge (2017) conducted an investigation on how restricting interest rates by commercial impacted returns at the NSE. Results showed that capping of interest rates created progressive negative impact on earnings from stocks for banks. From foregoing, it is notable that there is no consensus on how capping influences loan volumes in banks. This present research intended to fill this void in the research by responding to the question: How does interest rate capping affect loan volumes of banks in the republic of Kenya?

1.3 Research Objective

This study sought to find out how capping rates affects loan volumes of commercial banks in the country.

1.4 Value of Study

Findings will be useful for future reference among investigators, students and scholars who seek to undertake studies on a similar or related area. This study will also benefit researchers and scholars to identify other fields of research by putting forward related topics which need further research as well as by the review of empirical studies to determine study gaps. This study has a great contribution to the banking sector's performance.

Potential investors as well as the existing ones in the banking industry will find this study useful in their investment undertakings. They shall be in a position to better appraise their investment targets and or portfolios; and so proceed to make appropriate decisions. Fund managers and financial analysts could also draw insights from the study for similar reasons as the investors as well as in making appropriate client advises or recommendations.

To government and organizations such as the Central Bank, in the formulation and implementation of policies and regulations governing monetary policies and interest rates to ensure stable rates that will advance growth in the economy while reducing its spiraling effects on the economy. This will contribute to the advancement of monetary development and improve the economy.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Section two aims to highlight theories that form the foundation of this study. In addition, previous empirical studies conducted before on this research topic and related areas are also discussed. The other sections of this chapter include determinants of loan volumes, conceptual framework showing the relationship between study variables and a literature review summary.

2.2 Theoretical Framework

Theoretical framework provides a foundation for understanding the theoretically expected relationship among the study variables and in this case interest rate and lending levels. The theories selected for this study are the loanable funds, classical and financial repression theories.

2.2.1 Loanable Funds Theory of Interest Rates

It was developed by Fry (1995);it argues in the loanable funds theory, there is an assumption that the interest rates charged usually are subject to determination by two market forces which are the loanable funds supply and credit demand. This theory focuses more on interest rates determination and long term interest rates explanation.

Loanable fund is the money the investors and entities in the economy have saved and intend to lend it to the potential borrowers. Using market forces of demand and supply, it explains rates of interest of existing loans. The supply of the loanable funds comes from the economic entities, government and individuals who opt not to spend but to save money for

investing. Investors lending at a rate here one way of capitalizing. Demand for the loanable monies arises from individuals and business who wants to finance their businesses and investments such as purchase of assets that increase in value with time e.g. land. As a result, borrower's choice to finance their investments through acquiring the credit facilities creates the demand for the loanable fund (Rocha, 1986).

As per the theory, determination of the spread of interest rates is founded on market forces of demand and supply of the loanable funds. Rates of interest are based on as level at which demand and supply for loanable equal. According to research by Claeys and Vander (2008), loanable funds theory explains the determinants of interest rate spread, because if people do not save with the banks, there is insufficient supply of the loanable funds and the banks will not be able to lend or give credit facilities to the borrowers. As a result, there will be higher demand for the credit facilities than the supply of the loanable funds. This high demand leads to banks charging high interest rates. This has a resultant effect of widened interest rate spread. The loanable funds theory assumes that there is existence of a perfect competition within the market such that, neither a borrower nor the lender can determine the prices of the securities. Also, it assumes there exist free mobility of the funds in the marketplace. This work is applicable to the research because it expounds on how prevailing interest rates in the market are determined.

2.2.2 Classical Theory

Classical theory significantly relate to its corresponding theory of economics. As per this theory, the economy is viewed as being able to regulate itself. As a result, it applies savings and investments to establish the equilibrium interest rate obtainable from the point where the investments and the savings curves intersect (Oost, 2002).

In an economy, individuals with surplus cash save their money in the banks as savings. This fund is available for borrowing by the economic entities that use the fund to invest in order to generate more income that will be saved in the banks as savings. If the savings exceed investments, it implies there is excess savings of the money than the investments. As a result, the interest rates drop until the borrowers can access the fund cheaper. Conversely, if the level of savings is less than the investments, the level of the interest rates will rise until it reaches the equilibrium point which is the point where the savers find the incentive or the reward to keep their money in the bank (Gelos, 2006).

When the interest rates increase, the savings in the economy increases because of rewards associated with increased rate on savings. Additionally, as the rate of interest charged decreases, the cost that is carried in the borrowing also increases leading to investments. When the savings increases, the lending rates decline which lead to increased investments from the ease of access of the money at a lower interest rate (Grenade, 2007). This theory aims at explaining the determination of interest rates in the market and so it is the relevant to the current study which focuses on interest rate capping.

2.2.3 Financial Repression Theory

The theory involves the implementation of policies that aim at enhancing government direct control over the financial system and controlling the fiscal resources. The government aim to reduce debt through channeling the funds to themselves. It does this through instituting a ceiling on the lending interest rates, directing the lending to the government and certain industries, regulating the movement of capital between countries and enhancing association that exist between the government and the banks (Gambacorta, 2004).

This has been criticized as it may lead to crowding out effect on the private sector. According to Roubini and Sala-i-Martin (1992), growth of the economy is restrained by the financial repression because the repression has negative consequences to the performance of the private sector. These negative consequences can be traced from the financial repression impact of generating inefficiency in capital allocation, lower rates of return to the savers and elevated costs of financial intermediation. The theory relates to the present research as it shows how government may interfere with the financial system by exercising direct control. Interest rate capping is one example of financial repression and so this theory forms a theoretical base for the current study.

2.3 Determinants of Loan Volumes

Factors that influence a bank's loan volumes can either be extraneous or interior to the firms each determining the output level. Factors found within the organization vary according to each bank and each determines the level of its lending. These factors accrue due to managerial decisions within the board. Those extraneous to the organization include; interest rates, volatility of the exchange rates, inflation, economic growth, money supply among others. Internally, these factors are corporate governance, size of firm, its leverage financially, liquidity, efficiency of its management, capital, power of the market etcetera (Athanasoglou, Brissimis & Delis, 2005).

2.3.1 Interest Rates

This is considered outlay of funds, and an upward or downward movement in interest rate could influence the savings choice of the financiers (Olweny & Omondi, 2010). According to Rehman, Sidek and Fauziah (2009), the use of an interest cap causes banks to decrease loans and provoke many of these foundations to abscond rural areas, due to significant

costs in production and perils. This in turn will lead to slowed growth of the banks. The banks can mitigate this situation by skyrocketing fees and other levies to arrest the situation. Barnor (2014) stated that, unexpected change in interest rate has an impact in investment decisions, hence investors tend to adjust their savings arrangement, generally from capital market to fixed profits securities.

According to Khan and Sattar (2014) interest rate affects growth either positively or negatively depending on its movement. A decrease in interest rate to the depositors and an increase in spread discourage savings. An increasing interest rate to the depositor adversely affects the investment. Banking sector is the most sensitive to movements in interest rates in comparison to other sectors because the largest proportion of banks' revenue comes from the differences in the interest rate that banks charge and pays to depositors.

2.3.2 Inflation

Inflation affects loan volumes of a bank positively or negatively depending on the ability of a bank to anticipate it. When a country anticipates inflation, banks adjust the rate of interest to ensure that revenues generated are higher than the cost of operation. Banks that do not anticipate an inflation fails to make proper adjustment and as a result the cost of operations increases at a higher rate than revenue generated. A rise in interest rates resulting from inflation is expected to discourage borrowers from borrowing funds and this is likely to reduce the lending levels. Boyd, Levine and Smith (2001) reported a negative relationship between inflation and loan volumes. However Ameer (2015) asserts that most studies have found a positive impact of inflation on loan volumes.

2.3.3 Economic Growth

A growing economy exhibits positive GDP which raises demand for loans (Osoro & Ogeto, 2014). Any rise in economic output may raise expected cash flows and, hence, trigger a rise in the loan volumes of banks with the reverse impact during recession being justified (Kirui et al., 2014). Existing empirical evidence indicate that the financial systems of advanced nations are more efficient (Beck et al., 2003). Banking sector development is also positively related to economic stability and monetary and fiscal policies. Countries with higher income have more advanced banking sectors compared to countries with low income (Cull, 1998).

Investors are mainly concerned with GDP reports since the overall economic health could be established through its measurement. The long run implication of healthy economic growth is higher corporate profits and improvement of bank lending levels leading to long term growth while the short term implication is unpredictable market trends even during positive economic growth seasons (Beck et al., 2003).

2.3.4 Firm Specific Factors

Firm specific factors also have an effect on their loan levels as reviewed hereunder. Capital Adequacy Ratio (CAR) determines the firm's ability to overcome situations that may threaten profits. According to Kamande (2017) the level of capital adequacy directly affects bank's lending levels by determining its ability to expand to risky areas. The greater the CAR, the more reduced the risk and the greater the profitability due to ability to absorb losses and minimize risk exposure. However, over reliance on the CAR might reduce bank profitability by reducing the need for deposits and other cheaper sources of capital leading

to slowed lending levels. Banks therefore need to ensure they maintain a quality portfolio of these assets as it determines their lending levels (Dang, 2011).

Asset quality shows a bank's asset risk situation and financial strength. Asset quality forecasts the degree of credit risk among the dynamics which affects the health status of banks. The value placed on assets controlled by a specific bank relies on the amount of credit risk, and the assets quality controlled through the bank also relies on liability to particular risks, tendencies on NPLs, and the cost-effectiveness of the debtors to the bank (Athanasoglou et al., 2005). Preferably, this ratio ought to be at a minimum. If the lending books are vulnerable to risk in a smoothly operated bank, this would be reflected by advanced interest margins. On the other hand, if the ratio decreases it entails that the risk is not being appropriately recompensed by margins.

Management efficiency influence lending levels and can be determined through organizational discipline and quality of staff. "It can be cited from various financial ratios for instance loan increment rate, earnings increment and total asset development rates (Kapaya & Raphael, 2016). It can also be determined by the quotient of operating expense to income which shows the degree of inefficiency. A higher increase in the operating expense than total income indicates that the management is inefficient."

The feasibility in the future of a firm depends on its ability to make superior returns by using its assets. The ability of a firm to earn enables it to raise more funds, increase capital and stand out competitively. The earning capability can be represented by net interest rate margin which shows the difference between the cost of interest bank's borrowed capital

and bank income of interest received on loans and securities (Owoputi, Kayode & Adeyefa, 2014).

Firm failures have been associated with insufficient liquidity. Holding liquid assets can help a firm to generate higher returns. Murerwa (2015) asserts that a positive correlation is in existence between the adequate level of bank liquidity and lending levels. Liquid asset protect firms against deposits that might require on demand payment and thus firm liquidity minimizes risk. However, liquid assets reduce the amount of funds for lending which in turn reduces bank profitability and in essence growth indicating negative relationship liquidity and lending levels.

Credit risk is the risk that firms face when customers fail to honor the debt obligations at maturity or due date. Banks are highly exposed to this risk as the main reason for bank's existence is grantng credit facilities (Kapaya & Raphael, 2016). Thus credit management remains critical to lending and survival of banks and failure to manage it may lead to financial distress. Magweva and Marime (2016) posit that credit risk significantly influences the return on assets of the firms by affecting the interest income they generate. Credit risk negatively affects the lending levels both in short and long run by reducing available funds for lending.

2.4 Empirical Review

Studies have been done both internationally and locally to establish how interest rates and loan volumes relate, but the results of these studies have been varied.

2.4.1 Global Studies

McClain and Meier (2013) did a study in the US to assess benefits and drawbacks resulting from cap and trade and also examined the expected functioning of the system. Their study established that the caps decreased the financial institutions' profit which had an effect on the entire economy regarding developments. The capping law was also an hindrance to trade between America and other nations since the costs exceeded the benefits.

Kanwal and Nadeem (2013) also in research, intended to ascertain the existing relationship between variables (GDP, inflation rate, interest rate) and profitability (given by ROA, ROE, and equity multiplier) among banks of Pakistan. The study covered a period 2001-2011 (ten years). Population comprised thirty-eight banks; a sample of twenty three listed banks was studied. Data was sourced from secondary sources and analysed using correlation analysis, descriptive statistics as well as pooled ordinary least squares regression analysis. The researchers find a strong positive association between profitability and interest rate, an insignificant optimistic connotation amid GDP and cost-effectiveness and a weak undesirable relationship amid inflation rate and bank productivity. To summarize, study concludes that there exists a weak association among the variables: earnings from banks and other variables.

Owoputi, Kayode and Adeyefa (2014) examined the impact of variables (both from within the bank and also external factors) on bank performance in Nigeria. The study obtained data from Nigerian Central Bank publications and reports of ten institutions from 1998 to 2012. Three macroeconomic variables were analyzed in this study namely: interest rate, inflation rate, and GDP. After applying a random-effect model, the researchers found a substantial and constructive bearing of the size of bank, and adequate capital on profit

margins. Liquidity ratio and credit risk have a undesirable correlation on banks monetary out show. Results from study showed that industry specific variables do not affect bank financial performance. Out of the three macroeconomic variables investigated in this study, the empirical results showed a substantial negative effect of interest level and inflation rate on bank cost-effectiveness while GDP growth has an insignificant relationship.

Shrestha and Subedi (2015) examined factors which determines how stock market in Nepal would perform. It utilized the multiple linear regression model to analyze data. Findings ascertained that performance of the ordinary market reacted absolutely to value rises and increasing capital, and depressingly to interest rates. Secondly, results showed accessibility of liquidity as well as low interest inspired how these markets performed.

Amarasinghe (2015) did research on active association involving interest rates and stock price: Empirical Evidence from Colombo Stock Exchange utilized regular data in seven years spanning 2007 – 2013, utilizing all share prices indexes. Granger Causality tests and regression analysis analyzed this data after stationary tests basing on Augmented Dickey Fuller Tests. Results showed substantial association between the rates of interest and costs of the securities market. "A depressing affiliation existed among the present variables. As the interest rates increased, amount of stocks from the same declined." The context of this study was different from the current study.

2.4.2 Local Studies

Othigo (2017) did research on how the capping announcement impacted the stock returns of listed Kenya's commercial banks. This researcher utilized an event study methodology with a window period of 40 days and an estimation period of 30 days. Collection of data

was made from NSE and NSE25 index was used as the benchmark for market prices. Using the market model ordinary least square regression and a 95% significance level, it was established that all financial institutions underperformed the market by registering negative CARs apart from KCB and Standard Chartered which exhibited negative CARs on the first day post the event. It was hence agreed that capping created substantial negative impact on share returns.

Mbua (2017) investigated the impacts of capping the rates of interest by the CBK among listed bank's shares at the NSE of Kenya. The correlations between the various variables were established using inferential statistics. This study used eleven banks which are listed at NSE and a census was conducted. Considering the lending rates made by investors on deciding if or not to invest, the research found that in quarter three and four of the year 2015, a negative association existed between lending proportions and rates of stock and an affirmative association observed amid lending rates and prices of securities in quarter three and four of 2016. Upon effecting interest rate cap, bank share prices significantly dropped and this shows that interest rates significantly influence the decision on whether to invest in bank shares or not.

Kimunge (2017) did research to assess impression of capping rates of interest on stock earnings at tNSE. The work analyzed w implementation of the Interest Rate Capping legislation that was enacted on 14th September 2016. The study analyzed the reaction returns of 11 listed banks 30 days before t law came to action and 30 days after the law came to action. Data was analyzed using Microsoft's Excel (2013). The study found out that only 18.18% (Kenya Commercial Bank and Stanbic CFC Bank) responded undesirably to the interest rate caps. All the other (81.82%) banks reacted positively. Further, the study

found out 7 (63.64%) commercial banks recorded negative abnormal returns while 4 (36.36%) commercial banks recorded positive abnormal returns in reaction to the interest rate capping law. However, none of the abnormal returns were found to be statistically significant.

Kimani (2018) focused on how caps impacted the development of banks in the country. All 11 microfinance institutions registered and operating in the country as at December 2017. Growth of microfinance banks was the dependent variable and was determined by profitability, customer deposits and loan book value. Secondary data was gathered in 10 quarters (5 of which were prior to interest rate capping and 5 following the introduction of caps). It utilized the descriptive cross-sectional research design and to analyze association of variables designated by the researcher, the multiple linear regression analysis. Findings showed capping is an insignificant determiner in all the three models.

Ngure (2018) studied how interest rate capping influenced credit growth among micro finance banks in Kenya. The selected population was 11 microfinance institutions allowed to engage in deposit taking CBK. Data was examined by descriptive, correlation and logit regression analyses. Discoveries presented existing noteworthy difference on effect of asset quality on credit growth of MFI banks resulting from interest rate capping. Logit results indicated a strong relationship between liquidity. The result further showed a substantial change on effect of liquidity on credit growth of microfinance banks resulting from interest rate capping. The model results also showed substantial alteration on how availability of capital influences credit growth of microfinance banks resulting from interest rate capping.

2.5 Conceptual Framework

Expected association in study variants is best explained using a conceptual model. The conceptual model developed below shows how interest rate capping and loan volumes of banks are related. The predictor variable is interest rate capping while loan volumes of commercial banks is the response variable that the study sought to address. The control variables characterized here are liquidity, asset quality and capital adequacy.

Figure 2.1: Conceptual Model

Predictor Variables   **Response Variable**

Interest Rate Capping Dummy variable that will take a value of 0 before capping and 1 after capping	⟶	**Loan Volumes** Log loan book value
Control Variables • Liquidity (current ratio) • Asset quality (non-performing loans to total gross loans) • Capital adequacy (ratio of total capital to risk weighted assets)	⟶	
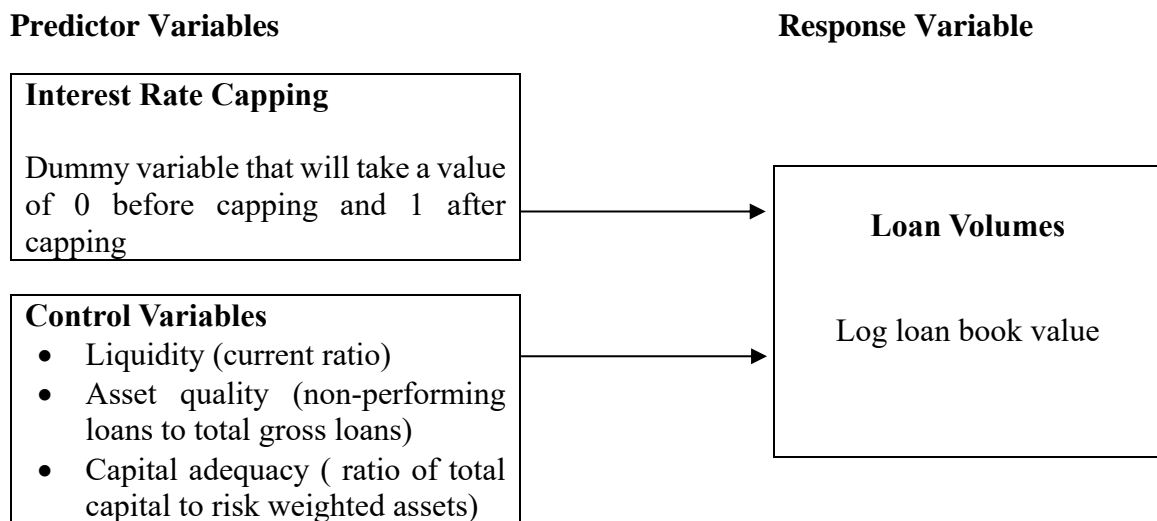
Source: Researcher (2019)

2.6 Summary of the Literature Review

This section has focused on concepts that form foundation in this study. Theories discussed here are namely; the loanable funds, classical and financial repression theories. The chapter has also focused on some of the elements that are expected to determine loan volumes of commercial banks. There have been previous studies carried out either in this area and/or related areas and their findings have been discussed under empirical review. From evaluating studies carried out, notably studies done locally have centered on how capping affects other factors other than loan volumes. This study was an attempt to seal the breach.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

To assess impact of caps in loan volumes of banks in the country, a research methodology was necessary to outline processes on which the research was done. This section includes; research design, data collection, and diagnostic tests and analysis.

3.2 Research Design

A descriptive design aided to ascertain how interest rate capping relates to loan volumes of banks in the country. It will be utilized as the investigator is interested in finding out the current state of affairs (Khan, 2008). The design is suitable in the research because investigator is familiar with the phenomenon under investigation but want to know more regarding the nature of associations between the variables of the study. In addition, a descriptive research aims at providing a valid and accurate representation of the study variables and this helps in responding to the research question (Cooper & Schindler, 2008).

3.3 Population

These are combined observations of interest from a collection such as persons or actions specified in research investigations (Burns & Burns, 2008). Choice for the research included all 42 banks that were in operation during the study period (See Appendix I).

3.4 Data Collection

Statistics sourcing was derived from secondary source. These were banks reports as well as CBK as it is a required for the commercial banks to submit their reports to the regulator. The data obtained covered 18 quarters, 9 quarters prior to the establishment of capping in

August 2016 (April 2014 to June 2016), 9 quarters after the law was introduced (October 2016 to December 2018). The specific data collected was; loan book value, current assets, current liabilities, risk weighted assets, capital, book value of total liabilities and non-performing loans.

3.5 Data Analysis

Collected data from commercial banks quarterly financial reports was organized in a manner that can help address the research objective. SPSS version 22 was employed for statistical analysis. The researcher quantitatively presented the findings using graphs and tables. Descriptive statistics was employed to provide a summary and an explanation of the elements as observed in the banks. The results were submitted using frequencies, percentages, measures of central tendencies and dispersion displayed in tables. Inferential statistics were made using correlation and logit regression analysis

3.5.1 Analytical Model

It adopted logistic regression analysis model to investigate the degree to which total disparity in the response variable (loan volume) influenced by variations in the predictor variables. Logistic regression is valid of this variable is to be measured on a dichotomous scale, if there are several independent variables which can either be constant (interlude or quotient variable) or clear-cut (ordinal or nominal), if this variable had an uncorrelated category and a linear affiliation exists amid incessant autonomous variables and logit transformation of the responding variable. This was utilized in the testing of the significance of explanatory variables in shaping changes of response variable. This model was employed;

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \acute{\varepsilon}$$

Where:

Y = Loan volumes as measured by the natural logarithm of loan book value on a quarterly basis

α =y intercept of the regression equation.

β_1, β_2, β_3, β_4 =are the slope of the regression

X_1 = Interest rate capping as measured by a dummy that will take a value of zero for the quarters prior to capping of the interest rates and a value of one for the quarters after the capping of interest rates

X_2 =Quality of asset as represented by the quotient of non-performing loans to total gross loans and advances per quarter

X_3 =Liquidity of a commercial bank as measured by the ratio of current assets divided by current liabilities on a quarterly basis

X_4 = Capital adequacy of a commercial bank as measured by the ratio of total capital divided by risk weighted assets.

ε =error term

3.5.2 Diagnostic Tests

Flowing analytical tests were piloted in order to guarantee regression analysis assumptions are not violated.

3.5.2.1 Multicollinearity

Correlation matrix will be engaged to check for Multicollinearity with the established cut-off point set at 0.8 (Gujarati, 2013; Cooper & Schindler, 2013). If the model fails to account for perfect Multicollinearity, the resultant effect would be indeterminate regression coefficients coupled with infinite standard errors. Imperfect Multicollinearity on the other

hand would produce large standard errors. The larger the standard errors, the less precise and less accurate rejection of the null hypothesis. During estimation process, problem lies not in lack of Multicollinearity but the severity level. If the correlation coefficient is larger than 0.8, then there exists severe Multicollinearity.

3.5.2.2 Autocorrelation

It used the Wooldridge test for serial correlation to establish existence of autocorrelation. Serial autocorrelation often emerges during the analysis of panel data and should be addressed so as to attain the correct model specification. Wooldridge (2012) argues that ignoring serial correlation results to inefficient parameter estimates and biased standard errors. This test's null hypothesis states that no serial autocorrelation exists. The feasible generalized least square (FGLS) estimation approach was employed if any serial autocorrelation is discovered in the data.

3.5.2.3 Heteroskedasticity

This assumption is found in Classical Linear Regression Model (CLRM) which desires testing and accounting for study. An assumption of the CLRM is error term is homoskedastic, this essentially taken to mean that it exhibits a constant variance. Lack of a constant variance means that heteroskedasticity is present in the data. Running a regression model without considering heteroskedasticity would cause bias in the parameter estimates and invalidate the standard errors. This study utilized the Likelihood Ratio (LR) test proposed by Poi and Wiggins (2011) to account for heteroskedasticity. The null hypothesis will state that the variance in the error term is homoskedastic. In order to dismiss the null hypothesis, the absence of heteroskedasticity should be determined from the study data, and this will be taken into account by running a FGLS model.

3.5.2.4 Stationarity Test

Since panel data contain cross-sections and time series, stationary in time series should be tested as estimation levels is hinged on the idea that variants are stationary. Therefore, estimating without incorporating time aspects may lead to bogus findings. (Gujarati, 2013). The researcher used Fisher-type test of unit root for the data. The benefit of this was that it created room for gaps, performing either Dickey-Fuller or Phillips-Perron tests in every panel, or reports four different findings. The null hypothesis of this test is that all panels have unit root. The alternate hypothesis is that at least one panel is not positive for unit roots or some panels are not positive for unit roots.

3.5.2.5 Normality Test

Normality test is used to examine the presumption that the residual of the controlled variable have a normal distribution around the mean. To determine normality, the Shapiro-wilk test or Kolmogorov-Smirnov test was applied. In case data failed the test, more data would be collected. The researcher also introduced natural logarithms on the collected data.

3.5.3 Tests of Significance

The researcher conducted parametric tests to establish the statistical significance of both the overall model and individual parameters. The F-test was employed to determine the significance of the overall model and it was obtained from Analysis of Variance (ANOVA) while a t-test was employed to establish statistical significance of individual variables.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

Findings are presented in this chapter. Findings presented relate with objectives of the study. The results were presented in tables form after analyzing descriptive and inferential statistics were carried out.

4.2 Descriptive Statistics

This shows descriptive results used in the work. This was used was conducted pre and post interest rate capping. The findings are shown in the table 4.1 below:

Table 4.1: Descriptive Statistics

	Interest capping	Asset quality	Liquidity	Capital adequacy	Loan volumes
Mean	Pre	0.1223	0.7424	0.3481	3.3934
	Post	0.0923	0.6500	0.3480	3.3500
Std Dev	Pre	0.1002	0.5962	0.3853	1.7722
	Post	0.0072	0.7480	0.3853	1.8680

Source: Research Findings (2019)

Descriptive results specified average asset quality of banks in the country measured on the ratio of non-performing loans to total loans was 0.1223 pre and 0.0923 post interest capping. The standard deviation was 0.1002 pre interest rate capping and 0.0072 post interest rate capping indicating that asset quality varied during the quantification period as a result of interest rate capping. Asset quality deals with the evaluation of firm non-performing loans so as to enhance the quantification of the level and size of credit risk related to its operation.

The average liquidity of banks in Kenya was 0.7424 before and 0.6500 after interest rate capping. The standard deviation was 0.5962 pre capping and 0.7480 post capping indicating that liquidity varied during the measurement period as a result of interest rate capping. This indicates that after interest rate capping liquidity of commercial banks reduced. Liquidity shows the ability of the banks to meet its cash duties within a specific day and age. Liquidity of the commercial banks fundamentally impacts the credit worth of the bank.

It was also established that average capital adequacy of banks in Kenya before interest capping was 0.3481. After interest rate capping, average capital adequacy of commercial banks dropped to 0.3480. The standard deviation was 0.3853 pre capping and 0.3853 post capping indicating that capital adequacy did not vary much during the measurement period as a result of interest capping. This influences the ability of a bank as far as meeting the time liabilities and various risks, for example, credit and operational risk. It protects the bank against potential risks.

The results show that the average loan volume of commercial banks in Kenya measured as natural logarithm of loan book value was 3.3934 pre interest rate capping and 3.3500 post interest rate capping. The standard deviation was 1.7722 pre interest capping and 1.8680 post capping indicating that loan volumes varied during the measurement period as a result of interest rate capping. This implies that interest rate capping led to a decrease in the total value of all the loans held by a bank.

4.3 Diagnostic Tests

Diagnostic tests were carried out before the regression model. In this case, the tests conducted were the panel unit root tests (Stationarity test), Multicollinearity test, Autocorrelation, Heteroskedasticity and test for fixed or random effects.

4.3.1 Multicollinearity Test

Multicollinearity can be defined as a statistical situation in which the present variables avail in a multiple regression model are highly linked. It's disagreeable condition in which the associations among predictor variables are significant. Different variables are said to be perfectly multicollinear in case one or more exact right connection can be derived from among the variables.

Table 4.2: Multicollinearity Test

Variable	VIF	1/VIF
Asset quality	2.05	0.487792
Capital Adequacy	1.48	0.677366
Liquidity	1.33	0.750329
Interest rate capping	1.26	0.795979
Mean VIF	1.53	

Source: Research Findings (2019)

VIF was used in values lesser than 10 for VIF, which shows lacking multicollinearity. For multiple regressions to be appropriate, no strong variables should exist among the variables. VIF Statistics was used to quantify multicollinearity. As seen through the results, VIF values less than 10 as shown in Table 4.2 pointing a lacking statistically weighty multicollinearity among the predictor variables (Asset quality, liquidity, capital adequacy and interest rate capping).

4.3.2 Autocorrelation Test

Associated terms through periods of time, were checked by conducting a serial correlation test. The Wooldridge test was used in assessing the existence of autocorrelation on linear panel statistics. This is a major challenge to analyze data and it has to be accounted for so as to get the correct model specification. Below are the results.

Table 4.3: Breusch-pagan Serial Correlation Test

Wooldridge test for autocorrelation in panel data
H0: no first-order autocorrelation
F(1, 665) = 2.840
Prob > F = 0.1095

Source: Research Findings (2019)

The null hypothesis is that there is no first order serial/auto correlation. The p value of 0.1095 > 0.05 shows the research doesn't reject the null hypothesis. Basing on this, it can be concluded that serial correlation is inexistent.

4.3.3 Heteroskedasticity Test

The research checked for panel level heteroskedasticity by use of the Likelihood Ratio (LR) as indicated through the Table 4.4 below. Tests used null hypothesis showing error variance was homoscedastic. A chi-square value of 42.39 was produced by the likelihood-ratio test with a 0.0000 p-value. The chi-square esteem was statistically significant at 1 percent level and in this manner the invalid speculation of consistent fluctuation was rejected meaning the nearness of heteroskedasticity to examine information suggested by Poi and Wiggins (2001). To deal with this issue the examination utilized the FGLS estimation method.

Table 4.4: Heteroskedasticity Test

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of loan volumes
chi2(1) = 42.39
Prob > chi2 = 0.0000

Source: Research Findings (2019)

4.3.4 Stationarity using ADF Test

In nature, many financial variables are mainly non-stationary and prior to running a regression analysis. The Unit root tests were therefore carried out by use of the Augmented Dickey-Fuller (ADF) test to determine if the variables were stationary or non-stationary. It was done prevent false regression findings from being attained by using non-stationary series. The table 4.5 below indicates variables were stationary at 1%, 5% and 10% levels. Thus, it was not necessary to differentiate some of the variables.

Table 4.5: Unit Root Tests at Level

Variable name	ADF test	1% Level	5% Level	10% Level	Prob	Comment
Loan volumes	-3.753547	-4.234972	-3.540328	-3.202445	0.0312	Stationary
Asset quality	-4.262276	-4.234972	-3.540328	-3.202445	0.0093	Stationary
Liquidity	-4.522157	-4.234972	-3.540328	-3.202445	0.0052	Stationary
Capital adequacy	-3.98997	-3.55267	-2.91452	-2.59503	0.0043	Stationary
Capping	-2.78574	-2.25267	-1.53674	-1.04693	0.0381	Stationary

Source: Research Findings (2019)

4.4 Correlation Analysis

Correlation demonstrates links among differing variables (Levin & Rubin, 1998). It showed the association between independent and response variables. The table below grants outcomes in analysis of connections. It was conducted pre interest capping and post interest capping.

This analysis was done pre and post interest cap. Results of the study are presented below. The correlation results indicated before interest rate capping asset quality and loan volumes of banks were undesirably and meaningfully linked (r=-0.449, p=000). After interest rate capping, the association amid the quality of an asset and corresponding volume of loans in banks remained negative and significant but worsened (r=-0.635, p=000). Before interest rate capping, the findings unveiled that liquidity and loan volumes of commercial banks are positively and substantially associated (r=0.291, p=007). However, after interest rate capping, the association between liquidity and loan volumes of commercial banks deteriorated (r=0.137, p=025).

Before interest rate capping, present findings showed availability of capital and loan volumes of banks were certainly and expressively related (r=0.204, p=.036). However after interest rate capping, the association between capital adequacy of commercial banks and loan volumes of banks weakened (r=0.142, p=065).

Table 4.6: Correlation Analysis

Interest rate capping	Loan volumes	Asset quality	Liquidity	Capital adequacy
Pre				
Loan volumes	1.000			
Asset quality	-0.449	1.000		
	0.000			
Liquidity	0.291	-0.122	1.000	
	0.007	0.376		
Capital adequacy	0.204	0.005	0.122	1.000
	0.036	0.971	0.373	
Post				
Post				
Loan volumes	1.000			
Asset quality	-0.635	1.000		
	0.000			
Liquidity	0.137	0.152	1.000	
	0.025	0.113		
Capital adequacy	0.142	0.020	0.192	1.000
	0.065	0.839	0.044	

Source: Research Findings (2019)

4.5 Regression Analysis

Logit regression model was conducted to investigate the degree to which variation in the dependent variable (loan volumes of commercial banks) is influenced by the variation in the independent variables. This was used to test significance of the independent variables in determining the variations in the dependent variable in both the pre and post interest rate capping periods. The logit regression model is shown below.

Table 4.7: Logit Regression Model

Loan volumes pre and post interest rate capping	Coefficient	Odds Ratio	Std. Err.	Z	P>z	[95% Conf.	Interval]
Asset quality	-.10566	2.212524	0.041477	2.547	0.0277	0.184061	366.4298
Liquidity	0.164952	1.179336	0.035222	4.683	0.0021	0.625872	2.222235
Capital adequacy	0.06201	0.939876	0.0147685	4.199	0.003	0.347702	2.540586
_cons	-0.36345	0.695276	0.329149	-0.747	0.443	0.274911	1.758421

Wald chi2(4)   =   35.38

Prob > chi2   =   0.0113

Pre Pseudo R^2 =   0.4312

Post Pseudo R^2 =   0.3618

Before interest rate capping the logit regression model established that asset quality, liquidity and capital adequacy explained 43.12% of loan volumes of banks in the country. However, after introduction of caps on the rate of interest in 2016, explanatory power of asset quality, liquidity and capital adequacy reduced to 36.18%. This implies the capping had an adverse undesirable impact on loan volumes of these banks.

In analysis, the whole framework was statistically substantial. Findings meant the predictor variables (liquidity, asset quality and capital adequacy) are decent forecasters of loan volumes in banks. The idea was reinforced by Wald figure of 35.38 and a p value (0.0113), lesser than the 0.05 significance level. Estimated model took the form below based on the results above;

$Y = -0.36345 - .10566X_1 + 0.164952X_2 + 0.06201X_3$

Where:

Y = Loan volumes of commercial banks

X_1 = Assets Quality

X_2 = Liquidity

X_3 = Capital Adequacy

4.6 Discussion of Research Findings

Model results showed quality of assets created undesirable and substantial association with loan volumes of banks in the country (β = -.10566, p=0.0277). It implies a unit rise in the quality of assets would create succeeding descent in loan volumes in commercial banks -.10566 units. P value indicated statistically significant relationship between asset quality (p=0.0277, OR=2.212524) and loan volumes of commercial banks. The odds ratio OR=2.212524 implies that there is a significant difference on the effect of asset quality on loan volumes of Kenyan commercial banks before and after interest rate capping. The outcomes concur with Liu (2011), he broke down effect of CAMEL framework variables on presentation of Chinese monetary establishments and discovered the eminence of properties has a critical and undesirable effect on enactment of banks. Notwithstanding, outcomes differ with Lucky and Nwosi (2015) , ho set up that that there is critical association between asset eminence and the success.

The model results further indicated that fluidity has an affirmative and significant relationship with loan volumes in banks in Kenya (β = 0.164952, p=0.0021). This implies that a unit rise in the liquidity of a commercial bank created a subsequent rise of loan volumes of commercial by 0.164952 units. The p value indicated statistically significant relationship between liquidity (p=0.0021, OR=1.179336) and loan volumes of commercial banks. The odds ratio OR=1.179336 implies that there is a significant difference on the

effect of liquidity on loan volumes of commercial banks as a result of interest rate capping. The outcomes additionally concur with Muraguri (2013) who found a positive connection among liquidity and financial performance of commercial banks in Kenya. The outcomes anyway differ with Lemara (2017) who completed an examination to decide the impact of liquidity on monetary enactment of institutions (DTMs) in the region, and discovered the immaterial connection among liquidity and performance of deposit taking commercial institutions in Kenya.

Further, the researcher showed the importance of having adequate capital on the volumes of loans among banks in the country. (β=0.06201, p=0.003). This would mean that increasing the amount of capital would create improvement on loan volumes of commercial banks by 0.06201 units. The p value indicated statistically significant relationship between capital adequacy (p=0.003, OR=0.939876) and loan volumes in banks. The odds ratio OR=0.939876 implies that there is a significant difference on the effect of capital adequacy on loan volumes of commercial banks as a result of caps. Findings correspond with that of Ezra (2013), who researched on factors which determine profits in banks within the region of sub-Sahara Africa. He showed that having enough capital ensured that the banks remained profitable even in the long haul.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

Study summarization as well as important discoveries, are presented in the section. Deductions derived are also presented. It also likewise features approach suggestions that commercial banks can embrace to enhance loan volumes of commercial banks. Finally the section presents recommendations for additional investigation that may be helpful to future researchers.

5.2 Summary of Findings

This work sought to assess the effect of caps on loan volumes in Kenyan banking institutions. It implemented descriptive research strategy. The target population were the 42 commercial banks authorized by the CBK. Descriptive, correlation and logit regression analysis methods also applied in analyzing the statistics.

Descriptive results show that the average loan volumes of banks in Kenya measured as natural logarithm of loan book value was 3.3934 pre capping and 3.3500 post capping. This implies that interest rate capping led to a decrease in the total value of all the loans held by a bank.

It was also concluded that the average asset quality of banks in Kenya measured by the ratio of non-performing loans to total loans was 0.1223 pre interest rate capping and 0.0923 post interest capping. The correlation results indicated before interest rate capping asset quality and loan volumes of commercial banks are negatively and substantially related (r=-0.449, p=000). After interest rate capping, the relationship between asset quality and loan

volumes of commercial banks remained negative and significant but worsened (r=-0.635, p=000). Logit results indicated that the model was statistically significant relationship between asset quality (p=0.0277, OR=2.212524) and loan volumes of commercial banks. The odds ratio OR=2.212524 implies that there is a significant difference on the effect of asset quality on loan volumes of Kenyan commercial banks as a result of interest rate capping.

The average liquidity of commercial banks in Kenya before interest rate capping was 0.7424 and 0.6500 after interest rate capping. Before interest rate capping, the results found that liquidity and loan volumes of commercial banks are positively and substantially associated (r=0.291, p=007). However, after interest rate capping, the association between liquidity and loan volumes of commercial banks deteriorated (r=0.137, p=025). Logit results indicated statistically significant relationship between liquidity (p=0.0021, OR=1.179336) and loan volumes of commercial banks. The odds ratio OR=1.179336 implies that there is a significant difference on the effect of liquidity on loan volumes of commercial banks as a result of interest rate capping.

It was also established that average capital adequacy of commercial banks in Kenya before interest rate capping was interest rate capping was 0.3481. After interest rate capping, average capital adequacy of commercial banks dropped to 0.3480. Before interest rate capping the correlation results showed that capital adequacy and commercial banks' loan volumes are positively and significantly associated (r=0.204, p=036). However after interest rate capping, the association between capital adequacy of commercial banks and loan volumes of commercial banks weakened (r=0.142, p=065). The model results indicated a statistically significant relationship between capital adequacy (p=0.003,

OR=0.939876) and loan volumes of commercial banks. The odds ratio OR=1.179336 implies that there is a significant difference on the effect of capital adequacy on loan volumes of commercial banks as a result of interest rate capping.

5.3 Conclusion

 A few conclusions which are imperative are made from the study results. The study found that the explanatory power of asset quality, liquidity and capital adequacy on loan volumes significantly reduced after interest rate capping and this implies that capping of interest rate had a negative effect on loan volumes among commercial banks in Kenya. It was also concluded that capital adequacy and liquidity of banks reduced after interest rate capping while asset quality improved after interest rate capping.

The study finds that asset quality is negatively and substantially associated with loan volumes of Kenyan commercial banks. Asset quality involves the assessment of firm assets with the end goal to encourage the estimation of the level and size of credit risk related with its activity. Sustaining sound asset quality includes watchful loans granting that must be analyzed and banking rules complied to. As a determinant of profitability, poor assets quality influences the financial performance and the stability of banking system.

A conclusion is made that liquidity has a positive and significant relationship with loan volumes of commercial banks. The essentialness of liquidity to organization performance prompts the conclusion that it decides the benefit level of organization. Liquidity is basic for existence of the organization. It chiefly affects financial costs decrease or development, changes in the business dynamic, and additionally it effects on organization risk level. The decisive significance of liquidity implies that it is imperative for organization advancement

and in the meantime it is one of the basic endogenous elements which are in charge of the position of the company market.

In view of the results above, the study reasons that capital adequacy has a positive and substantial relationship with loan volumes of Kenyan commercial banks. Banks capital assumes an imperative job in keeping up the wellbeing and solidarity of banks and the security of banking system since it prevents any sudden tragedies that banks may face.

5.4 Recommendations

The investigation suggests that commercial banks ought to put resources into different lines of business for instance product diversification and speculations to enhance their wage from the main business. This will support their solidness and add to profitability. It additionally prescribes that commercial banks should make most extreme utilization of their accessible resources for instance assets to support their profitability and successfully execute their main functions.

Commercial banks ought to agree to keeping money tenets and controls to maintain a strategic distance from the expanding occurrences of non-performing loans and the administrative experts ought to routinely get to the loaning conduct of the managing an account industry. The credit strategies of the commercial banks ought to be coordinated with the profitability destinations of the commercial banks and sound credit culture ought to be presented.

The investigation built up that asset quality adversely influences loan volumes of commercial banks. Continuing sound assets quality includes watchful giving of loans that must be analyzed and consistence to keeping money rules. As a determinant of profitability,

poor assets quality influences the financial performance and the soundness of the keeping money framework. The examination in this manner suggests usage of financial advancements for example prescient displaying to check credit value of borrowers to guarantee that high estimation of non-performing loans is limited.

The investigation discovered that liquidity has a positive and noteworthy impact on loan volumes of Kenyan commercial banks. The examination prescribes that commercial banks should expand their present assets in order to build their liquidity as it was discovered that an expansion in current proportion decidedly influence the loan volumes. The investigation additionally suggests that there is requirement for commercial banks to build their working income, through decrease of their credit reimbursement period with the end goal to emphatically impact their financial performance.

5.5 Limitation of the Study

The investigator encountered in studying encompassed contradiction in repossession of data and information from commercials available archives. Certain commercial banks didn't support their fiscal material for some ages. Nevertheless, it overcome by espousing unbalanced panel regression model.

The scope of the study was short. Interest rate capping was passed into law in October 2016. The period was too short to collect sufficient data to answer the study question. However, this challenge was mitigated by collecting quarterly data through the study period.

The study focused on commercial banks in Kenya. As a result we may not generalize the findings to other financial institutions including microfinance banks. The impact brought by interest capping solely apply to commercial banks covered in the study.

5.6 Suggestions for Future Research

Besides sufficient capital, quality of assets and liquidity ratios, there are other critical factors influencing loan volumes of commercial banking institutions. These include the existing regulation on loans, and efficiency of management. Any additional research on the topic should include selected variables.

This research was based on natural logarithm of loan book value, as a framework of assessing loan volumes. Despite this, there are other indicators that can be used to measure loan volumes. The indicators include loan delinquency, loan quality and net non-performing loans. Future research should attempt to assess effects of capping the rate of interest on loan volumes of commercial banks while measuring loan volumes using loan delinquency, loan quality and net non-performing loans as indicators.

The study focused only on commercial banks. Commercial banks were sharply impacted by the law introducing caps. Future research should involve other financial institutions such as MFIs by specifically focusing on MFIs. These may form a basis of comparison between the two segments of financial institutions.

The scope of the study was short. Capping passed into law in the country in October 2016. The period was too short to collect sufficient information to establish impact of the rate of interest on loan volumes among banks country. Future research may involve extending study period to make more conclusive results.

REFERENCES

Adjasi, C., & Biekpe, N. (2006). Interest rate and stock market returns in Africa, *African Finance Journal*, 8(2), 12-27.

Aggrawal, G. (2010). A study of exchange rate movement and stock market volatility. *International Journal of Business Management*, 5(12), 67-73.

Ali, A.(2014). Stock Markets, Corporate Finance, and Economic Growth: An Overview. *World Bank Economic Review*, 10, 223-239.

Aligonby, J. (2016 August 25). *Shares in Kenyan bank hit after interest rates cap move*. Financial Times

Amarasinghe, A. (2015). Dynamic Relationship between Interest Rate and Stock Price: Empirical Evidence from Colombo Stock Exchange. *International Journal of Business and Social Science*, 6 (4), 92-97

Asaolu, T. O. & Ogunmuyiwa, M.S. (2011). An econometric analysis of the impact of macroeconomic variables on stock market movement in Nigeria. *Asian Journal of Business Management,* 3 (1) 72-78.

Asian Development Bank Institute. (2009). Efficiency of Commercial Banks in SubSaharan Africa: A Comparative Analysis of Domestic and Foreign Banks. *Economic Development in Africa*, 1(1), 24-31.

Athanasoglou. P., Brissimis, S., & Delis, M, (2005). Bank-Specific, Industry-Specific and Macroeconomics Determents of Bank Profitability, *Bank of Greece*, No. 25.

Baker, M., & Stein, J. C. (2004).Market liquidity as a sentiment indicator. *Journal of Financial Markets, 7*(3), 271-299

Balparda, B., Caporale, G. M. & Gil-Alana, L. A. (2015). The Kenyan Stock Market: Inefficiency, Long Memory, Persistence and Anomalies in the NSE-20. *Working Paper No. 15-11.* Economics and Finance Working Paper Series

Barnor, C. (2014). *The Effect of Macroeconomic Variables on Stock Market Returns in Ghana (2000-2013).* Unpublished Dissertation. Walden University. Available at http://scholarworks.waldenu.edu/dissertations

Bekaert,G. (1998). *Regime Switches in Interest Rates*. Cambridge, Mass.: National Bureau of Economic Research.

Capera, L., Murcia, A. & Estrada, D. (2011). Efectos de los Limites a las Tasas de Interés sobre la Profundización Financiera. *Financial Stability Report*. Bogotá: Central Bank of Colombia

Central Bank of Kenya (2017). *Annual Reports*, Central Bank of Kenya, Nairobi.

Chandra, R. (2008). *Investment Analysis 3/E*. New York, NY: Tata McGraw-Hill Education.

Chovancova, B. (2001). *Effect of Interest Rates Movement on the Capital Markets of the developing Countries*. University of Economics in Bratislava

Claeys, S., Vander V, R. (2008). Determinants of Bank Interest Margins in Central and Eastern Europe: A Comparison with the West, *Economic Systems*, 32(2), 197-216.

Cooper, R., & Schindler, S. (2008). *Business research methods.* New York: Mc Grawhill

Crowley, J. (2007). Interest Rate Spreads in English-Speaking African Countries, International monetary fund, *Journal of Financial Economics,* 81, 283-309.

Cuthbertson, K. (2004). *Quantity Financial Economics: Stocks, bonds and Foreign Exchange*. Chichester: Wiley, Corporation.

Diamond. D, & Rajan. R (1998). *Liquidity risk, liquidity creation and financial fragility: A theory of banking,* University of Chicago, working paper

Erdugan, R. (2012). *The Effect of Economic Factors on the Performance of the Australian Stock Market.* Unpublished Dissertation. Victoria University, Melbourne

Fama, E. F. (1965). Behaviour of stock-market prices. *Journal of Business*, 38(1), 34-105.

Fama, E. F. (1970). Efficient Capital Markets: A review of theory and empirical work. *Journal of Finance, 25*, 383-417

Fama, E.F., Fisher, L., Jensen, M. & Roll, R. (1969). The adjustment of stock prices to new information. *International Economic Review*, 10, 1-21

Ferrer, R., Bolos, V. J. & Benitez, R. (2014). *Interest Rate Changes and Stock Returns: A European Multi-Country Study With Wavelets.* Universidad de Valencia.

Frenkel, J. A., & Razin, A. (2010). *Budget deficits and rates of interest in the world economy*. Cambridge, Mass.: National Bureau of Economic Research.

Galindo, A., Fabio Schiantarelli, and Andrew Weiss. 2007. Does Financial Liberalization Improve Allocation of Investment? Micro-evidence from Developing Countries. *Journal of Development Economics*, 83 (2): 562–87.

Gan, C., M. Lee, H. Y., & Zhang, J., (2006). Macroeconomic variables and stock market interactions: New Zealand evidence. Int. Manage. *Financial Innovation, 3(4): 89-101*

Gazi, S., Uddin, W. & Mahmudul, A. (2009). Relationship between Interest Rate and Stock Price: Empirical Evidence from Developed and Developing Countries, *International Journal of Business and Management,* 4(3),43-51

Gupta, J. P., Chevalier, A., & Sayekt, F. (2008). *The Causality Between Interest Rate, Exchange Rate and Stock Price in Emerging Markets: The Case of the Jakarta Stock Exchange*. Independent Researchers.

Hau, H. & Rey, H. (2002). Exchange Rates, Equity Prices and Capital Flows, *Journal of Empirical Finance*, 17(3), 44-59

Howells, P. & Bain, K. (2017).*Financial Markets and Institutions* (9th ed.). Longman

Humpe, A. & Macmillan, P. (2009). *Can macroeconomic variables explain long term stock movements? A Comparison of the US and Japan*. Working paper no, 17, Imprint.

Kanwal, S & Nadeem, M. (2013). The Impact of Macroeconomic Variables on the Profitability of Listed Commercial Banks in Pakistan. *European Journal of Business and Social Sciences,* 2(9), 186-201

Karolyi, G. A. (2001). Why Stock Return Volatility Really Matters, *Institutional Investor Journals Series*, 2(1), 1-16

Kasman, S., Vardar, G., & Tunç, G. (2011). The impact of interest rate and exchange rate volatility on banks' stock returns and volatility: Evidence from Turkey. *Economic Modelling*, 28(3), 1328-1334

Khan, J. A. (2008). *Research Methodology*. New Delhi. APH Publishing Corporation

Khan, W. A., & Sattar, A. (2014). Impact of Interest Rate Changes on the Profitability of four Major Commercial Banks in Pakistan. *International Journal of Accounting and Financial Reporting*, *4*(1), 142-147

Kitatia, E., Evusa, Z. &Maithya, H. (2015). Effect of Macro-Economic Variables on Stock Market Prices for the Companies Quoted on the Nairobi Securities Exchange in Kenya. *International Journal of Sciences: Basic and Applied Research*, 21(2), 235- 263

Maimbo, S. M., & Gallegos, C. A. (2014). Interest Rate Caps around the World: Still Popular, but a Blunt Instrument. *Policy Research Working Papers*. doi:10.1596/1813-9450-7070

Maimbo, S. M., & Henriquez, G. C., (2014). *Interest rate caps around the world: Still popular, but a blunt instrument*. Washington, D.C.: World Bank.

Malkiel, B. G., & Fama, E. F. (1970). Efficient capital markets: A review of theory and empirical work. *The Journal of Finance*, 25(2), 383-417

Maloba, I. (2016 September 28). *Impact of the capping of interest rates on the Kenyan economy*. Business Daily

Markowitz, H.M. (1952): *Portfolio Selection*. New York: John Wiley and Sons.

Masila, J., (2010). *Determinants of stock market development: The case for Nairobi securities exchange*. Unpublished MBA thesis. Nairobi: University of Nairobi.

Mbogha, I. A. (2015). *Variability of Mortgage Interest Rates and Real Estate Growth in Kisumu Town Kenya.* Unpublished MBA Project. University of Nairobi

McClain, B. W., &Meier, H. (2013). The US cap and trade initiative: current status and potential impact on business. *American Journal of Business*, 28(1), 7-18

McKinnon, R. I. (1973). *Money and capital economic development*, Brookings Institution (Washington, D.C.)

Mehwish, Z. (2013). Determinants of Stock Market Performance in Pakistan. *Interdisciplinary Journal of Contemporary Research in Business, 4*(5), 1017-18

Mendelson,M.,& Robbins,S. (2003).*Investment Analysis and Security Markets.* New York.

Miller, H. (2013). *Interest Rate Caps and Their Impact on Financial Inclusion*. Economic and Private Sector, Professional Evidence and Applied Knowledge Services.

Mishkin, F.S. & Eakins S. (2009). *Financial Markets and Institutions* (6[th]ed.). Pearson Prentice Hall.

Mishkin, R. J. (2004). From efficient markets theory to behavioral finance. *The Journal of Economic Perspectives,* 17(1), 83-104.

Murerwa, C. B. (2015). *Determinants of banks' financial performance in developing economies: evidence from kenyan commercial banks* (Doctoral dissertation, United States International University-Africa).

Muriuki K., (2014). *The effect of inflation and interest rates on stock market returns of firms listed at the Nairobi securities exchange*. Unpublished master's thesis. University of Nairobi.

Ngugi, E. N. (2014). *Effects of Lending Rates on Share Prices of Commercial Banks Quoted in the Nairobi Securities Exchange*. Unpublished MBA Project. University of Nairobi

Nkwoma, I. J. (2014). Interest Rate deregulation, bank lending & deposits: An analysis of Nigerian Bank data. *African Journal of Business & Economic Research*, 9(1), 89- 117.

Osamwonyi, I. O., & Evbayiro-Osagie, E. I. (2012). The relationship between macroeconomic variables and stock market index in Nigeria. *Journal of Economics, 3*(1), 55-63.

Pal, K. & Mittal, R. (2011). Impact of Macroeconomic Indicators on Indian Capital Markets. *Journal of Risk Finance*, 12 (2): 84-97

Ramsey, I. (2013). *To heap distress upon distress? comparative reflections on interest-rate ceilings.* The University of Toronto Law Journal, 60(2), 707- 730. Retrieved from http://www.jstor.org/stable/40801426

Sabri, N. R. (2008). *Financial Markets and Institutions in the Arab Economy*. Nova Science Publishers, NY.

Saleem, F. Zafar, L. & Rafique, B. (2013). Long Run Relationship between Inflation and Stock Return: Evidence from Pakistan. *Social Sciences and Humanities, 4* (2), 407 – 415

San, O & Heng, T. (2013). Factors affecting the Profitability of Malaysian Commercial Banks. *African Journal of Business Management*, 7(8), 649-660

Sariannidis, N., Giannarakis, G., & Litinas N (2010). The Effects of Macroeconomic Factors on the Sustainability, Large-Cap and Midcap Dow Jones Indexes. *Int. J. Bus. Policy Econ.*, 3(1): 21-36

Shostak, F. (1997). In Defence of Fundamental Analysis: A critique of the efficient market hypothesis. *The Review of Austrian Economics Rev Austrian Econ*, 10(2), 12-19.

Shrestha, P. K. &Subedi, B. R. (2015). Determinants of Stock Market Performance in Nepal. *NRB Economic Review*. NRB Working Paper series, NRB-WP-24

Sireesha, P. B. (2013). Effect of Select Macro Economic Variables on Stock Returns in India. *International Journal of Marketing, Financial Services & Management Research,* 2 (6), 197-207

Širucek, M. (2013). *The Impact of the Money Supply on Stock Prices and Stock Bubbles*. Mendel University

Sloman, A.N & Kevin, J. (2007). *Economics for Business*. Prentice Hall, Financial Times.

Solnik, B. (1987). Using financial prices to test exchange rate models. *Journal of Finance*, 1(1), 141-149.

Subhani, M., Osman, R. & Gul, R. (2010). Do Interest Rate, Exchange Rate effect Stock Returns? A Pakistani Perspective." *International Research Journal of Finance and Economics,* 50(4), 146-150

Thang, F. Z. (2009). *Impact of interest rates and exchange rate on stock market index in malaysia.* Unpublished master's thesis, University of Malaysia.

Tobin, J. (1958). Liquidity preference as behavior towards risk, *The Review of Economic Studies*, 25, 65-86.

Uddin, G. & Alam, A. (2009). Relationship between Interest Rate and Stock Price: Empirical Evidence from Developed and Developing Countries (2009). *International Journal of Business and Management* 4(3), 43-51

Villegas, D. (1982). An Analysis of the Impact of Interest Rate Ceilings. *The Journal of Finance,* 37(4), 941-954

Waqar, H. & Mustabsar, A. (2015). Behaviour of Macroeconomic Forces to Predict Stock Returns: Empirical Evidence from Global Financial Markets. *European Academic Research,* 3(3), 3674-3698

Were, M. & Wambua, J. (2013). Assessing the determinants of interest rate spread of commercial banks in Kenya: An empirical investigation. KBA Centre for Research on Financial Markets and Policy Working Paper Series 01/13

Wongbangpo, P. & Sharma S. (2002). Stock Market and Macroeconomic Fundamental Dynamic Interactions: ASEAN – 5 Countries. *Journal of Asian Economics*, 13(1), 27 – 51.

Yartey, C. A., & Adjasi, C. K. (2007). *Stock Market Development in Sub-Saharan Africa: Critical Issues and Challenges*. IMF Working Paper No. 07/209. IMF.

Yin, H. & Yang, J. (2013). Bank characteristics and stock reactions to federal funds rate target changes. *Applied Financial Economics*, 23(23), 1755-1764.

APPENDICES

Appendix I: List of Commercial Banks in Kenya as at 31st December 2018

1. ABC Bank (Kenya)
2. Bank of Africa
3. Bank of Baroda
4. Bank of India
5. Barclays Bank of Kenya
6. Chase Bank Kenya (In Receivership)
7. Citibank
8. Commercial Bank of Africa
9. Consolidated Bank of Kenya
10. Cooperative Bank of Kenya
11. Credit Bank
12. Development Bank of Kenya
13. Diamond Trust Bank
14. Dubai Islamic Bank
15. Ecobank Kenya
16. Equity Bank
17. Family Bank
18. First Community Bank
19. Guaranty Trust Bank Kenya
20. Guardian Bank
21. Gulf African Bank
22. Habib Bank AG Zurich
23. Housing Finance Company of Kenya
24. I&M Bank
25. Imperial Bank Kenya (In receivership)
26. Jamii Bora Bank
27. Kenya Commercial Bank
28. Mayfair Bank
29. Middle East Bank Kenya

30. National Bank of Kenya

31. NIC Bank

32. Oriental Commercial Bank

33. Paramount Universal Bank

34. Prime Bank (Kenya)

35. SBM Bank Kenya Limited

36. Sidian Bank

37. Spire Bank

38. Stanbic Bank Kenya

39. Standard Chartered Kenya

40. Trans National Bank Kenya

41. United Bank for Africa

42. Victoria Commercial Bank

Source: CBK (2019)

Appendix II: Research Data

Bank	Year	Quarter	Asset quality	Liquidity	Capital adequacy	Loan volume	Dummy
ABC Bank	2014	Q1	0.1003	0.3400	0.1798	4.1530	0
ABC Bank	2014	Q2	0.1247	0.3600	0.1719	4.9230	0
ABC Bank	2014	Q3	0.1805	0.3100	0.1592	5.6810	0
ABC Bank	2015	Q4	0.1993	0.3200	0.5637	2.7480	0
ABC Bank	2015	Q5	0.1003	0.3400	0.1798	4.1530	0
ABC Bank	2015	Q6	0.1247	0.3600	0.1719	4.9230	0
ABC Bank	2015	Q7	0.1805	0.3100	0.1592	5.6810	0
ABC Bank	2016	Q8	0.1993	0.3200	0.5637	2.7480	0
ABC Bank	2016	Q9	0.2002	0.3200	0.1106	3.3700	0
Bank of Africa	2014	Q1	0.0597	1.2300	0.2806	4.0850	0
Bank of Africa	2014	Q2	0.0489	1.5400	0.1911	3.1400	0
Bank of Africa	2014	Q3	0.0293	1.4100	0.1922	2.9220	0
Bank of Africa	2015	Q4	0.0616	1.5000	0.1366	3.9780	0
Bank of Africa	2015	Q5	0.0592	0.8900	0.1442	3.0900	0
Bank of Africa	2015	Q6	0.0489	1.5400	0.1911	3.1400	0
Bank of Africa	2015	Q7	0.0293	1.4100	0.1922	2.9220	0
Bank of Africa	2016	Q8	0.0616	1.5000	0.1366	3.9780	0
Bank of Africa	2016	Q9	0.0592	0.8900	0.1442	3.0900	0
Bank of Baroda	2014	Q1	0.1996	0.4000	0.1056	3.6520	0
Bank of Baroda	2014	Q2	0.2134	0.6400	0.1003	3.4890	0
Bank of Baroda	2014	Q3	0.2392	0.5900	0.1341	3.7930	0
Bank of Baroda	2015	Q4	0.2525	1.1300	0.1291	5.1310	0
Bank of Baroda	2015	Q5	0.2298	1.2150	0.7515	4.1830	0
Bank of Baroda	2015	Q6	0.0576	0.8700	0.2563	2.9980	0
Bank of Baroda	2015	Q7	0.0458	0.8000	0.2363	2.9470	0

Bank	Year	Quarter	Asset quality	Liquidity	Capital adequacy	Loan volume	Dummy
Bank of Baroda	2016	Q8	0.0562	1.0400	0.2416	3.1280	0
Bank of Baroda	2016	Q9	0.0484	0.8500	0.3113	0.6300	0
Barclays Bank	2014	Q1	0.0456	3.6000	0.5116	1.5000	0
Barclays Bank	2014	Q2	0.0643	1.5200	0.7917	1.1500	0
Barclays Bank	2014	Q3	0.0790	0.9100	0.1648	0.6300	0
Barclays Bank	2015	Q4	0.2578	0.8700	0.5318	2.2000	0
Barclays Bank	2015	Q5	0.2351	1.0600	0.3842	2.7200	0
Barclays Bank	2015	Q6	0.2815	0.9200	0.2315	2.8200	0
Barclays Bank	2015	Q7	0.0841	0.9200	0.2117	1.4900	0
Barclays Bank	2016	Q8	0.0945	0.9200	0.2117	2.4600	0
Barclays Bank	2016	Q9	0.0743	0.9100	0.3147	0.3300	0
Bank of India	2014	Q1	0.0836	0.7200	0.5914	0.2000	0
Bank of India	2014	Q2	0.0835	0.7000	0.3614	3.6950	0
Bank of India	2014	Q3	0.1511	0.5600	0.2761	4.0380	0
Bank of India	2015	Q4	0.3313	0.4600	0.2513	5.5980	0
Bank of India	2015	Q5	0.3521	0.4000	0.7915	5.6210	0
Bank of India	2015	Q6	0.3765	0.4445	0.2313	5.4310	0
Bank of India	2015	Q7	0.3860	0.2439	0.7614	5.3960	0
Bank of India	2016	Q8	0.0919	0.1738	0.7614	3.7540	0
Bank of India	2016	Q9	0.0948	0.2842	0.1824	3.8670	0
Citibank	2014	Q1	0.3571	0.8534	0.2322	4.5550	0
Citibank	2014	Q2	0.3507	0.5233	0.2222	4.6680	0
Citibank	2014	Q3	0.2123	0.2734	0.1721	6.6570	0
Citibank	2015	Q4	0.0393	0.2326	0.2179	1.2100	0
Citibank	2015	Q5	0.0700	0.4222	0.1419	2.0220	0
Citibank	2015	Q6	0.0762	0.2626	0.3316	1.9690	0

Bank	Year	Quarter	Asset quality	Liquidity	Capital adequacy	Loan volume	Dummy
Citibank	2015	Q7	0.0734	0.2118	0.5813	1.4670	0
Citibank	2016	Q8	0.0686	0.6729	0.5810	1.3380	0
Citibank	2016	Q9	0.2129	0.6343	0.8410	6.3520	0
Commercial Bank of Africa	2014	Q1	0.1910	0.2528	0.8211	6.4300	0
Commercial Bank of Africa	2014	Q2	0.2224	0.2443	0.8311	7.0740	0
Commercial Bank of Africa	2014	Q3	0.2363	0.2441	0.1429	6.5380	0
Commercial Bank of Africa	2015	Q4	0.2528	0.2443	0.4223	7.3110	0
Commercial Bank of Africa	2015	Q5	0.0932	0.3544	0.7420	1.4940	0
Commercial Bank of Africa	2015	Q6	0.0971	0.2936	0.2218	1.5940	0
Commercial Bank of Africa	2015	Q7	0.0783	0.2729	0.1127	1.3060	0
Commercial Bank of Africa	2016	Q8	0.0693	0.8134	0.8932	1.2900	0
Commercial Bank of Africa	2016	Q9	0.0526	0.5738	1.5215	1.2570	0
Consolidated bank	2014	Q1	0.2769	0.1542	0.9714	7.7000	0
Consolidated bank	2014	Q2	0.2947	0.2616	0.9713	8.0790	0
Consolidated bank	2014	Q3	0.0409	0.2844	0.5127	3.8860	0
Consolidated bank	2015	Q4	0.0415	0.3142	1.3115	4.0310	0
Consolidated bank	2015	Q5	0.0394	0.5345	1.7715	4.1930	0
Consolidated bank	2015	Q6	0.0053	0.2430	0.8719	1.2910	0
Consolidated bank	2015	Q7	0.0052	0.4328	1.9516	1.2910	0
Consolidated bank	2016	Q8	0.0204	0.4269	1.9713	1.4260	0
Consolidated bank	2016	Q9	0.0094	0.3343	0.0469	1.0810	0
Credit bank	2014	Q1	0.0228	2.1729	0.0592	1.2150	0
Credit bank	2014	Q2	0.0403	0.2830	0.1328	3.6390	0
Credit bank	2014	Q3	0.0465	0.3227	0.1020	3.7920	0
Credit bank	2015	Q4	0.0477	0.6926	0.0791	4.2780	0
Credit bank	2015	Q5	0.0458	0.4428	0.1956	4.2600	0

Bank	Year	Quarter	Asset quality	Liquidity	Capital adequacy	Loan volume	Dummy
Credit bank	2015	Q6	0.0486	0.6748	0.3862	4.2470	0
Credit bank	2015	Q7	0.0142	0.2845	0.0765	1.2050	0
Credit bank	2016	Q8	0.0118	0.3398	0.0473	1.1430	0
Credit bank	2016	Q9	0.0249	0.1255	0.0046	1.3510	0
Co-operative bank of Kenya	2014	Q1	0.0310	0.3487	0.0359	1.2940	0
Co-operative bank of Kenya	2014	Q2	0.0211	0.4743	0.0639	1.2060	0
Co-operative bank of Kenya	2014	Q3	0.0656	0.2933	0.3858	4.2660	0
Co-operative bank of Kenya	2015	Q4	0.0742	0.3633	0.3079	4.4940	0
Co-operative bank of Kenya	2015	Q5	0.1321	0.2730	0.2621	4.6250	0
Co-operative bank of Kenya	2015	Q6	0.0906	0.4930	0.3258	5.7560	0
Co-operative bank of Kenya	2015	Q7	0.0726	0.7315	0.3414	7.0260	0
Co-operative bank of Kenya	2016	Q8	0.0445	0.8328	0.0285	4.9490	0
Co-operative bank of Kenya	2016	Q9	0.0502	2.0931	0.0453	5.0300	0
Development Bank of Kenya	2014	Q1	0.0367	0.3334	0.0401	1.6900	0
Development Bank of Kenya	2014	Q2	0.0518	0.7932	0.0383	4.1700	0
Development Bank of Kenya	2014	Q3	0.0572	0.2634	0.0407	3.1200	0
Development Bank of Kenya	2015	Q4	0.0659	0.1930	0.3758	2.2600	0
Development Bank of Kenya	2015	Q5	0.0613	0.2341	0.0355	2.8700	0
Development Bank of Kenya	2015	Q6	0.0856	2.3139	0.0480	3.6000	0
Development Bank of Kenya	2015	Q7	0.0816	1.6156	0.0387	4.9400	0
Development Bank of Kenya	2016	Q8	0.0934	1.5414	0.0298	4.7200	0
Development Bank of Kenya	2016	Q9	0.0681	1.2114	0.0439	2.7400	0
Diamond Trust Bank	2014	Q1	0.0694	1.0812	0.0709	2.7600	0
Diamond Trust Bank	2014	Q2	0.0733	2.2415	0.0729	2.2800	0
Diamond Trust Bank	2014	Q3	0.0768	1.2516	0.2634	1.1200	0
Diamond Trust Bank	2015	Q4	0.0749	1.2692	0.2132	5.6230	0

Bank	Year	Quarter	Asset quality	Liquidity	Capital adequacy	Loan volume	Dummy
Diamond Trust Bank	2015	Q5	0.0873	1.1141	0.0969	0.3000	0
Diamond Trust Bank	2015	Q6	0.0904	1.4100	0.1320	5.6090	0
Diamond Trust Bank	2015	Q7	0.2248	1.5000	0.1045	2.2480	0
Diamond Trust Bank	2016	Q8	0.2578	0.8900	0.1221	2.3950	0
Diamond Trust Bank	2016	Q9	0.2697	0.8700	0.0717	2.4250	0
Dubai bank	2014	Q1	0.0645	0.8000	0.2611	3.0930	0
Dubai bank	2014	Q2	0.0617	1.0400	0.1928	3.2530	0
Dubai bank	2014	Q3	0.0436	0.8500	0.1975	2.9870	0
Dubai bank	2015	Q4	0.0412	3.6000	0.2511	3.2290	0
Dubai bank	2015	Q5	0.0664	0.9200	0.3572	3.0600	0
Dubai bank	2015	Q6	0.2780	0.9200	0.0606	2.5750	0
Dubai bank	2015	Q7	0.2943	0.9100	0.1312	2.6980	0
Dubai bank	2016	Q8	0.2971	0.7200	0.2020	2.7330	0
Dubai bank	2016	Q9	0.3058	0.7000	0.1112	2.8000	0
Ecobank	2014	Q1	0.3038	0.6700	0.0632	3.0860	0
Ecobank	2014	Q2	0.1003	0.3400	0.1798	4.1530	0
Ecobank	2014	Q3	0.1247	0.3600	0.1719	4.9230	0
Ecobank	2015	Q4	0.1805	0.3100	0.1592	5.6810	0
Ecobank	2015	Q5	0.1993	0.3200	0.5637	2.7480	0
Ecobank	2015	Q6	0.2002	0.3400	0.1798	4.1530	0
Ecobank	2015	Q7	0.1996	0.3600	0.1719	4.9230	0
Ecobank	2016	Q8	0.2134	0.3100	0.1592	5.6810	0
Ecobank	2016	Q9	0.2392	0.3200	0.5637	2.7480	0
Equity Bank	2014	Q1	0.2525	0.3200	0.1106	3.3700	0
Equity Bank	2014	Q2	0.2298	1.2300	0.2806	4.0850	0
Equity Bank	2014	Q3	0.0643	1.5400	0.1911	3.1400	0

Bank	Year	Quarter	Asset quality	Liquidity	Capital adequacy	Loan volume	Dummy
Equity Bank	2015	Q4	0.0790	1.4100	0.1922	2.9220	0
Equity Bank	2015	Q5	0.2578	1.5000	0.1366	3.9780	0
Equity Bank	2015	Q6	0.2351	0.8900	0.1442	3.0900	0
Equity Bank	2015	Q7	0.2815	1.5400	0.1911	3.1400	0
Equity Bank	2016	Q8	0.1511	1.4100	0.1922	2.9220	0
Equity Bank	2016	Q9	0.3313	1.5000	0.1366	3.9780	0
Family bank	2014	Q1	0.3521	0.8900	0.1442	3.0900	0
Family bank	2014	Q2	0.3765	0.4000	0.1056	3.6520	0
Family bank	2014	Q3	0.3860	0.6400	0.1003	3.4890	0
Family bank	2015	Q4	0.0393	0.5900	0.1341	3.7930	0
Family bank	2015	Q5	0.0700	1.1300	0.1291	5.1310	0
Family bank	2015	Q6	0.0762	1.2150	0.7515	4.1830	0
Family bank	2015	Q7	0.0734	0.8700	0.2563	2.9980	0
Family bank	2016	Q8	0.0686	0.8000	0.2363	2.9470	0
Family bank	2016	Q9	0.0932	1.0400	0.2416	3.1280	0
First Community Bank	2014	Q1	0.0971	0.8500	0.3113	0.6300	0
First Community Bank	2014	Q2	0.0783	3.6000	0.5116	1.5000	0
First Community Bank	2014	Q3	0.0693	1.5200	0.7917	1.1500	0
First Community Bank	2015	Q4	0.0526	0.9100	0.1648	0.6300	0
First Community Bank	2015	Q5	0.0053	0.8700	0.5318	2.2000	0
First Community Bank	2015	Q6	0.0052	1.0600	0.3842	2.7200	0
First Community Bank	2015	Q7	0.0204	0.9200	0.2315	2.8200	0
First Community Bank	2016	Q8	0.0094	0.9200	0.2117	1.4900	0
First Community Bank	2016	Q9	0.0228	0.9200	0.2117	2.4600	0
Guaranty Trust Bank	2014	Q1	0.0142	0.9100	0.3147	0.3300	0
Guaranty Trust Bank	2014	Q2	0.0118	0.7200	0.5914	0.2000	0

Bank	Year	Quarter	Asset quality	Liquidity	Capital adequacy	Loan volume	Dummy
Guaranty Trust Bank	2014	Q3	0.0249	0.7000	0.3614	3.6950	0
Guaranty Trust Bank	2015	Q4	0.0310	0.5600	0.2761	4.0380	0
Guaranty Trust Bank	2015	Q5	0.0211	0.4600	0.2513	5.5980	0
Guaranty Trust Bank	2015	Q6	0.0445	0.4000	0.7915	5.6210	0
Guaranty Trust Bank	2015	Q7	0.0502	0.4445	0.2313	5.4310	0
Guaranty Trust Bank	2016	Q8	0.0367	0.2439	0.7614	5.3960	0
Guaranty Trust Bank	2016	Q9	0.0518	0.1738	0.7614	3.7540	0
Guardian Bank	2014	Q1	0.0572	0.2842	0.1824	3.8670	0
Guardian Bank	2014	Q2	0.0681	0.8534	0.2322	4.5550	0
Guardian Bank	2014	Q3	0.0694	0.5233	0.2222	4.6680	0
Guardian Bank	2015	Q4	0.0733	0.2734	0.1721	6.6570	0
Guardian Bank	2015	Q5	0.0768	0.2326	0.2179	1.2100	0
Guardian Bank	2015	Q6	0.0749	0.4222	0.1419	2.0220	0
Guardian Bank	2015	Q7	0.0436	0.2626	0.3316	1.9690	0
Guardian Bank	2016	Q8	0.0412	0.2118	0.5813	1.4670	0
Guardian Bank	2016	Q9	0.0664	0.6729	0.5810	1.3380	0
Gulf African Bank	2014	Q1	0.0597	0.6343	0.8410	6.3520	0
Gulf African Bank	2014	Q2	0.0489	0.2528	0.8211	6.4300	0
Gulf African Bank	2014	Q3	0.0293	0.2443	0.8311	7.0740	0
Gulf African Bank	2015	Q4	0.0616	0.2441	0.1429	6.5380	0
Gulf African Bank	2015	Q5	0.0592	0.2443	0.4223	7.3110	0
Gulf African Bank	2015	Q6	0.0576	0.3544	0.7420	1.4940	0
Gulf African Bank	2015	Q7	0.0458	0.2936	0.2218	1.5940	0
Gulf African Bank	2016	Q8	0.0562	0.2729	0.1127	1.3060	0
Gulf African Bank	2016	Q9	0.0484	0.8134	0.8932	1.2900	0
Habib Bank Ltd	2014	Q1	0.0456	0.5738	1.5215	1.2570	0

Bank	Year	Quarter	Asset quality	Liquidity	Capital adequacy	Loan volume	Dummy
Habib Bank Ltd	2014	Q2	0.0841	0.1542	0.9714	7.7000	0
Habib Bank Ltd	2014	Q3	0.0945	0.2616	0.9713	8.0790	0
Habib Bank Ltd	2015	Q4	0.0743	0.2844	0.5127	3.8860	0
Habib Bank Ltd	2015	Q5	0.0836	0.3142	1.3115	4.0310	0
Habib Bank Ltd	2015	Q6	0.0835	0.5345	1.7715	4.1930	0
Habib Bank Ltd	2015	Q7	0.0919	0.2430	0.8719	1.2910	0
Habib Bank Ltd	2016	Q8	0.0948	0.4328	1.9516	1.2910	0
Habib Bank Ltd	2016	Q9	0.3571	0.4269	1.9713	1.4260	0
Housing finance Company ltd	2014	Q1	0.3507	0.3343	0.0469	1.0810	0
Housing finance Company ltd	2014	Q2	0.2123	2.1729	0.0592	1.2150	0
Housing finance Company ltd	2014	Q3	0.2129	0.2830	0.1328	3.6390	0
Housing finance Company ltd	2015	Q4	0.1910	0.3227	0.1020	3.7920	0
Housing finance Company ltd	2015	Q5	0.2224	0.6926	0.0791	4.2780	0
Housing finance Company ltd	2015	Q6	0.2363	0.4428	0.1956	4.2600	0
Housing finance Company ltd	2015	Q7	0.2528	0.6748	0.3862	4.2470	0
Housing finance Company ltd	2016	Q8	0.2769	0.2845	0.0765	1.2050	0
Housing finance Company ltd	2016	Q9	0.2947	0.3398	0.0473	1.1430	0
I&M Bank	2014	Q1	0.0409	0.1255	0.0046	1.3510	0
I&M Bank	2014	Q2	0.0415	0.3487	0.0359	1.2940	0
I&M Bank	2014	Q3	0.0394	0.4743	0.0639	1.2060	0
I&M Bank	2015	Q4	0.0403	0.2933	0.3858	4.2660	0
I&M Bank	2015	Q5	0.0465	0.3633	0.3079	4.4940	0
I&M Bank	2015	Q6	0.0477	0.2730	0.2621	4.6250	0
I&M Bank	2015	Q7	0.0458	0.4930	0.3258	5.7560	0
I&M Bank	2016	Q8	0.0486	0.7315	0.3414	7.0260	0
I&M Bank	2016	Q9	0.0656	0.8328	0.0285	4.9490	0

Bank	Year	Quarter	Asset quality	Liquidity	Capital adequacy	Loan volume	Dummy
Jamii Bora Bank Ltd	2014	Q1	0.0742	2.0931	0.0453	5.0300	0
Jamii Bora Bank Ltd	2014	Q2	0.1321	0.3334	0.0401	1.6900	0
Jamii Bora Bank Ltd	2014	Q3	0.0906	0.7932	0.0383	4.1700	0
Jamii Bora Bank Ltd	2015	Q4	0.0726	0.2634	0.0407	3.1200	0
Jamii Bora Bank Ltd	2015	Q5	0.0659	0.1930	0.3758	2.2600	0
Jamii Bora Bank Ltd	2015	Q6	0.0613	0.2341	0.0355	2.8700	0
Jamii Bora Bank Ltd	2015	Q7	0.0856	2.3139	0.0480	3.6000	0
Jamii Bora Bank Ltd	2016	Q8	0.0816	1.6156	0.0387	4.9400	0
Jamii Bora Bank Ltd	2016	Q9	0.0934	1.5414	0.0298	4.7200	0
KCB Bank	2014	Q1	0.0873	1.2114	0.0439	2.7400	0
KCB Bank	2014	Q2	0.0904	1.0812	0.0709	2.7600	0
KCB Bank	2014	Q3	0.2248	2.2415	0.0729	2.2800	0
KCB Bank	2015	Q4	0.2578	1.2516	0.2634	1.1200	0
KCB Bank	2015	Q5	0.2697	1.2692	0.2132	5.6230	0
KCB Bank	2015	Q6	0.2780	1.1141	0.0969	0.3000	0
KCB Bank	2015	Q7	0.2943	1.4100	0.1320	5.6090	0
KCB Bank	2016	Q8	0.2971	1.5000	0.1045	2.2480	0
KCB Bank	2016	Q9	0.3058	0.8900	0.1221	2.3950	0
Middle East Bank (K) Ltd	2014	Q1	0.3038	0.8700	0.0717	2.4250	0
Middle East Bank (K) Ltd	2014	Q2	0.2608	0.8000	0.2611	3.0930	0
Middle East Bank (K) Ltd	2014	Q3	0.2511	1.0400	0.1928	3.2530	0
Middle East Bank (K) Ltd	2015	Q4	0.1003	0.8500	0.1975	2.9870	0
Middle East Bank (K) Ltd	2015	Q5	0.1247	3.6000	0.2511	3.2290	0
Middle East Bank (K) Ltd	2015	Q6	0.1805	0.9200	0.3572	3.0600	0
Middle East Bank (K) Ltd	2015	Q7	0.1993	0.9200	0.0606	2.5750	0
Middle East Bank (K) Ltd	2016	Q8	0.2002	0.9100	0.1312	2.6980	0

Bank	Year	Quarter	Asset quality	Liquidity	Capital adequacy	Loan volume	Dummy
Middle East Bank (K) Ltd	2016	Q9	0.1996	0.7200	0.2020	2.7330	0
M-Oriental bank ltd	2014	Q1	0.2134	0.7000	0.1112	2.8000	0
M-Oriental bank ltd	2014	Q2	0.2392	0.6700	0.0632	3.0860	0
M-Oriental bank ltd	2014	Q3	0.2525	0.3400	0.1798	4.1530	0
M-Oriental bank ltd	2015	Q4	0.2298	0.3600	0.1719	4.9230	0
M-Oriental bank ltd	2015	Q5	0.0643	0.3100	0.1592	5.6810	0
M-Oriental bank ltd	2015	Q6	0.0790	0.3200	0.5637	2.7480	0
M-Oriental bank ltd	2015	Q7	0.2578	0.3400	0.1798	4.1530	0
M-Oriental bank ltd	2016	Q8	0.2351	0.3600	0.1719	4.9230	0
M-Oriental bank ltd	2016	Q9	0.2815	0.3100	0.1592	5.6810	0
National Bank of Kenya	2014	Q1	0.1511	0.3200	0.5637	2.7480	0
National Bank of Kenya	2014	Q2	0.3313	0.3200	0.1106	3.3700	0
National Bank of Kenya	2014	Q3	0.3521	1.2300	0.2806	4.0850	0
National Bank of Kenya	2015	Q4	0.3765	1.5400	0.1911	3.1400	0
National Bank of Kenya	2015	Q5	0.3860	1.4100	0.1922	2.9220	0
National Bank of Kenya	2015	Q6	0.0393	1.5000	0.1366	3.9780	0
National Bank of Kenya	2015	Q7	0.0700	0.8900	0.1442	3.0900	0
National Bank of Kenya	2016	Q8	0.0762	1.5400	0.1911	3.1400	0
National Bank of Kenya	2016	Q9	0.0734	1.4100	0.1922	2.9220	0
NIC Plc bank	2014	Q1	0.0686	1.5000	0.1366	3.9780	0
NIC Plc bank	2014	Q2	0.0932	0.8900	0.1442	3.0900	0
NIC Plc bank	2014	Q3	0.0971	0.4000	0.1056	3.6520	0
NIC Plc bank	2015	Q4	0.0783	0.6400	0.1003	3.4890	0
NIC Plc bank	2015	Q5	0.0693	0.5900	0.1341	3.7930	0
NIC Plc bank	2015	Q6	0.0526	1.1300	0.1291	5.1310	0
NIC Plc bank	2015	Q7	0.0053	1.2150	0.7515	4.1830	0

Bank	Year	Quarter	Asset quality	Liquidity	Capital adequacy	Loan volume	Dummy
NIC Plc bank	2016	Q8	0.0052	0.8700	0.2563	2.9980	0
NIC Plc bank	2016	Q9	0.0204	0.8000	0.2363	2.9470	0
Paramount Bank Ltd	2014	Q1	0.0094	1.0400	0.2416	3.1280	0
Paramount Bank Ltd	2014	Q2	0.0228	0.8500	0.3113	0.6300	0
Paramount Bank Ltd	2014	Q3	0.0142	3.6000	0.5116	1.5000	0
Paramount Bank Ltd	2015	Q4	0.0118	1.5200	0.7917	1.1500	0
Paramount Bank Ltd	2015	Q5	0.0249	0.9100	0.1648	0.6300	0
Paramount Bank Ltd	2015	Q6	0.0310	0.8700	0.5318	2.2000	0
Paramount Bank Ltd	2015	Q7	0.0211	1.0600	0.3842	2.7200	0
Paramount Bank Ltd	2016	Q8	0.0445	0.9200	0.2315	2.8200	0
Paramount Bank Ltd	2016	Q9	0.0502	0.9200	0.2117	1.4900	0
Prime Bank	2014	Q1	0.0367	0.9200	0.2117	2.4600	0
Prime Bank	2014	Q2	0.0518	0.9100	0.3147	0.3300	0
Prime Bank	2014	Q3	0.0572	0.7200	0.5914	0.2000	0
Prime Bank	2015	Q4	0.0681	0.7000	0.3614	3.6950	0
Prime Bank	2015	Q5	0.0694	0.5600	0.2761	4.0380	0
Prime Bank	2015	Q6	0.0733	0.4600	0.2513	5.5980	0
Prime Bank	2015	Q7	0.0768	0.4000	0.7915	5.6210	0
Prime Bank	2016	Q8	0.0749	0.4445	0.2313	5.4310	0
Prime Bank	2016	Q9	0.0436	0.2439	0.7614	5.3960	0
Sidian Bank	2014	Q1	0.0412	0.1738	0.7614	3.7540	0
Sidian Bank	2014	Q2	0.0664	0.2842	0.1824	3.8670	0
Sidian Bank	2014	Q3	0.0597	0.8534	0.2322	4.5550	0
Sidian Bank	2015	Q4	0.0489	0.5233	0.2222	4.6680	0
Sidian Bank	2015	Q5	0.0293	0.2734	0.1721	6.6570	0
Sidian Bank	2015	Q6	0.0616	0.2326	0.2179	1.2100	0

Bank	Year	Quarter	Asset quality	Liquidity	Capital adequacy	Loan volume	Dummy
Sidian Bank	2015	Q7	0.0592	0.4222	0.1419	2.0220	0
Sidian Bank	2016	Q8	0.0576	0.2626	0.3316	1.9690	0
Sidian Bank	2016	Q9	0.0458	0.2118	0.5813	1.4670	0
Stanbic Bank Kenya Ltd	2014	Q1	0.0562	0.6729	0.5810	1.3380	0
Stanbic Bank Kenya Ltd	2014	Q2	0.0484	0.6343	0.8410	6.3520	0
Stanbic Bank Kenya Ltd	2014	Q3	0.0456	0.2528	0.8211	6.4300	0
Stanbic Bank Kenya Ltd	2015	Q4	0.0841	0.2443	0.8311	7.0740	0
Stanbic Bank Kenya Ltd	2015	Q5	0.0945	0.2441	0.1429	6.5380	0
Stanbic Bank Kenya Ltd	2015	Q6	0.0743	0.2443	0.4223	7.3110	0
Stanbic Bank Kenya Ltd	2015	Q7	0.0836	0.3544	0.7420	1.4940	0
Stanbic Bank Kenya Ltd	2016	Q8	0.0835	0.2936	0.2218	1.5940	0
Stanbic Bank Kenya Ltd	2016	Q9	0.0919	0.2729	0.1127	1.3060	0
Standard Chartered Bank	2014	Q1	0.0948	0.8134	0.8932	1.2900	0
Standard Chartered Bank	2014	Q2	0.3571	0.5738	1.5215	1.2570	0
Standard Chartered Bank	2014	Q3	0.3507	0.1542	0.9714	7.7000	0
Standard Chartered Bank	2015	Q4	0.2123	0.2616	0.9713	8.0790	0
Standard Chartered Bank	2015	Q5	0.2129	0.2844	0.5127	3.8860	0
Standard Chartered Bank	2015	Q6	0.1910	0.3142	1.3115	4.0310	0
Standard Chartered Bank	2015	Q7	0.2224	0.5345	1.7715	4.1930	0
Standard Chartered Bank	2016	Q8	0.2363	0.2430	0.8719	1.2910	0
Standard Chartered Bank	2016	Q9	0.2528	0.4328	1.9516	1.2910	0
Spire Bank Ltd	2014	Q1	0.2769	0.4269	1.9713	1.4260	0
Spire Bank Ltd	2014	Q2	0.2947	0.3343	0.0469	1.0810	0
Spire Bank Ltd	2014	Q3	0.0409	2.1729	0.0592	1.2150	0
Spire Bank Ltd	2015	Q4	0.0415	0.2830	0.1328	3.6390	0
Spire Bank Ltd	2015	Q5	0.0394	0.3227	0.1020	3.7920	0

Bank	Year	Quarter	Asset quality	Liquidity	Capital adequacy	Loan volume	Dummy
Spire Bank Ltd	2015	Q6	0.0403	0.6926	0.0791	4.2780	0
Spire Bank Ltd	2015	Q7	0.0465	0.4428	0.1956	4.2600	0
Spire Bank Ltd	2016	Q8	0.0477	0.6748	0.3862	4.2470	0
Spire Bank Ltd	2016	Q9	0.0458	0.2845	0.0765	1.2050	0
Transnational Bank	2014	Q1	0.0486	0.3398	0.0473	1.1430	0
Transnational Bank	2014	Q2	0.0656	0.1255	0.0046	1.3510	0
Transnational Bank	2014	Q3	0.0742	0.3487	0.0359	1.2940	0
Transnational Bank	2015	Q4	0.1321	0.4743	0.0639	1.2060	0
Transnational Bank	2015	Q5	0.0906	0.2933	0.3858	4.2660	0
Transnational Bank	2015	Q6	0.0726	0.3633	0.3079	4.4940	0
Transnational Bank	2015	Q7	0.0659	0.2730	0.2621	4.6250	0
Transnational Bank	2016	Q8	0.0613	0.4930	0.3258	5.7560	0
Transnational Bank	2016	Q9	0.0856	0.7315	0.3414	7.0260	0
UBA Kenya Bank Ltd	2014	Q1	0.0816	0.8328	0.0285	4.9490	0
UBA Kenya Bank Ltd	2014	Q2	0.0934	2.0931	0.0453	5.0300	0
UBA Kenya Bank Ltd	2014	Q3	0.0873	0.3334	0.0401	1.6900	0
UBA Kenya Bank Ltd	2015	Q4	0.0904	0.7932	0.0383	4.1700	0
UBA Kenya Bank Ltd	2015	Q5	0.2248	0.2634	0.0407	3.1200	0
UBA Kenya Bank Ltd	2015	Q6	0.2578	0.1930	0.3758	2.2600	0
UBA Kenya Bank Ltd	2015	Q7	0.2697	0.2341	0.0355	2.8700	0
UBA Kenya Bank Ltd	2016	Q8	0.2780	2.3139	0.0480	3.6000	0
UBA Kenya Bank Ltd	2016	Q9	0.2943	1.6156	0.0387	4.9400	0
ABC Bank	2014	Q1	0.1002	0.3399	0.17968	4.1529	1
ABC Bank	2014	Q2	0.1246	0.3599	0.17181	4.9229	1
ABC Bank	2014	Q3	0.1804	0.3099	0.15912	5.6809	1
ABC Bank	2015	Q4	0.1992	0.3199	0.56356	2.7479	1

Bank	Year	Quarter	Asset quality	Liquidity	Capital adequacy	Loan volume	Dummy
ABC Bank	2015	Q5	0.1002	0.3399	0.17968	4.1529	1
ABC Bank	2015	Q6	0.1246	0.3599	0.17181	4.9229	1
ABC Bank	2015	Q7	0.1804	0.3099	0.15912	5.6809	1
ABC Bank	2016	Q8	0.1992	0.3199	0.56356	2.7479	1
ABC Bank	2016	Q9	0.2001	0.3199	0.11046	3.3699	1
Bank of Africa	2014	Q1	0.0596	1.2299	0.28046	4.0849	1
Bank of Africa	2014	Q2	0.0488	1.5399	0.19103	3.1399	1
Bank of Africa	2014	Q3	0.0292	1.4099	0.19207	2.9219	1
Bank of Africa	2015	Q4	0.0615	1.4999	0.13647	3.9779	1
Bank of Africa	2015	Q5	0.0591	0.8899	0.14411	3.0899	1
Bank of Africa	2015	Q6	0.0488	1.5399	0.19103	3.1399	1
Bank of Africa	2015	Q7	0.0292	1.4099	0.19207	2.9219	1
Bank of Africa	2016	Q8	0.0615	1.4999	0.13647	3.9779	1
Bank of Africa	2016	Q9	0.0591	0.8899	0.14411	3.0899	1
Bank of Baroda	2014	Q1	0.1995	0.3999	0.10551	3.6519	1
Bank of Baroda	2014	Q2	0.2133	0.6399	0.10021	3.4889	1
Bank of Baroda	2014	Q3	0.2391	0.5899	0.13404	3.7929	1
Bank of Baroda	2015	Q4	0.2524	1.1299	0.12903	5.1309	1
Bank of Baroda	2015	Q5	0.2297	1.2149	0.75141	4.1829	1
Bank of Baroda	2015	Q6	0.0575	0.8699	0.25619	2.9979	1
Bank of Baroda	2015	Q7	0.0457	0.7999	0.23619	2.9469	1
Bank of Baroda	2016	Q8	0.0561	1.0399	0.24153	3.1279	1
Bank of Baroda	2016	Q9	0.0483	0.8499	0.31118	0.6299	1
Barclays Bank	2014	Q1	0.0455	3.5999	0.51151	1.4999	1
Barclays Bank	2014	Q2	0.0642	1.5199	0.79162	1.1499	1
Barclays Bank	2014	Q3	0.0789	0.9099	0.16469	0.6299	1

Bank	Year	Quarter	Asset quality	Liquidity	Capital adequacy	Loan volume	Dummy
Barclays Bank	2015	Q4	0.2577	0.8699	0.53169	2.1999	1
Barclays Bank	2015	Q5	0.235	1.0599	0.38409	2.7199	1
Barclays Bank	2015	Q6	0.2814	0.9199	0.23143	2.8199	1
Barclays Bank	2015	Q7	0.084	0.9199	0.21158	1.4899	1
Barclays Bank	2016	Q8	0.0944	0.9199	0.21158	2.4599	1
Barclays Bank	2016	Q9	0.0742	0.9099	0.31459	0.3299	1
Bank of India	2014	Q1	0.0835	0.7199	0.59134	0.1999	1
Bank of India	2014	Q2	0.0834	0.6999	0.36133	3.6949	1
Bank of India	2014	Q3	0.151	0.5599	0.27603	4.0379	1
Bank of India	2015	Q4	0.3312	0.4599	0.25118	5.5979	1
Bank of India	2015	Q5	0.352	0.3999	0.79139	5.6209	1
Bank of India	2015	Q6	0.3764	0.444436	0.23120	5.4309	1
Bank of India	2015	Q7	0.3859	0.243758	0.76130	5.3959	1
Bank of India	2016	Q8	0.0918	0.173747	0.76126	3.7539	1
Bank of India	2016	Q9	0.0947	0.284073	0.18233	3.8669	1
Citibank	2014	Q1	0.357	0.853301	0.23207	4.5549	1
Citibank	2014	Q2	0.35055	0.523158	0.22206	4.6679	1
Citibank	2014	Q3	0.2122	0.273254	0.17199	6.6569	1
Citibank	2015	Q4	0.0392	0.232549	0.21779	1.2099	1
Citibank	2015	Q5	0.0699	0.422085	0.14184	2.0219	1
Citibank	2015	Q6	0.0761	0.262482	0.33146	1.9689	1
Citibank	2015	Q7	0.0733	0.211738	0.58121	1.4669	1
Citibank	2016	Q8	0.0685	0.672759	0.58091	1.3379	1
Citibank	2016	Q9	0.2128	0.634181	0.84091	6.3519	1
Commercial Bank of Africa	2014	Q1	0.1909	0.252721	0.82104	6.4299	1
Commercial Bank of Africa	2014	Q2	0.2223	0.244207	0.83105	7.0739	1

Bank	Year	Quarter	Asset quality	Liquidity	Capital adequacy	Loan volume	Dummy
Commercial Bank of Africa	2014	Q3	0.2362	0.244044	0.14277	6.5379	1
Commercial Bank of Africa	2015	Q4	0.2527	0.244189	0.42219	7.3109	1
Commercial Bank of Africa	2015	Q5	0.0931	0.354329	0.74195	1.4939	1
Commercial Bank of Africa	2015	Q6	0.097	0.293489	0.22173	1.5939	1
Commercial Bank of Africa	2015	Q7	0.0782	0.272805	0.11259	1.3059	1
Commercial Bank of Africa	2016	Q8	0.0692	0.813317	0.89307	1.2899	1
Commercial Bank of Africa	2016	Q9	0.0525	0.573731	1.52137	1.2569	1
Consolidated bank	2014	Q1	0.2768	0.154103	0.97130	7.6999	1
Consolidated bank	2014	Q2	0.2946	0.2615	0.97123	8.0789	1
Consolidated bank	2014	Q3	0.0408	0.284267	0.51265	3.8859	1
Consolidated bank	2015	Q4	0.0414	0.31409	1.31138	4.0309	1
Consolidated bank	2015	Q5	0.0393	0.534382	1.77144	4.1929	1
Consolidated bank	2015	Q6	0.0052	0.242912	0.87175	1.2909	1
Consolidated bank	2015	Q7	0.0051	0.43273	1.95154	1.2909	1
Consolidated bank	2016	Q8	0.0203	0.426822	1.97115	1.4259	1
Consolidated bank	2016	Q9	0.0093	0.33422	0.04682	1.0809	1
Credit bank	2014	Q1	0.0227	2.172771	0.05909	1.2149	1
Credit bank	2014	Q2	0.0402	0.282913	0.13272	3.6389	1
Credit bank	2014	Q3	0.0464	0.322623	0.10195	3.7919	1
Credit bank	2015	Q4	0.0476	0.692511	0.07899	4.2779	1
Credit bank	2015	Q5	0.0457	0.442728	0.19554	4.2599	1
Credit bank	2015	Q6	0.0485	0.674696	0.38613	4.2469	1
Credit bank	2015	Q7	0.0141	0.28439	0.07638	1.2049	1
Credit bank	2016	Q8	0.0117	0.339739	0.04721	1.1429	1
Credit bank	2016	Q9	0.0248	0.125433	0.00450	1.3509	1
Co-operative bank of Kenya	2014	Q1	0.0309	0.348605	0.03580	1.2939	1

Bank	Year	Quarter	Asset quality	Liquidity	Capital adequacy	Loan volume	Dummy
Co-operative bank of Kenya	2014	Q2	0.021	0.474234	0.06377	1.2059	1
Co-operative bank of Kenya	2014	Q3	0.0655	0.293242	0.38568	4.2659	1
Co-operative bank of Kenya	2015	Q4	0.0741	0.363242	0.30783	4.4939	1
Co-operative bank of Kenya	2015	Q5	0.132	0.27285	0.26195	4.6249	1
Co-operative bank of Kenya	2015	Q6	0.0905	0.492937	0.32567	5.7559	1
Co-operative bank of Kenya	2015	Q7	0.0725	0.731365	0.34133	7.0259	1
Co-operative bank of Kenya	2016	Q8	0.0444	0.832708	0.02840	4.9489	1
Co-operative bank of Kenya	2016	Q9	0.0501	2.093033	0.04517	5.0299	1
Development Bank of Kenya	2014	Q1	0.0366	0.333301	0.04001	1.6899	1
Development Bank of Kenya	2014	Q2	0.05167	0.793095	0.03821	4.1699	1
Development Bank of Kenya	2014	Q3	0.0571	0.263337	0.04058	3.1199	1
Development Bank of Kenya	2015	Q4	0.0658	0.192882	0.37567	2.2599	1
Development Bank of Kenya	2015	Q5	0.0612	0.234003	0.03535	2.8699	1
Development Bank of Kenya	2015	Q6	0.0855	2.313775	0.04790	3.5999	1
Development Bank of Kenya	2015	Q7	0.0815	1.615535	0.03861	4.9399	1
Development Bank of Kenya	2016	Q8	0.0933	1.541312	0.02968	4.7199	1
Development Bank of Kenya	2016	Q9	0.068	1.211291	0.04376	2.7399	1
Diamond Trust Bank	2014	Q1	0.0693	1.08113	0.07080	2.7599	1
Diamond Trust Bank	2014	Q2	0.0732	2.241417	0.07275	2.2799	1
Diamond Trust Bank	2014	Q3	0.0767	1.251523	0.26329	1.1199	1
Diamond Trust Bank	2015	Q4	0.0748	1.269074	0.21310	5.6229	1
Diamond Trust Bank	2015	Q5	0.0872	1.114027	0.09682	0.2999	1
Diamond Trust Bank	2015	Q6	0.0903	1.4099	0.13193	5.6089	1
Diamond Trust Bank	2015	Q7	0.2247	1.4999	0.10438	2.2479	1
Diamond Trust Bank	2016	Q8	0.2577	0.8899	0.12199	2.3949	1
Diamond Trust Bank	2016	Q9	0.2696	0.8699	0.07165	2.4249	1

Bank	Year	Quarter	Asset quality	Liquidity	Capital adequacy	Loan volume	Dummy
Dubai bank	2014	Q1	0.0644	0.7999	0.26100	3.0929	1
Dubai bank	2014	Q2	0.0616	1.0399	0.19271	3.2529	1
Dubai bank	2014	Q3	0.0435	0.8499	0.19743	2.9869	1
Dubai bank	2015	Q4	0.0411	3.5999	0.25096	3.2289	1
Dubai bank	2015	Q5	0.0663	0.9199	0.35713	3.0599	1
Dubai bank	2015	Q6	0.2779	0.9199	0.06053	2.5749	1
Dubai bank	2015	Q7	0.2942	0.9099	0.13106	2.6979	1
Dubai bank	2016	Q8	0.297	0.7199	0.20187	2.7329	1
Dubai bank	2016	Q9	0.3057	0.6999	0.11112	2.7999	1
Ecobank	2014	Q1	0.3037	0.6699	0.06307	3.0859	1
Ecobank	2014	Q2	0.1002	0.3399	0.17968	4.1529	1
Ecobank	2014	Q3	0.1246	0.3599	0.17181	4.9229	1
Ecobank	2015	Q4	0.1804	0.3099	0.15912	5.6809	1
Ecobank	2015	Q5	0.1992	0.3199	0.56356	2.7479	1
Ecobank	2015	Q6	0.2001	0.3399	0.17968	4.1529	1
Ecobank	2015	Q7	0.1995	0.3599	0.17181	4.9229	1
Ecobank	2016	Q8	0.2133	0.3099	0.15912	5.6809	1
Ecobank	2016	Q9	0.2391	0.3199	0.56356	2.7479	1
Equity Bank	2014	Q1	0.2524	0.3199	0.11046	3.3699	1
Equity Bank	2014	Q2	0.2297	1.2299	0.28046	4.0849	1
Equity Bank	2014	Q3	0.0642	1.5399	0.19103	3.1399	1
Equity Bank	2015	Q4	0.0789	1.4099	0.19207	2.9219	1
Equity Bank	2015	Q5	0.2577	1.4999	0.13647	3.9779	1
Equity Bank	2015	Q6	0.235	0.8899	0.14411	3.0899	1
Equity Bank	2015	Q7	0.2814	1.5399	0.19103	3.1399	1
Equity Bank	2016	Q8	0.151	1.4099	0.19207	2.9219	1

Bank	Year	Quarter	Asset quality	Liquidity	Capital adequacy	Loan volume	Dummy
Equity Bank	2016	Q9	0.3312	1.4999	0.13647	3.9779	1
Family bank	2014	Q1	0.352	0.8899	0.14411	3.0899	1
Family bank	2014	Q2	0.3764	0.3999	0.10551	3.6519	1
Family bank	2014	Q3	0.3859	0.6399	0.10021	3.4889	1
Family bank	2015	Q4	0.0392	0.5899	0.13404	3.7929	1
Family bank	2015	Q5	0.0699	1.1299	0.12903	5.1309	1
Family bank	2015	Q6	0.0761	1.2149	0.75141	4.1829	1
Family bank	2015	Q7	0.0733	0.8699	0.25619	2.9979	1
Family bank	2016	Q8	0.0685	0.7999	0.23619	2.9469	1
Family bank	2016	Q9	0.0931	1.0399	0.24153	3.1279	1
First Community Bank	2014	Q1	0.097	0.8499	0.31118	0.6299	1
First Community Bank	2014	Q2	0.0782	3.5999	0.51151	1.4999	1
First Community Bank	2014	Q3	0.0692	1.5199	0.79162	1.1499	1
First Community Bank	2015	Q4	0.0525	0.9099	0.16469	0.6299	1
First Community Bank	2015	Q5	0.0052	0.8699	0.53169	2.1999	1
First Community Bank	2015	Q6	0.0051	1.0599	0.38409	2.7199	1
First Community Bank	2015	Q7	0.0203	0.9199	0.23143	2.8199	1
First Community Bank	2016	Q8	0.0093	0.9199	0.21158	1.4899	1
First Community Bank	2016	Q9	0.0227	0.9199	0.21158	2.4599	1
Guaranty Trust Bank	2014	Q1	0.0141	0.9099	0.31459	0.3299	1
Guaranty Trust Bank	2014	Q2	0.0117	0.7199	0.59134	0.1999	1
Guaranty Trust Bank	2014	Q3	0.0248	0.6999	0.36133	3.6949	1
Guaranty Trust Bank	2015	Q4	0.0309	0.5599	0.27603	4.0379	1
Guaranty Trust Bank	2015	Q5	0.021	0.4599	0.25118	5.5979	1
Guaranty Trust Bank	2015	Q6	0.0444	0.3999	0.79139	5.6209	1
Guaranty Trust Bank	2015	Q7	0.0501	0.444436	0.23120	5.4309	1

Bank	Year	Quarter	Asset quality	Liquidity	Capital adequacy	Loan volume	Dummy
Guaranty Trust Bank	2016	Q8	0.0366	0.243758	0.76130	5.3959	1
Guaranty Trust Bank	2016	Q9	0.05167	0.173747	0.76126	3.7539	1
Guardian Bank	2014	Q1	0.0571	0.284073	0.18233	3.8669	1
Guardian Bank	2014	Q2	0.068	0.853301	0.23207	4.5549	1
Guardian Bank	2014	Q3	0.0693	0.523158	0.22206	4.6679	1
Guardian Bank	2015	Q4	0.0732	0.273254	0.17199	6.6569	1
Guardian Bank	2015	Q5	0.0767	0.232549	0.21779	1.2099	1
Guardian Bank	2015	Q6	0.0748	0.422085	0.14184	2.0219	1
Guardian Bank	2015	Q7	0.0435	0.262482	0.33146	1.9689	1
Guardian Bank	2016	Q8	0.0411	0.211738	0.58121	1.4669	1
Guardian Bank	2016	Q9	0.0663	0.672759	0.58091	1.3379	1
Gulf African Bank	2014	Q1	0.0596	0.634181	0.84091	6.3519	1
Gulf African Bank	2014	Q2	0.0488	0.252721	0.82104	6.4299	1
Gulf African Bank	2014	Q3	0.0292	0.244207	0.83105	7.0739	1
Gulf African Bank	2015	Q4	0.0615	0.244044	0.14277	6.5379	1
Gulf African Bank	2015	Q5	0.0591	0.244189	0.42219	7.3109	1
Gulf African Bank	2015	Q6	0.0575	0.354329	0.74195	1.4939	1
Gulf African Bank	2015	Q7	0.0457	0.293489	0.22173	1.5939	1
Gulf African Bank	2016	Q8	0.0561	0.272805	0.11259	1.3059	1
Gulf African Bank	2016	Q9	0.0483	0.813317	0.89307	1.2899	1
Habib Bank Ltd	2014	Q1	0.0455	0.573731	1.52137	1.2569	1
Habib Bank Ltd	2014	Q2	0.084	0.154103	0.97130	7.6999	1
Habib Bank Ltd	2014	Q3	0.0944	0.2615	0.97123	8.0789	1
Habib Bank Ltd	2015	Q4	0.0742	0.284267	0.51265	3.8859	1
Habib Bank Ltd	2015	Q5	0.0835	0.31409	1.31138	4.0309	1
Habib Bank Ltd	2015	Q6	0.0834	0.534382	1.77144	4.1929	1

Bank	Year	Quarter	Asset quality	Liquidity	Capital adequacy	Loan volume	Dummy
Habib Bank Ltd	2015	Q7	0.0918	0.242912	0.87175	1.2909	1
Habib Bank Ltd	2016	Q8	0.0947	0.43273	1.95154	1.2909	1
Habib Bank Ltd	2016	Q9	0.357	0.426822	1.97115	1.4259	1
Housing finance Company ltd	2014	Q1	0.35055	0.33422	0.04682	1.0809	1
Housing finance Company ltd	2014	Q2	0.2122	2.172771	0.05909	1.2149	1
Housing finance Company ltd	2014	Q3	0.2128	0.282913	0.13272	3.6389	1
Housing finance Company ltd	2015	Q4	0.1909	0.322623	0.10195	3.7919	1
Housing finance Company ltd	2015	Q5	0.2223	0.692511	0.07899	4.2779	1
Housing finance Company ltd	2015	Q6	0.2362	0.442728	0.19554	4.2599	1
Housing finance Company ltd	2015	Q7	0.2527	0.674696	0.38613	4.2469	1
Housing finance Company ltd	2016	Q8	0.2768	0.28439	0.07638	1.2049	1
Housing finance Company ltd	2016	Q9	0.2946	0.339739	0.04721	1.1429	1
I&M Bank	2014	Q1	0.0408	0.125433	0.00450	1.3509	1
I&M Bank	2014	Q2	0.0414	0.348605	0.03580	1.2939	1
I&M Bank	2014	Q3	0.0393	0.474234	0.06377	1.2059	1
I&M Bank	2015	Q4	0.0402	0.293242	0.38568	4.2659	1
I&M Bank	2015	Q5	0.0464	0.363242	0.30783	4.4939	1
I&M Bank	2015	Q6	0.0476	0.27285	0.26195	4.6249	1
I&M Bank	2015	Q7	0.0457	0.492937	0.32567	5.7559	1
I&M Bank	2016	Q8	0.0485	0.731365	0.34133	7.0259	1
I&M Bank	2016	Q9	0.0655	0.832708	0.02840	4.9489	1
Jamii Bora Bank Ltd	2014	Q1	0.0741	2.093033	0.04517	5.0299	1
Jamii Bora Bank Ltd	2014	Q2	0.132	0.333301	0.04001	1.6899	1
Jamii Bora Bank Ltd	2014	Q3	0.0905	0.793095	0.03821	4.1699	1
Jamii Bora Bank Ltd	2015	Q4	0.0725	0.263337	0.04058	3.1199	1
Jamii Bora Bank Ltd	2015	Q5	0.0658	0.192882	0.37567	2.2599	1

Bank	Year	Quarter	Asset quality	Liquidity	Capital adequacy	Loan volume	Dummy
Jamii Bora Bank Ltd	2015	Q6	0.0612	0.234003	0.03535	2.8699	1
Jamii Bora Bank Ltd	2015	Q7	0.0855	2.313775	0.04790	3.5999	1
Jamii Bora Bank Ltd	2016	Q8	0.0815	1.615535	0.03861	4.9399	1
Jamii Bora Bank Ltd	2016	Q9	0.0933	1.541312	0.02968	4.7199	1
KCB Bank	2014	Q1	0.0872	1.211291	0.04376	2.7399	1
KCB Bank	2014	Q2	0.0903	1.08113	0.07080	2.7599	1
KCB Bank	2014	Q3	0.2247	2.241417	0.07275	2.2799	1
KCB Bank	2015	Q4	0.2577	1.251523	0.26329	1.1199	1
KCB Bank	2015	Q5	0.2696	1.269074	0.21310	5.6229	1
KCB Bank	2015	Q6	0.2779	1.114027	0.09682	0.2999	1
KCB Bank	2015	Q7	0.2942	1.4099	0.13193	5.6089	1
KCB Bank	2016	Q8	0.297	1.4999	0.10438	2.2479	1
KCB Bank	2016	Q9	0.3057	0.8899	0.12199	2.3949	1
Middle East Bank (K) Ltd	2014	Q1	0.3037	0.8699	0.07165	2.4249	1
Middle East Bank (K) Ltd	2014	Q2	0.2607	0.7999	0.26100	3.0929	1
Middle East Bank (K) Ltd	2014	Q3	0.251	1.0399	0.19271	3.2529	1
Middle East Bank (K) Ltd	2015	Q4	0.1002	0.8499	0.19743	2.9869	1
Middle East Bank (K) Ltd	2015	Q5	0.1246	3.5999	0.25096	3.2289	1
Middle East Bank (K) Ltd	2015	Q6	0.1804	0.9199	0.35713	3.0599	1
Middle East Bank (K) Ltd	2015	Q7	0.1992	0.9199	0.06053	2.5749	1
Middle East Bank (K) Ltd	2016	Q8	0.2001	0.9099	0.13106	2.6979	1
Middle East Bank (K) Ltd	2016	Q9	0.1995	0.7199	0.20187	2.7329	1
M-Oriental bank ltd	2014	Q1	0.2133	0.6999	0.11112	2.7999	1
M-Oriental bank ltd	2014	Q2	0.2391	0.6699	0.06307	3.0859	1
M-Oriental bank ltd	2014	Q3	0.2524	0.3399	0.17968	4.1529	1
M-Oriental bank ltd	2015	Q4	0.2297	0.3599	0.17181	4.9229	1

Bank	Year	Quarter	Asset quality	Liquidity	Capital adequacy	Loan volume	Dummy
M-Oriental bank ltd	2015	Q5	0.0642	0.3099	0.15912	5.6809	1
M-Oriental bank ltd	2015	Q6	0.0789	0.3199	0.56356	2.7479	1
M-Oriental bank ltd	2015	Q7	0.2577	0.3399	0.17968	4.1529	1
M-Oriental bank ltd	2016	Q8	0.235	0.3599	0.17181	4.9229	1
M-Oriental bank ltd	2016	Q9	0.2814	0.3099	0.15912	5.6809	1
National Bank of Kenya	2014	Q1	0.151	0.3199	0.56356	2.7479	1
National Bank of Kenya	2014	Q2	0.3312	0.3199	0.11046	3.3699	1
National Bank of Kenya	2014	Q3	0.352	1.2299	0.28046	4.0849	1
National Bank of Kenya	2015	Q4	0.3764	1.5399	0.19103	3.1399	1
National Bank of Kenya	2015	Q5	0.3859	1.4099	0.19207	2.9219	1
National Bank of Kenya	2015	Q6	0.0392	1.4999	0.13647	3.9779	1
National Bank of Kenya	2015	Q7	0.0699	0.8899	0.14411	3.0899	1
National Bank of Kenya	2016	Q8	0.0761	1.5399	0.19103	3.1399	1
National Bank of Kenya	2016	Q9	0.0733	1.4099	0.19207	2.9219	1
NIC Plc bank	2014	Q1	0.0685	1.4999	0.13647	3.9779	1
NIC Plc bank	2014	Q2	0.0931	0.8899	0.14411	3.0899	1
NIC Plc bank	2014	Q3	0.097	0.3999	0.10551	3.6519	1
NIC Plc bank	2015	Q4	0.0782	0.6399	0.10021	3.4889	1
NIC Plc bank	2015	Q5	0.0692	0.5899	0.13404	3.7929	1
NIC Plc bank	2015	Q6	0.0525	1.1299	0.12903	5.1309	1
NIC Plc bank	2015	Q7	0.0052	1.2149	0.75141	4.1829	1
NIC Plc bank	2016	Q8	0.0051	0.8699	0.25619	2.9979	1
NIC Plc bank	2016	Q9	0.0203	0.7999	0.23619	2.9469	1
Paramount Bank Ltd	2014	Q1	0.0093	1.0399	0.24153	3.1279	1
Paramount Bank Ltd	2014	Q2	0.0227	0.8499	0.31118	0.6299	1
Paramount Bank Ltd	2014	Q3	0.0141	3.5999	0.51151	1.4999	1

Bank	Year	Quarter	Asset quality	Liquidity	Capital adequacy	Loan volume	Dummy
Paramount Bank Ltd	2015	Q4	0.0117	1.5199	0.79162	1.1499	1
Paramount Bank Ltd	2015	Q5	0.0248	0.9099	0.16469	0.6299	1
Paramount Bank Ltd	2015	Q6	0.0309	0.8699	0.53169	2.1999	1
Paramount Bank Ltd	2015	Q7	0.021	1.0599	0.38409	2.7199	1
Paramount Bank Ltd	2016	Q8	0.0444	0.9199	0.23143	2.8199	1
Paramount Bank Ltd	2016	Q9	0.0501	0.9199	0.21158	1.4899	1
Prime Bank	2014	Q1	0.0366	0.9199	0.21158	2.4599	1
Prime Bank	2014	Q2	0.05167	0.9099	0.31459	0.3299	1
Prime Bank	2014	Q3	0.0571	0.7199	0.59134	0.1999	1
Prime Bank	2015	Q4	0.068	0.6999	0.36133	3.6949	1
Prime Bank	2015	Q5	0.0693	0.5599	0.27603	4.0379	1
Prime Bank	2015	Q6	0.0732	0.4599	0.25118	5.5979	1
Prime Bank	2015	Q7	0.0767	0.3999	0.79139	5.6209	1
Prime Bank	2016	Q8	0.0748	0.444436	0.23120	5.4309	1
Prime Bank	2016	Q9	0.0435	0.243758	0.76130	5.3959	1
Sidian Bank	2014	Q1	0.0411	0.173747	0.76126	3.7539	1
Sidian Bank	2014	Q2	0.0663	0.284073	0.18233	3.8669	1
Sidian Bank	2014	Q3	0.0596	0.853301	0.23207	4.5549	1
Sidian Bank	2015	Q4	0.0488	0.523158	0.22206	4.6679	1
Sidian Bank	2015	Q5	0.0292	0.273254	0.17199	6.6569	1
Sidian Bank	2015	Q6	0.0615	0.232549	0.21779	1.2099	1
Sidian Bank	2015	Q7	0.0591	0.422085	0.14184	2.0219	1
Sidian Bank	2016	Q8	0.0575	0.262482	0.33146	1.9689	1
Sidian Bank	2016	Q9	0.0457	0.211738	0.58121	1.4669	1
Stanbic Bank Kenya Ltd	2014	Q1	0.0561	0.672759	0.58091	1.3379	1
Stanbic Bank Kenya Ltd	2014	Q2	0.0483	0.634181	0.84091	6.3519	1

Bank	Year	Quarter	Asset quality	Liquidity	Capital adequacy	Loan volume	Dummy
Stanbic Bank Kenya Ltd	2014	Q3	0.0455	0.252721	0.82104	6.4299	1
Stanbic Bank Kenya Ltd	2015	Q4	0.084	0.244207	0.83105	7.0739	1
Stanbic Bank Kenya Ltd	2015	Q5	0.0944	0.244044	0.14277	6.5379	1
Stanbic Bank Kenya Ltd	2015	Q6	0.0742	0.244189	0.42219	7.3109	1
Stanbic Bank Kenya Ltd	2015	Q7	0.0835	0.354329	0.74195	1.4939	1
Stanbic Bank Kenya Ltd	2016	Q8	0.0834	0.293489	0.22173	1.5939	1
Stanbic Bank Kenya Ltd	2016	Q9	0.0918	0.272805	0.11259	1.3059	1
Standard Chartered Bank	2014	Q1	0.0947	0.813317	0.89307	1.2899	1
Standard Chartered Bank	2014	Q2	0.357	0.573731	1.52137	1.2569	1
Standard Chartered Bank	2014	Q3	0.35055	0.154103	0.97130	7.6999	1
Standard Chartered Bank	2015	Q4	0.2122	0.2615	0.97123	8.0789	1
Standard Chartered Bank	2015	Q5	0.2128	0.284267	0.51265	3.8859	1
Standard Chartered Bank	2015	Q6	0.1909	0.31409	1.31138	4.0309	1
Standard Chartered Bank	2015	Q7	0.2223	0.534382	1.77144	4.1929	1
Standard Chartered Bank	2016	Q8	0.2362	0.242912	0.87175	1.2909	1
Standard Chartered Bank	2016	Q9	0.2527	0.43273	1.95154	1.2909	1
Spire Bank Ltd	2014	Q1	0.2768	0.426822	1.97115	1.4259	1
Spire Bank Ltd	2014	Q2	0.2946	0.33422	0.04682	1.0809	1
Spire Bank Ltd	2014	Q3	0.0408	2.172771	0.05909	1.2149	1
Spire Bank Ltd	2015	Q4	0.0414	0.282913	0.13272	3.6389	1
Spire Bank Ltd	2015	Q5	0.0393	0.322623	0.10195	3.7919	1
Spire Bank Ltd	2015	Q6	0.0402	0.692511	0.07899	4.2779	1
Spire Bank Ltd	2015	Q7	0.0464	0.442728	0.19554	4.2599	1
Spire Bank Ltd	2016	Q8	0.0476	0.674696	0.38613	4.2469	1
Spire Bank Ltd	2016	Q9	0.0457	0.28439	0.07638	1.2049	1
Transnational Bank	2014	Q1	0.0485	0.339739	0.04721	1.1429	1

Bank	Year	Quarter	Asset quality	Liquidity	Capital adequacy	Loan volume	Dummy
Transnational Bank	2014	Q2	0.0655	0.125433	0.00450	1.3509	0
Transnational Bank	2014	Q3	0.0741	0.348605	0.03580	1.2939	0
Transnational Bank	2015	Q4	0.1320	0.474234	0.06377	1.2059	0
Transnational Bank	2015	Q5	0.0905	0.293242	0.38568	4.2659	0
Transnational Bank	2015	Q6	0.0725	0.363242	0.30783	4.4939	0
Transnational Bank	2015	Q7	0.0658	0.27285	0.26195	4.6249	0
Transnational Bank	2016	Q8	0.0612	0.492937	0.32567	5.7559	0
Transnational Bank	2016	Q9	0.0855	0.731365	0.34133	7.0259	0
UBA Kenya Bank Ltd	2014	Q1	0.0815	0.832708	0.02840	4.9489	0
UBA Kenya Bank Ltd	2014	Q2	0.0933	2.093033	0.04517	5.0299	0
UBA Kenya Bank Ltd	2014	Q3	0.0872	0.333301	0.04001	1.6899	0
UBA Kenya Bank Ltd	2015	Q4	0.0903	0.793095	0.03821	4.1699	0
UBA Kenya Bank Ltd	2015	Q5	0.2247	0.263337	0.04058	3.1199	0
UBA Kenya Bank Ltd	2015	Q6	0.2577	0.192882	0.37567	2.2599	0
UBA Kenya Bank Ltd	2015	Q7	0.2696	0.234003	0.03535	2.8699	0
UBA Kenya Bank Ltd	2016	Q8	0.2779	2.313775	0.04790	3.5999	0
UBA Kenya Bank Ltd	2016	Q9	0.2942	1.615535	0.03861	4.9399	0