EFFECT OF SUPPLY SIDE CHARACTERISTICS ON UPTAKE OF LOANS ON COMMERCIAL BANKS IN KENYA: CASE STUDY OF LISTED BANKS IN KENYA

BY

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DECLARATION

This project is my original work and has not been presented for an award of a degree in any other university. I also declare that this contains no material written or published by other people except where due references is made and author acknowledged

Sign……. Reg. No…….

Date……..

I do hereby confirm that I have examined the master's dissertationof

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And have certified that all revisions that the dissertation panel and examiners recommended have been adequately addressed.

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ABSTRACT

Loans are key component in the growth of a country, and therefore the uptake of loans in Kenya by consumers has acquired significant interest by central bank of Kenya and financial institutions. Loan uptake is affected by a number of factors that are either supply side factors or demand side factors. This study was carried out with an objective of investigating the effects of supply side characteristics on uptake of loans from commercial banks in Kenya. Specifically the study was guided by the following objectives: to determine the effect of bank size on uptake of loans from commercial banks in Kenya, To determine the effect of interest rates on uptake of loans from commercial banks in Kenya, to determine the effect of Liquidity on uptake of loans from commercial banks in Kenya, to determine the moderating effect of ownership structure on the relationship between supply side characteristics and uptake of loans from commercial banks in Kenya.The study was conducted using a correlation-study design. The target population for the study comprised all the 43 commercial banks registered by the central bank of Kenya. A sample size of 11 commercial banks was selected for the study.The study wasusing secondary data, which wasquantitative in nature and wascollected from the annual financial statements of the banks, central bank of Kenya reports and Kenya bankers association reports. The data collected was for the period 2007-2016. The quantitative data collected wasanalyzed by the use of panel data analysis and correlation analysis. The data was presented though tables, frequencies, charts and graphs. F**r**om the foregoing presented and analyzed findings bank specific factors is a significant firm characteristic of loan uptake among commercial banks in Kenya. Thus, it can be concluded that more assets portends loan uptake in commercial banks. The study concluded also indicates that large banks exhibits higher loan uptake than small and medium commercial banks.Lending rates, Liquidity and ownership structure were not found to be key contributors to loan uptake in commercial banks in Kenya. Thus, it can be concluded that increasing or decreasing lending rates, liquidity and ownership on their own does not necessarily results to loan uptake in commercial banks. The whole regression analysis was statistically significant indicating that bank specific factors significantly determines the loan uptake in commercial banks in Kenya. However, the significance of bank specific factors was small thus commercial banks in Kenya should put more emphasis on other bank specific factors not included in the model.The study recommends that commercial banks should pay more attention to bank assets that are found to have positively influence on loan uptake in Kenya. Further the study recommends the need for banks to pay significant attention to bank specific factors as the study revealed bank specific factors influence loan uptake. From the study findings, the study recommends the need for bank to pay attention to other bank specific factors not included in the model. The study recommends the need for government to develop policies and regulations that will enhance asset based of commercial banks.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Loaning practice in the world has existed since the period of the Industrial revolution for individual, commercial and production activities. This brought about the need for large capital investment through bank loans. Bank loans are one of the most important financing sources in many countries. Commercial banks are the most important savings mobilization and financial resource allocation institutions. Consequently, these roles make them an important phenomenon in economic growth and development. In performing this role, it must be realized that banks have the potential, scope and prospects for mobilizing financial resources and allocating them to productive investments (Olokoyo, 2011).

The role of bank's balance sheets in shaping the evolution of credit growth hasbeensubject to debate since the 2008 recession. On one hand, there is evidence that exposition to "toxic" assets has affected some banks' ability to lend (Puri et al., 2011).From a monetary policy perspective, it is important to know whether developments in aggregate loans to the customers are driven by changes in the demand for loans or by changes in the supply of loans. Indeed, the tools and actions that monetary policymakers may need to employ can differ substantially, depending on whether the central bank aims to affect the loan supply, loan demand or both. In addition, it is important to identify the underlying source of a shock to the supply of loans.

The existence of frictions in financial markets, such as asymmetries of information andincompleteness of financial contracts, imply that lenders will not always be willing to, or able to, finance projects with positive net present value. In such cases, the net worth of the borrower

and/or the lender is of crucial importance for loan supply, and for the ability of monetary policy to affect the provision of credit (see e.g. Bernanke & Blinder, 1988; Bernanke & Gertler, 1995; Bernanke, Blinder & Gilchrist, 1999; Diamond &Rajan, 2006).

It is important to distinguish between demand induced loan supply occasioned by lack of credit worthiness on the side of borrowers, and credit constraints occasioned by bank related factors such as availability of capital or the liquidity position. A clear distinction between demand side factors and supply side factors is crucial in so far as understanding their implication on monetary policy and the performance of the banks. For instance, monetary policy would respond to negative loan demand through reducing the interests rates and this would have a knock on effect on enhancing the demand of loans. On the contrary, monetary response towards a bank related supply shock would provide more liquidity and financial support to bank enabling them to maintain their credit flow to consumers.

Issuance of bank loans is considered one of the important functions carried out by banks, where it contributes to the provision of the necessary funding for all the sectors in the country, including the sectors of the household, business and government. The loan granted by bank is affected by many determinants which vary according to macro and micro factors.In general, the bank loan can be viewed from two perspectives, the demand side (from firms or individual's perspective) and the supply side(from financialintermediaries'perspective).The supply side is further divided into bank level characteristics and economy level characteristics, with the economy level characteristics focused on factors relating to economy and monetary level policy. This study will delve into supply level characteristics with a focus on both economy and bank level characteristics.

In general, however, it is difficult to identify the supply and demand effects that underlie credit developments, especially as shifts in demand and supply often occur simultaneously. They both have an impact on bank lending rates and credit volumes which depending on the situation may pull in the same direction. Empirically, it is therefore challenging to identify supply effects using aggregate time series. For that reason, individual bank-specific characteristics are often used in the empirical literature to identify factors that directly influence the supply of loans, while demand for loans is typically assumed to be independent of the situation of individual banks and to rather depend on macroeconomic factors (e.g. Peek & Rosengren, 1995; Kashyap & Stein, 2000; Ashcraft, 2003; Chatelain et al., 2003; Ehrmann et al., 2003; Gambacorta and Mistrulli, 2004; Kishan and Opiela, 2000 and 2006; Ashcraft and Campello, 2007; Den Haan et al., 2009; Altunbas et al., 2009; Jiménez et al., 2010). In addition to using such micro-based evidence, cross-country panel econometric approaches have been used by exploiting the cross-section variation to identify the importance of shocks to loan supply in explaining loan developments (e.g. Driscoll, 2004; Cihak and Brooks, 2008; and Cappiello et al., 2010).

1.1.1 Supply Side Characteristics

Supply side determinants are grouped into micro factors (bank specific) and macro factors (country specific). Among the micro factors (bank specific) are bank size, profitability, Liquidity, Capital, board size, the size of top management and origin of bank. Studies on bank lending behavior have noted that bank-specific variables have a capacity to explain the behavior of credit delivery (Gaiotti&Secchi, 2006). Among the widely discussed macro factors (country specific) used are monetary policy, GDP growth and inflation.

According to Choy and Siregar (2009),supply side behaviour towards lending is also driven by: the risk and cost factors associated with lending activity, financial institution and

market structure, the lending technology, and the lending infrastructure. Changes in the bank's capital or balance sheet liquidity might affect cost of funds to borrowers. In order to lend money to businesses, banks need to attract funds (bank capital, deposit liabilities, or wholesale funds) by paying a return or interest on them. Besides risk profile considerations, the business of lending is associated with several transaction costs (Venkatesh &Kumari 2011). These include: administrative costs, legal fees and costs related to the acquisition and dissemination of information.

Credit supply is also constrained by the banks' organizational size/structure in terms of the decision making strategy vis-à-vis the administration of lending functions: appraising and approving loan applications, monitoring of credit risks, reviewing loan performance, etc. Differences in bank organization structure account for the operational differences that exist in the loan approval processes of banks. As the size of an organization increases, it looses control between successive hierarchies because of its centralized decision making structure. Large banks therefore tend to follow explicit rules and procedures in order to avoid distortions, which tend to arise in a multiple layer structureEkpu(2015).Apart from size considerations, the lending practices of banks and their willingness to lend to customers are also largely correlated with the type of ownership structure of the lender. For example, conventional wisdom with regard to small business financing says that small domestic private banks are more likely to finance SMEs because they are better suited to utilizing 'relationship lending' approaches. Generally, banks supply of loans is also determined by lending technologies which have been increasingly adopted by Banks (Imran, 2011).

1.1.2 Uptake of Loans in Kenya

During the quarter ended December , 2016, the sector comprised 45 commercial banks, 1 mortgage finance company, 14 deposit taking microfinance institutions, 5 representative offices of foreign banks, 111 foreign exchange bureaus and 2 credit reference bureaus (CBK, 2016). The Kenyan banking sector continued to register improved performance with the size of assets standing at Ksh. 2.3 trillion, loans & advances worth Ksh. 2.27 trillion, while the deposit base was Ksh. 3.78 trillion and profit before tax of Ksh. 80.8 billion as at 30th September 2016 During the same period, the number of bank customer deposit and loan accounts stood at 15,072,922 and 2,055,574 respectively(Central Bank of Kenya, 2016).

The perceived demand for credit remained unchanged in eight out of eleven economic sectors in Quarter two of 2016. However, the actual demand for credit for Quarter two of 2016 indicated that Financial Services sector recorded the highest increase in demand for credit with an increase of Kshs 34.2 billion or 42.7% attributed to increased lending by banks to Microfinance banks and SACCO's to fund their activities within the quarter. Gross loans increased by 0.44% from Kshs 2.27 trillion in June 2016 to Kshs 2.28 trillion in September 2016. The ratio of gross non-performing loans to gross loans increased from 8.4% in June 2016 to 9.1% in September 2016. The dominant sectors with demand for credit are Mining and Quarrying, Tourism, Restaurant and Hotels, Energy and Water, Agriculture, Financial Services, Building & Construction, Trade and Personal/Household with building construction, household and trade leading in demand for credit (Central Bank of Kenya, 2016).

1.1.3 Commercial Banks in Kenya

The Companies Act, the Banking Act, the Central Bank of Kenya Act and the various prudential guidelines issued by the Central Bank of Kenya (CBK), govern the Banking industry in Kenya. The banking sector was liberalized in 1995 when exchange controls were lifted. The CBK, which falls under the Ministry for Finance's docket, is responsible for formulating and implementing. monetary policy and fostering the liquidity, solvency and proper functioning of the financial system. The CBK publishes information on Kenya's commercial banks and non-banking financial institutions, interest rates and other publications and guidelines (fin Access, 2010).Currently there are 43 licensed commercial banks and 1 mortgage finance company, fifteen micro finance institutions and forty-eight foreign exchange bureaus in Kenya. Thirty-five of the banks, most of which are small to medium sized, are locally owned (Central Bank of Kenya annual report 2007).

The industry is dominated by a few large banks most of which are foreign owned, though some are partially locally owned. Nine of the major banks are listed on the Nairobi Stock Exchange. The banks have come together under the Kenya Bankers Association (KBA), which serves as a lobby for the banks' interests and addresses issues affecting member institutions. The commercial banks and non-banking financial institutions offer corporate and retail banking services but a small number, mainly comprising the larger banks, offer other services including investment banking, insurance services and custodial services among others (Dikken and Hoeksema, 2001). Banks represent a significant and influential sector of business worldwide that plays a crucial role in the global economy. Commercial banks are financial intermediaries that serve as financial resource mobilization points in the global economy. They channel funds

needed by business andhousehold sectors from surplus spending to deficit spending units in the economy.

A well-developed efficient banking sector is an important prerequisite for saving and investment decisions needed for rapid economic growth (Ka'kumu& Mburu, 2013). A well-functioning banking sector provides a system by which a country's most profitable and efficient projects are systematically and continuously funded. The role of banks in an economy is paramount because they execute monetary policy and provide means for facilitating payment for goods and services in the domestic and international trade (Shambe, 2003). Commercial banks are custodians of depositor's funds and operate by receiving cash deposits from the public and loaning them out to the needy at statutorily allowed interest rates. Loans are based on the credit policy of the bank that is tightly coupled with the central bank interest rate policy. These in effect determine the level of financial risk in a bank.

1.1.4 The Relationship between Supply Side Factors and uptake of loan

Supply side factors relate to factors internal to the banks themselves and the environment they operate in and they include: the legal and judicial environment that is deficient and does not protect property rights, the heightened macroeconomic volatility forcing banks to maintain higher cash reserve with the Central Banks, internal factors relating to assessment of organizations credit especially in the absence of financial statements that can predict the future repayment ability of the organizations. Other supply side factors include the bank own strategy towards the organization segment, the level of profitability, the level of competition, the cost of lending to the organization segment as compared to lending to the corporate segment, the level of interest rates in the economy, and finally the relationship organization customer has with a large

corporate customer of the bank since this relationship helps the bank to get a lot of information regarding the organizations (De La Torre et al., 2008).

In general, a number of studies have been conducted to establish the association between the supply side factors and bank lending (Cappiello et al., 2010, Den Haan et al., 2009; Jiménez et al., 2010). These studies have shown that supply sides factors have impact on bank lending rates and credit volumes. However, from these studies bank size has been established to having a positive effect on bank lending (Cappiello et al., 2010) while interest rates and liquidity position of commercial bank have been indicated to have a negative relationship with bank lending(Den Haan et al., 2009; Jiménez et al., 2010). Individual bank-specific characteristics such as bank size and transaction costs have been found to directly influence bank lending (Ashcraft, 2013; Chatelain et al., 2012).

1.2 Statement of the Problem

The uptake of loans is determined by a number of factors that include both demand and supply related factors in Kenya. The central bank of Kenya as a sole regulator focuses on creating monetary policies that can spur the uptake of loans in Kenya. Banks, which are in business of lending also focus on how to improve the uptake of loans to increase their financial performance. However, the uptake of loans is determined by supply factors from banks and central bank of Kenya, with these factors changing with time. As a result, the uptake of loans has been affected by the variation in factors (CBK, 2016; Muriuki, 2012).

Loan uptake in Kenyahas largely stagnated, with minimal increases between 2015 and 2016(CBK Bank Supervision Reports). To spur the uptake of loans from the consumers the government has tried to address both the demand and supply factors. On the supply side the government tried to reduce the interest rates through interest cap. On the demand side the

government recently signed movable property security bill to allow customer easy access of loans through assets (CBK, 2017). Despite, the attempts by government to increase uptake of loans through interest caps, the uptake of loans has not experienced significant increase thus begging the question, how has supply factors affected the uptake of loans in Kenya.

Several studies have been conducted on determinants of loan supply by commercial banks. Globally, studies by,Ekpu(2015), which focused on determinant to SMEs loan supply. These study dwelt on monetary policy and its effect on loan supply. The findings revealed that interest rates are key determinants of loan supply. Pham and Hong (2015) did a study on determinants of domestic credit across 146 countries with the study focusing on effect of macro-economic factors on loan uptake. From the findings it was established that the interest rates is a key determinant of loan supply across the 146 countries in the study. Boadi (2016) also did a study to determine the determinants of credit supply to SMEs in Ghana with the study showing that bank size and profitability all determine credit supply to SMEs.A similar study was carried by Olokoyo (2011) on determinants of commercial bank lending behavior in Nigeria. The study results indicated a significant association between interest rate, liquidity ratio and loan supply. The aforementioned studies have all focused-on supply factors affecting credit to SMEs and not uptake of loans in general.

Locally, studies by Muriuki (2012) have been conducted on supply side factors affecting loan uptake of commercial banks with the results indicating that credit policies, information asymmetry and interest rate to be affecting loan uptake. However, this study was limited since it used primary data. Besides, the study was carried out before the interest rate cap law was introduced thus necessitating this study.

1.3 Objective of the Study

The general objective & specific objectives of this study are as elucidated below.

1.3.1 General Objective

The main objective of this research study was to investigate the effects of supply side characteristics on uptake of loans from commercial banks in Kenya.

1.3.2 Specific Objectives

The study wasguided by the following research objectives:

i. To determine the effect of bank size on uptake of loans from commercial banks in Kenya
ii. To determine the effect of interest rates on uptake of loans from commercial banks in Kenya.
iii. To determine the effect of Liquidity on uptake of loans from commercial banks in Kenya
iv. To determine the ownership structure on the relationship between supply side factors and uptake of loans.

1.4 Research Questions

The study wasguided by the following research questions.

i. What is the effect of bank size on the uptake of loans from commercial banks in Kenya?
ii. What is the effect of interest rates on uptake of loans from commercial banks in Kenya?
iii. What is the effect of liquidity on uptake of loans from commercial banks in Kenya?
v. What is the effect of ownership structure on the relationship between supply side factors and uptake of loans.

1.5. Significance of the Study

This study is hoped to be of significance to various stakeholders. The findings of the study was expected to shed more light on how various supply side characteristics that affect the uptake of loans and ultimately the operations of the entire bank. These includes:

1.5.1 The Bank Management: The findings are hoped to lay ground for designing and implementation of sound strategies to cushion the effect of various factors that may affect the smooth running of the bank.

1.5.2 Government: Government plays a critical role in cushioning financial institutions against tough economic times. The findings of this study on how various supply side factors affect the uptake of loan are hoped to bring about changes in financial policy formulation and implementation.Economic policy makers can understand from this study the factors affecting lenders' decisions to lend to customers including both bank level and country factors thus facilitating development off sound financial policies.

1.5.3 Scholars: The study findings was expected to arouse curiosity to researchers and scholars to investigate on other factors affecting the financial institutions in Kenya. Further, the study findingswasexpected to contribute to the global knowledge on the supply factors affecting the uptake of loan from Commercial Banks. The study will also contribute in the testing of liquidity creation theories and loanable fund theory thus contributing to more understanding on the theories and their applicability in emerging markets.

1.6. Limitations of the Study

One main limitation of the study might be linked to the use of fixed or random panel data techniques. This is because dynamic panel bias problem resulting from endogeneity associated with models which have lagged terms of the dependent variable as an explanatory variable may arise in the model.

1.7 Basic Assumptions of the Study

The study assumes that all the data for commercial banks was readily available from central bank of Kenya and Kenya Bankers Association.

1.8 Scope of the Study

This study was limited to the effects of supply side characteristics on uptake of loans from commercial banks in Kenya. The study was limited to the following variables, loans and advances, liquidity, interest rate and bank size. The study will also cover a ten year period between 2007-2016.

CHAPTER TWO

LITERATURE REVIEW

2.1Introduction

This chapter summarizes the information from other researchers who have carried out their research in the same field of study. The specific areas covered here are theoretical; which discusses the theories that support and are related to the study. The next area of discussion is the empirical review then followed by a conceptual framework drawn from the variables in the literature review.

2.2 TheoreticalReview

To give firm ground to the study, the doctrines of the theory of financial intermediation will be reviewed. These are specifications, relevant to the financial services industry, of the agency theory, and the theory of imperfect or asymmetric information. Basically, we may distinguish between three lines of reasoning that aim at explaining the reason for financial intermediaries: information problems, transaction costs and regulatory factors.

2.2.1 Liquidity Creation Theories

Liquidity creation theories were initially propagated by Bryant, 1980; Diamond and Dybvig, 1983 who reviewed a collection of theory to develop theories on liquid creation in financial institution. This theory refers to the process through which commercial banks provide illiquid loans to borrowers while giving depositors the ability to withdraw funds given rates. Bank liquidity creation is important process in bank lending function as it determines the level of money available for lending. The theory further argues that the creation of liquidity comes with

risks that the bank must faces, with one such risk includes the liquidity risk (Acharya, Shin, and Yorulmazer, 2009).

Two strands of theories explain liquidity creation in commercial banks. These are financial fragility-crowding out and the risk absorption theories, referred to by Berger and Bouwman (2009). The financial fragility crowding out theory predicts that the effect of bank capital on lending is negative because, unlike depositors, capital investors who cannot run on the bank are reluctant to provide loans. Thus, banks with a higher capital ratio might supply fewer loans by crowding out deposits. Conversely, the effect of bank capital on lending is positive under the risk absorption theory because bank capital enhances banks 'risk-bearing capacity.

Turning to the theory of fragility crowding on the relationship between bank capital and liquidity creation, some recent contributions suggest that bank capital may impede liquidity creation by making the bank's capital structure less fragile (Diamond and Rajan, 2000, 2001). A fragile capital structure encourages the bank to commit to monitoring its borrowers, and hence allows it to extend loans. Additional equity capital makes it harder for the less-fragile bank to commit to monitoring, which in turn hampers the bank's ability to create liquidity. Capital may also reduce liquidity creation because it "crowds out" deposits. The strands of liquidity creation is significant to the study as it will help understand the process of liquidity creation among banks in Kenya, with this involving capital adequacy ratios. In addition this strand will provide understanding to the distribution of liquidity among various commercial banks and the effect of liquidity position of banks on loan uptake in general.

The theory argues that liquidity creation is relatively weak for small banks as opposed to big banks that have more option when it comes to liquidity creation. Thus the theory argues that small bank may portend more liquidity risk which may limit their ability to lend in comparison to

big banks which may have relatively lower liquidity risks. The theory also propagates that there is need to cushion banks against liquidity risks, and one such way entails the use of regulatory scrutiny though central banks across the countries. (Gorton and Winton, 2000). A number of studies have applied the liquidity creation theory in bank lending studies. Von Thadden (2004); Coval and Thakor (2005) applied liquidity creation theory in determining the bank lending rates while Kashyap, Rajan, and Stein (2002) applied liquidity creation theories in understanding the factors that determine bank lending rates. From the aforementioned studies it is evident that liquidity creation theory is important in understanding the relationship between liquidity, bank size (measured through capital) and uptake of loan in the study.

2.2.2 Loanable Fund Theory

Various theories of interest rates put together explain variables which determine interest rates; these theories differ because of differences of opinion as to whether interest rates are monetary or real phenomenon. However, this study will apply, loanable funds theory.

The theory was developed by Hansen (1951), following his criticism of Keynesian theory of credit supply. According to the theory, amount of credit is strictly limited by the amount of saving and deposits with the volume of credit does not dependent on the quantity of money savings but on banks' ability and willingness to provide credit and on borrowers' willingness to increase their debts. According to the loanable funds theory of Robertson (1968), the rate of interest is determined by the intersection of the demand-schedule for loanable funds with the supply schedule, here the supply-schedule is composed of savings (in the Robertson sense voluntary savings) plus net additions to loanable funds from new monies (change in money supply) and the discharging of idle balance. However, since the savings portion of the schedule varies with the level of disposable income (i.e. yesterday's income) it follows that the total

supply schedule of loanable funds also varies with income, therefore this theory is also indeterminate.

According to this theory, the supply and demand of loan able funds or excess bank reserves is the main determinant of interest rates. In situations where the demands for loan exceed the supply of loans, interest rates will rise in the favour of Banks, and to the disadvantage of borrowers. This theory builds upon the classical theory of interest rate by recognizing the fact that money supply significantly influences saving and investment. The market interest rate (the cost of credit) is determined at the rate that equates the supply of loans to the demand of loan Ngugi,(2001). Loanable funds theory has an implication on bankers', savers and borrowers. According to this theory, this group should be well compensated at the equilibrium. Interest rate on loan should be structured in a way that every party feels comfortable.

Changes in the bank's capital or balance sheet liquidity might affect cost offunds to borrowers. In order to lend money to businesses, banks need to attract funds (e.g. bank capital, deposit liabilities, or wholesale funds) by paying a return or interest on them. According to the loanable funds theory, banks need to aim to hold deposits for similar lengths of time as the term of loans financed. In order to survive, banks have to cover the interest rates they pay on deposits from interest rates they charge on loans (interest margin). Higher loan prices in turn affect the quantity of funds intermediated by banks and this by extension will affect the loan available to clients.

Hubbard et al. (2002) investigated the effects of banks' financial condition on uptake of loans through the use of loanable funds theory. They found that capital-constrained banks charge higher loan rates than well-capitalised banks and that this ends up affecting loan uptake from such commercial banks. Similarly, Muriithi and Waweru (2017) used loanable funds theory to

analyze the effect of liquidity of financial position of commercial banks in Kenya. These studies attest to the importance of loanable funds theory in understanding how liquidity, capital, deposits and interest rates affect loan uptake in commercial banks.

2.2.3 Theories of Inflation

Inflation is a sustained increase in the average price of all goods and services produced in an economy. Money loses purchasing power during inflationary periods since each unit of currency buys progressively fewer goods as defined by Šeligová (2013). The demand-pull inflation paradigm opines that demand pull inflation occurs when aggregate demand for goods and services is greater than the aggregate supply such that the resultant excess demand cannot be satisfied by running down on existing stocks, diverting surpluses from the export market to the domestic market, increasing imports or postponing demand (Auerbach, 1976). The cost-push inflation school opines that inflation rises from increases in the cost of the factors of production, especially rising wages emanating from trade union activities embodying also a social-political view (Cobham, 1981).

The Structuralism explain the long-run inflationary trend in developing nations in terms of certain structural rigidities, market imperfections and social tensions in those nations, relative elasticity of the food supply, foreign exchange constraint, protective measures, rise in the demand for food, fall in export earnings hoarding, import substitution industrialization, political instability, etc. Monetarists opine that inflation is always and everywhere a monetary phenomenon; (Friedman, 1966) hence prices tend to rise when the rate of increase in money supply is greater than the rate of increase in real output of goods and services (Johnson, 1973). The monetarists hypothesize that inflation is always and everywhere a monetary phenomenon, and maintain that a monetary and financial stability policy is a necessary pre-requisite for rapid

economic development. Therefore, monetarism stresses that, for demand or structurally motivated inflation to hold, expansion of money supply would be required to finance the increasing nominal national income brought about by rising prices. The consequent expansion of money supply outstripping demand for money gives rise to inflation, especially if output does not expand as much as money supply.

The role of theories of inflation have been applied in studies by Muriuki (2012) and Mwangi (2015) who conducted studies to test the determinants of loan uptake in commercial banks in Kenya. The studies affirmed the role of inflation theories in understanding the factors that affect loan uptake in commercial banks. Thus the theories of inflation will provide framework to understand how inflation affect loan supply through money supply function.

2.3Empirical Review

This section will focus on empirical literature focusing on study objectives, particularly on bank size, liquidity, interest rates, inflation and loan uptake.

2.3.1 Bank Size and Loan Uptake

Bank size is measuredusing the logarithm of total assets. Bank size represents either the largeness or smallness of the bank. Bank size is introduced to account for existing economies or diseconomies of scale in the market. It is well established that larger banks allocate smaller percentages of their assets to small business loans than do smaller banks (Cole et al., 2004). Unlike small banks, large banks are able to evaluate hard information from SMEs since they can exploit scale of economies (Haas et al., 2010). Baum (2008) posits that, larger banks tend to alter their lending (up or down) more than their smaller counterparts during times of heightened uncertainty. Small banks generally avoid very large loans in order to preserve adequate

diversification (Strahan &Weston, 2006). Typically, small banks lend larger proportion of their assets to small businesses than do large banks (Bikker&Hu,2002).

Sharma and Gounder (2012) examined the change in the bank credit provided to the private sector in six economies in the South Pacific during the period 1982-2009. The study used the credit granted to the private sector as a dependent variable, while the independent variables included the average interest rate on the loans, the rate of inflation, the ratio of deposits to the GDP, the size of the banks' assets of output, a dummy variable reflecting the existence of a financial market, and the GDP. The results showed that the larger the bank size the more the loans itcan make available to customers and this can result in increased loan uptake. The results also indicated that strong economic growth leads to higher growth in credit for both small and big banks.

Chernykh and Theodossiou (2011) conducted a study that was applied to a sample of Russian banks; it was found that the average of those banks granted only 50% of their total assets in the form of long-term loans to the business sector, with a significant difference in the ratio of one bank to another. The study pointed out that the bank's ability to increase the volume of long-term commercial loans depend on various factors, including the capital, bank assets and availability of long-term liabilities, while the ownership of the bank had no effect on the size of loans. Also, the study reported that the banks which have a low level of assets provide less long-term loans, and the banks that operate in areas with a high competitiveness hesitate in granting long-term loans.

Olokoyo (2011) has discussed the determinants of bank lending for the commercial banks in Nigeria during the period 1980-2005, and their effectiveness in influencing the behavior of bank lending. The study sample included loans and advances granted by the Nigerian banks as a

dependent variable, while the independent variables included the size of the deposit, the size of the investment portfolio, the interest rate on the loans, the reserve requirement ratio and the liquidity ratio. Through using the regression analysis, the results showed the statistical significance of the study model and the independent variables were as expected. The study results indicated that the asset size of the commercial banks have the biggest impact on the behavior of lending by the Nigerian banks. Also, the study suggested the need of the commercial banks to increase their asset base as this will improve the performance of bank lending.

Guo and Stepanyan (2011) has looked at the change in the bank credit across a broad range of emerging economies over the past decade. The study used the credit granted to the private sector as the dependent variable while the independent variables included the foreign liabilities of banks, the volume of domestic deposits, the rate of inflation, the real GDP, the interest rate on deposits, the exchange rate, non-performing debt, and the money supply. The results also indicated that the domestic and foreign financing contributes positively to the growth of credit provided by banks. The study also found that the strong economic growth leads to an increase in credit growth and inflation rates, and that the expansionary monetary policies locally and globally lead to an increase in the volume of credit and thus strengthening the banking sector.

Berrospide and Edge (2010) indicated that the impact of the bank's capital on the bank lending is a key factor that determine the relationship between the financial conditions and the real activities of the bank. The study used the method of shared regression analysis to test the bank lending by large banks, and found a slight impact of the capital on the size of the bank loans. While Bakker and Gulde (2010) found that bank size only has significant effect on loan supply when moderated by factors such as liquidity and organization structure. Takáts (2010)

studied the bank lending behavior and found that during the financial crisis, the bank lending has fallen sharply across the border. By relying on the data of twenty-one emerging economies, the study found that during the financial crisis, the supply and demand factors contribute to the reduction of bank lending and that the supply shock was the main determinant of the slowdown of cross-border lending of the emerging markets during the crisis, with bank size a major determinant of lending activity of commercial banks.

Barajas et al. (2010) showed that the internal factors in banks such as the assets, capital and the quality of the loan help explain the differences in the credit growth across all the countries of the Middle East and North Africa. Grodzicki et al. (2010) examined the necessary conditions for the existence of a channel to carry the risks of the monetary policy in the Polish banking sector by testing whether the organization size of each bank have an impact on the money supply of loans. The study relied on the survey data of the Polish bank lending with tuning the factors related to the demand side. Also, the study found that the organizational size of the banks constitutes an important driver for the growth of credit; however, the financial constraints (capital and liquidity) were less important in determining the growth of credit. The study also demonstrated that the policies of bank lending were shifted to a large extent towards the perception of risks by banks. Furthermore, the study found that the efficiency of the transmission of the monetary policy may be weak in the small open economies such as Poland, compared with the large developed economies.

Ozsuca and Akbostanci(2012) did a study that focused on bank-level (size and access to funds) and market-based (interest rate, inflation rate, GDP) variables' impact on bank lending behavior in Turkey using quarterly bank level data of 15 private commercial banks and 3 state-owned banks for the 2003-2012 period. The empirical results indicate that banks' business loans

performance depends on its size, total liabilities, nonperforming loans to total loans (NPL) and inflation rate. Besides, ownership structure also affects the total business loans behavior. The results suggest that private banks loans performance is better than the state-owned commercial banks.

2.3.2 Liquidity and Loan Uptake of Commercial Banks

Liquidity is the ability of bank to fund increases in assets and meet obligations as they come due, without incurring unacceptable losses (BIS, 2008). Liquidity management of banks is critical as the very nature of banking business is to create liquidity by transforming liquid liabilities into illiquid assets. Aisen and Franken (2010) discussed that banks with ultimate liquidity stress may restrict lending but very high liquidity ratios may also be indicative of weaker demand for loans.

The empirical literature provides two opposite views on the relationship between liquidity and bank lending. Laidroo(2010) in his study of CEE countries discussed the need to have higher liquidity ratio as these banks are better protected from shocks to their deposit size (bank runs),that they should be able to expand lending and be less vulnerable to economic shocks. Similarly positive relationship between liquidity and credit supply is evidenced by findings of other research such as (Olkoyo, 2011; Olumuyiwa, Oluwatosin, & Chukwuemeka, 2012) from Nigeria and (Mitku, 2014) from Ethiopia. On the other hand, however, Gambacorta and Marques-Ibanez (2011) argue that the current developments in the financial sector reduced the need for liquid assets, so that the positive relationship may not be as evident as before. Hence, generally banks need to manage their liquidity very actively to get a good balance of both handling liquidity risk as well as maximizing lending growth.

In a study done by Luu et al., (2016) using bank-level panel data to examine the determinants of Ghanaian banks credit to SMEs. The study employed the generalized methods of moments using ten banks listed on the Ghana Stock Exchange to examine factors that determine banks credit to SMEs in Ghana. From the result of the study it was established that apart from the size of top management and GDP growth, the rest of micro (bank-specific variables) and macro (country) level sampled statistically influences bank credit to SMEs. Specifically, the coefficient of bank size, its profitability and inflation variables are negative demonstrating that in Ghana, bigger, most profitable banks and high inflation period limit credit to the SMEs sector.

In another study by Malede (2014) aimed at confirming the main determinants of commercial bank lending in Ethiopia by using panel data of eight commercial banks in the period from 2005 to 2011. It tested the relationship between commercial bank lending and its some determinants (bank size, credit risk, gross domestic product, investment, deposit, interest rate, liquidity ratio and cash required reserve). Through seven years financial data tested through Ordinary least square (OLS) it was concluded that there is significant relationship between commercial bank lending and bank size. Similarly, Nawaz, Naqvi and Nazir, (2013) conducted a study in Pakistan to empirically identifies the factors which explain the bank credit to the businesses in varying financial environments and emerging global challenges. Through panel data analysis the results indicate that the foreign liabilities, domestic deposits, economic growth, exchange rate, and bank size have a significant relationship with credit supply in the market. The results thus infer that the financial health and bank size of the banks play a significant and vital role in the determination of loan.

Central Bank of the Republic of Turkey (2012) conducted a study using a panel data of Turkish banks, empirically analyze the effect of bank liquidity on bank loan supply. The study

results suggest that bank specific liquidity is important in credit supply. Moreover, in determining their lending, banks consider not only their individual liquidity position but also that of the whole banking system. Besides, significance of the interaction between systemic liquidity and bank specific liquidity indicates that the more the excess systemic liquidity, the less relevant the bank specific liquidity position in bank lending. This study delved on analyzing the effect of liquidity on lending channel, of which loan supply is a major aspect. However, the study did not specifically focus on loan supply necessitating this study.

Kim & Sohn (2017) did a study to examine whether the effect of bank capital on lending differs depending upon the level of bank liquidity. The study used panel data technique to ascertain the effect on bank capital-loan supply relationship. The study found that the effect on credit growth of an increase in bank capital, defined as growth rate of net loans and unused commitments, is positively associated with the level of bank liquidity only for large banks and that this positive relationship has been more substantial during the recent financial crisis period. This result suggests that bank capital exerts a significantly positive effect on lending only after large banks retain sufficient liquid assets. This finding also suggests that the effect of an increase in bank capital on credit growth is significantly negative at low liquidity ratios, becoming significantly positive only after large banks retain sufficient liquid assets. This findings are relevant to the study in understanding the moderating effect of liquidity. However, the direct effect of liquidity on loan supply was not established.

2.3.3. Interest Rate and Loan Uptake

The factors that determine the level of universal bank lending rate are important to policy makers, investors, the banking industry and the public at large. The market for loans from

universal banks is competitive and rates on these loans have tendency to reduce the deposit rate and increase the cost of borrowing.

Ono, Aoki, Nishioka, Shintani, &Yasui (2016) examined the effects of long-term interest rates on bank loan supply. First, an unanticipated reduction in long-term interest rates increased bank loan supply, which lends support to the existence of the portfolio balance channel. Second, banks that enjoyed larger capital gains on their bond holdings due to a decline in interest rates significantly increased their loan supply, which lends support to the existence of the bank balance sheet channel. Further, the bank balance sheet channel was stronger in the case of loans to smaller, more leveraged, and less creditworthy firms, which suggests that a stronger balance sheet leads banks to increase their loan supply to credit-constrained and riskier firms. This study examined the effect of interest rates on bank supply with the study only focusing on long-term interest rates thus demanding more studies on overall effect of interest rates.

Luu, Ahia and Anafo (2015) did a study in Ghana to investigate the determinants of lending rates in the universal banks in Ghana by answering the, what are the determinants of lending rates of Universal banks in Ghana. Through using panel estimation techniques, the study found out that factors that affect the determinants of the lending rate in Ghana are Policy rate, Exchange rate, Treasury bill rate, GDP, Inflation, Bank size and HHI. The study recommended participation of all the stakeholders on reviews of existing policies on stability and sound practices in the economy. The study is of importance in understanding the effect of interest rates on loan supply. However, this was limited in so far as the bank focused on lending rate a determinant of loan supply in banks thus necessitating more studies over the same.

In another study byWanyoike and Macharia, (2016) which sought to determine the effect of volume of deposit and interest rate on total loan advanced by selected commercial banks in

Kenya. The study employed a correlation research design and constituted the 10 listed banks in Kenya over a 10-year period. From the findings, it was established that lending interest rates are negatively related and significantly affect the total loans advanced. Further, volume of deposit in commercial banks has a significant and positive effect on the total loan advanced. Therefore, commercial banks must innovate ways of increasing their profit through fee incomes and commissions since incomes from interest rate tend to decline with increase in the lending interest rate. The study is significant in providing knowledge on the relationship between interest rates and loan supply. However, the study is limited in that correlation design, with its weakness was used and the study only focused on listed commercial banks thus excluding other bank. This exposes the study to coverage error problems thus the need for this study.

Mwangi, (2015) carried out a study in Kenya to investigate the effect of interest rates on mortgage uptake in financial institutions in Kenya. This study employed descriptive research design and multiple regressions analysis over 10-year period. The study findings established a coefficient determinant of 95.1%. Money supply, interest rate and inflation were found to significantly affect mortgage uptake while GDP was found to be insignificant. The study concluded that interest rate negatively affects mortgage uptake and an increase in interest rate will lead to a decrease in mortgage uptake. The study therefore recommended that government should intervene to monitor interest rates and maintain it at reasonable levels to enhance mortgage uptake in Kenya. The study focus was limited to interest rates and mortgage uptake, an aspect of commercial loan. Besides, the study did not use econometric model approach necessitating more studies that have used econometric model.

Kalya (2013) conducted a research to determine the relationship between selected supply-side factors and lending to SMEs by commercial banks in Kenya. The study used descriptive

research design with the target population of the study being 44 commercial banks in Kenya. The study established that the interest rates charged by commercial banks are highly unpredictable and affect the loan lending to SMEs in Kenya. The study thus concluded that banks should pay attention to interest since it's a key determinant of loan supply to bank. The importance of the study cannot be underscored to the current study. Nevertheless, the study is limited in understanding supply side characteristics and loan supply since the study used primary data that has limitation. Secondly, the study was focused on loan supply to SME lending a section of loan supply commercial loans necessitating more studies on supply side factors and loan supply.

Similarly, Muriuki (2012) did a study to investigate the factors affecting loan supply in Commercial Banks in Kenya. Specifically, the study determined the effect of credit policies, interest rates, credit information sharing and competition on loan supply in Commercial Banks in Kenya. The study also concluded that interest rates have a significant effect on loan supply by commercial banks in Kenya. The study has limitations in so far as the study used primary data and regression model without using econometric model. This reduces the reliability of the findings which were based on opinions allowing for more studies that use econometric model.

2.3.4 Ownership identity and Loan Uptake

The proprietorship status of the bank is associated with Loan uptake. A few studies report that State possession may clarify the behaviour of risk taking of bankers and consequently the level of Loan uptake. For example, Salas and Saurina(2002) contend that to enhance the economic development of the country, state-owned banks have more motivators to fund riskier projects and to dispense more positive credits for small and medium firms. In the same vein, Micco*et al*. (2004) report that state-claimed banks have a tendency to have more finance and hence more available funds for credit. Others recommend that the connection amongst private and state

shareholding in the same bank could decide the risk level taken by banks. Hu et al. (2004) contend that unjustified risky behavior is lower when the two groups check and balance each other. In the inverse, when private and state shareholders connive, particularly in societies with little civil disciplines, problem loans was higher due to risky credit offering. Tian (2000) recommends that under conditions of market imperfection, due to a balancing mechanism between management incentives and bureaucracy forces, a mixed enterprise (joint shareholding of private and state proprietors) will augment social overflow.

Mamatzakis, Zhang and Wang (2017) in their study investigated whether ownership structure whether ownership type does matter for bank performance in an emerging market. The main findings regarding the impact of ownership structure on bank performance suggest that banks with high state shareholding tend to have poorer performance and low profitability and by extension low credit available for loans. In addition, banks with higher domestic privately shareholders are generally operated more profitably and offer more finances for credit. Furthermore, higher foreign ownership it was also established may limit loan uptake and bank performance. These findings support the evidence on existence of relationship between ownership structure and loan uptakes in commercial banks.

Reviewed literature show that the stabilizing effect of foreign banks on the credit supply in host countries during a domestic banking crisis. For Mexico and Argentina, Dages et al. (2000) find that foreign banks reported notable credit growth during domestic crisis periods and thereafter. Martinez Peria et al. (2005) confirm these results and show that foreign banks did not reduce their credit supply during adverse economic times in Latin America. Additionally, they find some evidence that foreign banks viewed crisis periods as an opportunity to expand business in the host countries through availing more money for credit resulting in increased loan uptake.

This international expertise will likewise prompt enhance nearby abilities through preparing and learning exchange. Empirically, Barth *et al*. (2002) locate a negative impact of foreign ownership on loan uptake on a cross nation analysis. They highlight that foreign banks raise loan quality in a country and may lead to improve domestic banks credit uptake. Boubakri et al. (2005) show that foreign participation lessens the level of risk taking amongst banks on a specimen of 81 banks from22 developing nations. Micco et al. (2004) find that foreign controlled banks are more performing than domestic ones for a panel of emerging countries.

Finally, it's worth noting that the magnitude of effect can be influenced by the management decision. The management decision in turn is affected by the interest of the owners which is determined by their investment preferences and risk appetite (Ongore, 2011). This therefore implies the moderating role of ownership identity. This study attempts to determine whether ownership identity significantly moderate the relationship between bank specific factors and loan uptake among commercial banks in Kenya.

2.4 Summary and Research Gaps

There is very little information on literacy levels of borrowers to banks financing. Greater literacy may speed up loan uptake as it provides a variety of alternatives which when utilized would promote their growth. It is imperative to move beyond the traditional and limited approaches and instead explore innovative and value-oriented applications to improve loan uptake in Kenya. Special efforts are required in order to raise public awareness on loan uptake as factors such as transaction costs, access to banking services, access to financing information and lending framework are still inhibitors to loan uptake in Kenya.

Further, public awareness is essential because of lack of a strong credit culture and stringent financial and legal conditions on debt financing. Unfortunately, there is limited research

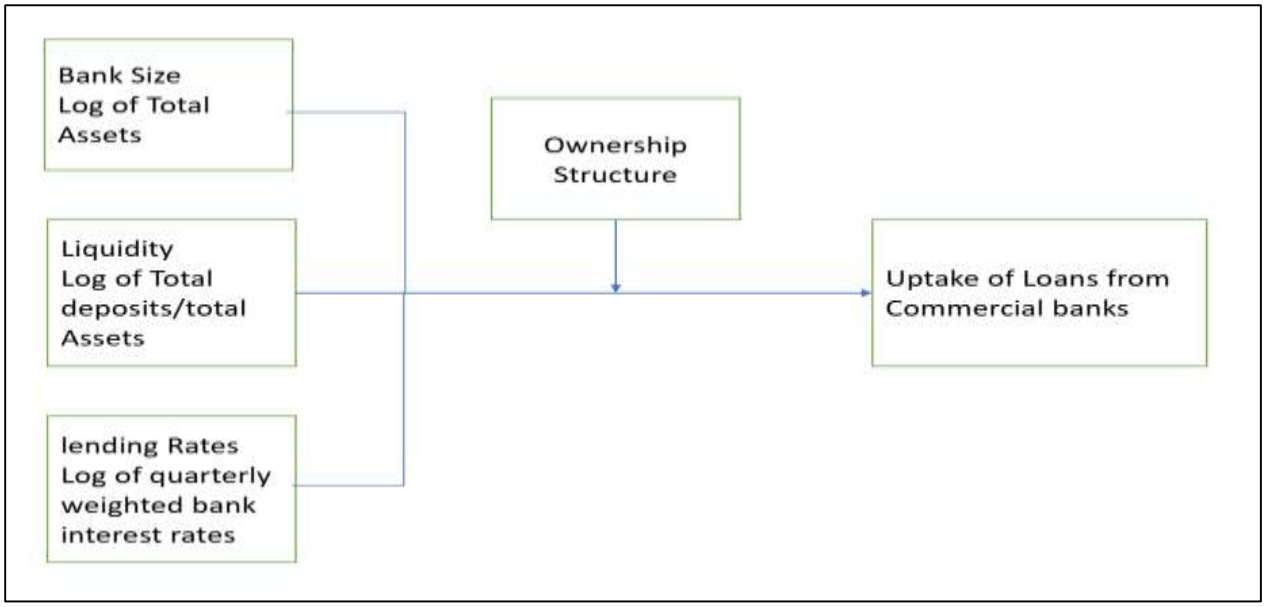
which has been done in Kenya on this area therefore this research intends to fill this research gap. Lastly but not the least, most studies reviewed have concentrated on demand side challenges affecting loan uptake. There is little research done on the supply side characteristics affecting loan uptake in Kenya. In this regard, this study focuses on the effect ofsupplyside factors that affect uptake of loan in Kenya. This forms the research gap and relevancy for this study.

2.5 Conceptual Framework

Conceptual framework shows the relationship or the link between variables in a study. Some of such variables are independent variables and dependent variable and moderating variables (Peil, 2003). The conceptual framework below shows the link between bank size, liquidity, interest rates and inflation and uptake of loans from commercial banks in Kenya.

Figure 2.1. Conceptual Framework

Independent Variables **Dependent Variable**



Source: Researcher (2016)

The uptake of loan in Kenya largely depends on how supply side factors such as bank size, liquidity and interest rate are managed in Kenya.

2.6 Knowledge Gaps

Author of Study	Aim of Study	Methodology	Findings	Knowledge Gaps	Focus of Current study
(Nawaz, Naqvi, & Nazir, 2013)	Role of rate of return, inflation and deposits on loan supply: An empirical study of banking sector in Pakistan	The study used ANOVA model to test the results	The study indicated that the supply of loan is largely affected with interest rate and inflation play a vital role in the supply of loan	The study focused on macroeconomic factors and ignored bank level factors	This study will focus on both bank level factors and macro-economic factors
Fahmy, Seoudi, &Tolba, (2014)	Factors influencing intentions of Egyptian MSME owners in taking commercial bank loans	The current study used a mix of qualitative and quantitative methodology	The study established that opinion of reference group and knowledge of finance are key in determining loan uptake among SMEs.	The study focused on demand factors and not on supply factors	The current study will focus on supply side factors influencing loan uptake
Kalya(2013)	The Relationship Between Selected Supply Side Factors And	The study used ANOVA model	The study indicated that profitability, relationship with a big corporate	The study only focused on SMEs and ignored other customers. The study also used ANOVA model	This study will focus on loan uptake by all customer in addition to

	Lending To Small And Medium Enterprises By Commercial Banks in Kenya		client, strategic focus, level of competition, interest rates and administrative cost of lending) determine loan uptake to SMEs	that doesn't factor time in the model	use Panel data model that is time dependent
Boadi(2016)	To examine the determinants of Ghanaian banks credit to SMEs	The study used Panel Data model	The study findings revealed that Bank Size, Bank Profitability, Size of top directors, Size of top management and SME debt ration influence bank credit to SMEs	The study was limited to SMEs and ignored other customer segment. In addition it ignored other bank specific and macro-specific factors that are important	This study will focus on all customer segments
Olokoyo(2011)	The study aimed to test and confirm	The study used Ordinary least Method as the	The study demonstrate that there is a	The model used in the study was limited as it is not	The study will address the limitation

	the effectiveness of the common determinants of commercial banks' lending behavior in Nigeria	model	positive functional relationship between commercial banks loans and advances and the interest rate (lending rate), stipulated cash requirement and liquidity ratios.	time variant	of OLS by using panel data method

2.7 Operationalization of Variables

The table below explains how the independent& dependent variables for the study were measured to getthe results for the study.

Variable	**Measurement of Variables**
Bank Size	Log of Total Assets
Lending Rates	Quarterly weighted interest rates from listed commercial banks
Liquidity	Cash and deposits due from banks/Total assets.
Ownership Structure	Shareholding structure
Uptake of Loans	Loan issued, and advances disbursed

Source: Author (2017)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the research methodology that was used in this study and provides a general framework for this research. The chapter presented details of the research design, target population, sample and sampling procedures, description of research instruments, data collection procedures and data analysis techniques.

3.2 Research Design

The present study was conducted through the use of cross-sectional correlation study design. This designenabled the researcher to test the relationship between the study variables over a period (Breakwell, Hammond & Fife-Schaw, 1995). The advantage of this type of design is that it allowed for analysis that provided strong findings on cause and effect relationship between variables.

3.3 Population of the Study

The target population for this study was the 43 commercial banks. However, imperial bank and chase bank must be removed from the target population bringing the target population to 41 commercial banks.

3.4 Sample of the Study

The sample of the study included11 commercial banks in Kenya listed at Nairobi stock exchange. This is because according to CBK these firms accounted for over 85% of loan and advances issued in Kenya.

3.5 Data Collection Technique

The study will use data that was sourced from the Central Bank of Kenya, Kenya Bankers association, Nairobi Stock Exchange and Capital Market authority. The data was for a 10-year period (2007-2016). This period wasselected to increase the validity and reliability of the results.

3.6 Data Analysis

The data collected was quantitative in nature and continuous data. This data was then entered in Microsoft Excel and cleaned, after which it was exported to STATA version 12 from where it was transformed ready for analysis. Before the analysis, diagnostic tests carried out include the following tests: normality tests, linearity tests, heteroscedasticity and multi-collinearity tests and unit root tests for stationarity.

3.6.1 Regression model

The study used panel data technique with both random and fixed effects to test the model. To determine which test to use the study used Hausman/Chaw test to settle on either fixed effect or random effect. The study used balance panel data techniques, thereby ensuring avoidance of estimation bias and specification problems.

The study used regression model as shown below:

$$L_{it} = \beta_0 + \beta_1 X_{1t} + \beta_2 X_{2t} + \beta_3 X_{3t} + \beta_4 X_{4t} + \beta_5 X_{5t}\ \alpha_i + \mu_{it}$$

Where:

L= Recorded Loans and advances in a year

α = Constant

$\beta 0 - \beta 4$ = Beta coefficients

X_{it} = Size of the Bank at time t

X_{2t} = Liquidity of bank at time t

X_{3t} = Interest rate of the bank at time t

X_{4t} = Ownership structure of the bank at time t

α_i = error term between variables

t = 110 observations

i=11 listed commercial banks

μ_{it} = error term within variables

To test for the controlling effects the study used

$$Y_{it} = \beta_0 + \beta_1 X_{1t} + \beta_2 X_{2t} + \beta_3 X_{3t} + \beta_4 X_4 X_5 + \alpha_i + \mu_{it}$$

β1 to β3 are coefficients of the independent variables and they explain to what degree are changes in loan uptake caused by a one unit change in independent variable. β_0 is equal to constant, with α_i equaling to error between variables. μ_{it} refers to the error occasioned by the random effects of the model. The R^2 measure was used to show how much of the performance percent of variation is explained by supply side factors. Pearson correlation (R^2) was used to measure the correlation between each independent variable and loan uptake. T test was used to establish if the relationship is significant with p value of less than 0.05 showing significant relationship

CHAPTER FOUR:

RESULTS AND INTERPRETATION

4.1 Introduction

This chapter discusses the interpretation and presentation of the findings. The purpose of the study was to analyze the effect of enterprise mobilization on operational performance with focus on multinational consumer package goods manufacturers in Kenya. The finding intended to answer the study's research questions. Data composed was collated and reports were produced in form of tables and figures and qualitative analysis done in prose.

This chapter discusses the results of different analyses conducted on secondary data obtained from the central bank of Kenya and the Nairobi stock exchange over a ten-year period, 2007-2016. The statistical analyses was based on the STATA software. The data was entered in excel and latter imported to Stata (12) for transformation. Transformation was done through log transformation followed by data analysis. The results are presented hereafter. The study was based on four specific objectives summarized below; to determine the effect of bank size on uptake of loans from commercial banks in Kenya, to determine the effect of interest rates on uptake of loans from commercial banks in Kenya, to determine the effect of Liquidity on uptake of loans from commercial banks in Kenya, to determine the controlling effect of ownership structure on uptake of loans from commercial banks in Kenya.

4.2 Exploratory Data Analysis

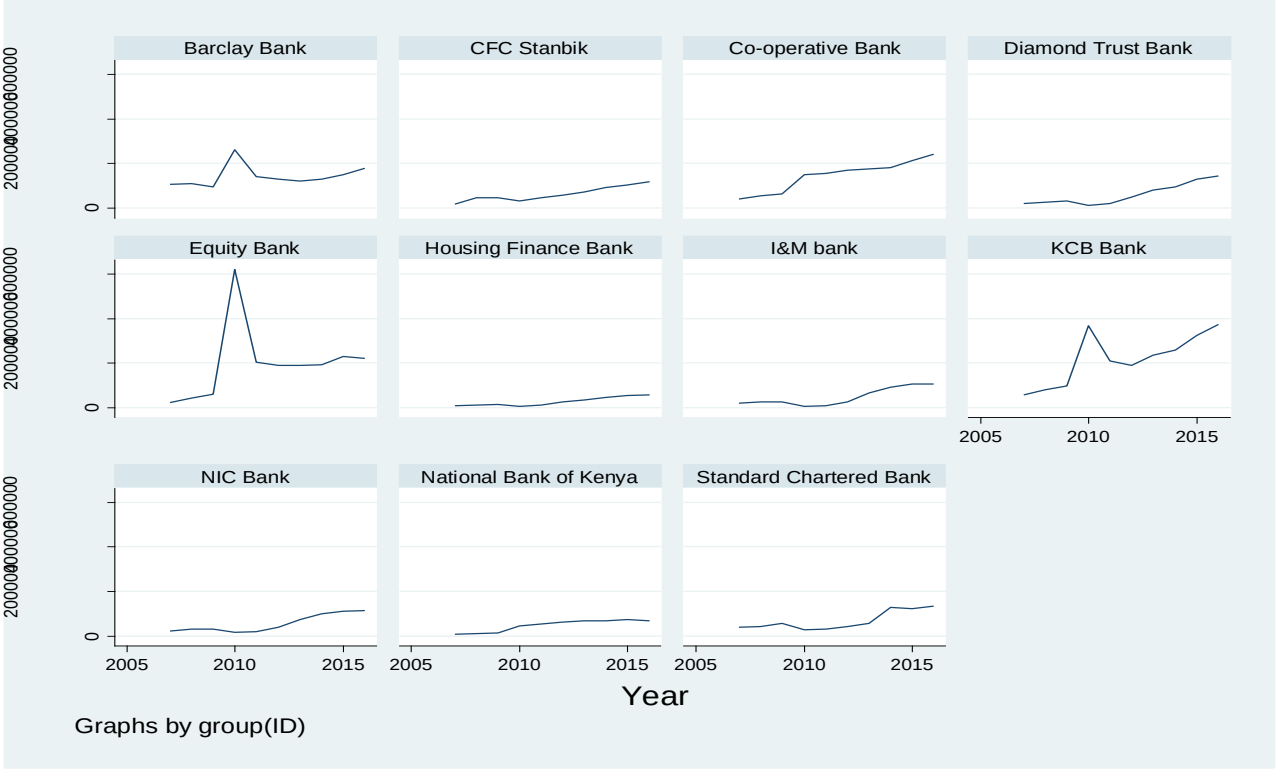


Figure 4. 1: Loan Uptake within Commercial Banks for the year 2007-2016

From figure 4.1 above, study results show that all the banks have generally have exhibited an upward trend in loan uptake. However, the study also shows that despite the upward trends in loan uptake, the banks have also experienced small period of downward trends in loan uptake.

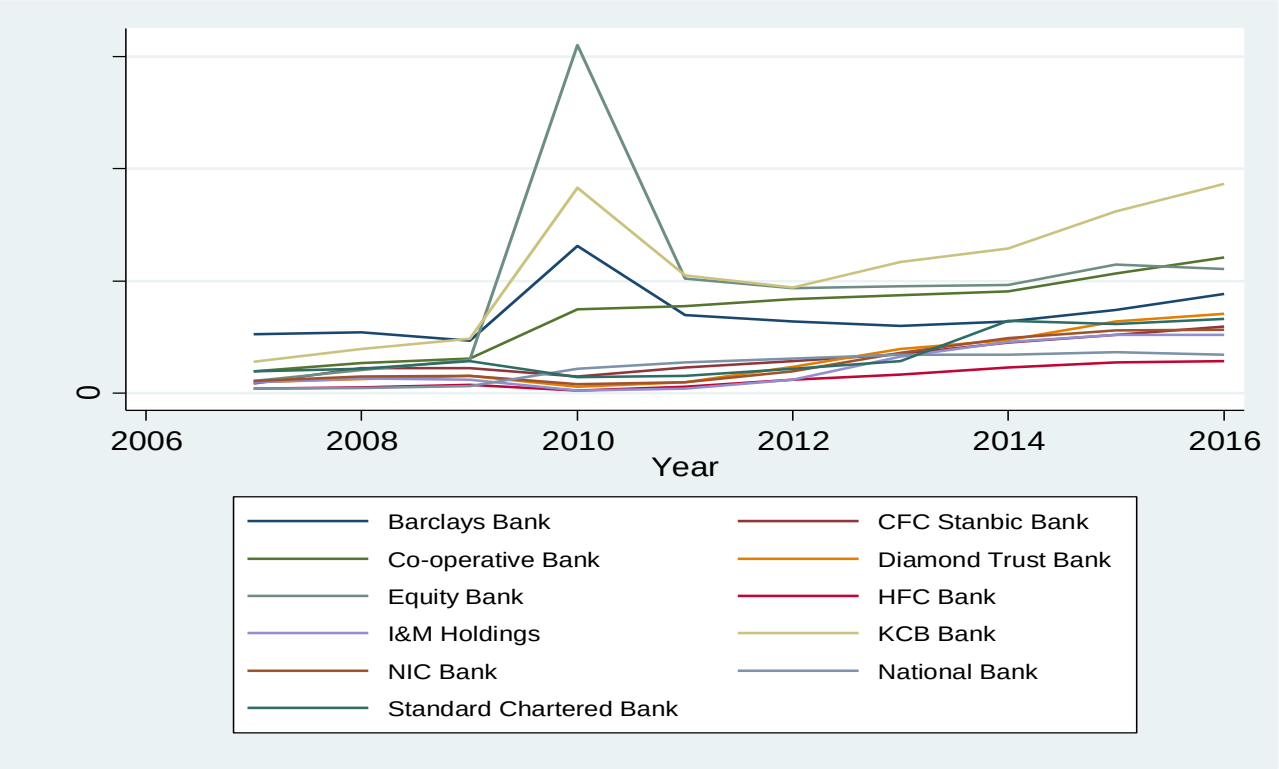


Figure 4. 2: Loan Uptake between Commercial Banks for the year 2007-2016

The results in the table above shows that loan uptakes among large banks increased significantly for the period between 2009-2011 and thereafter uptake of loans for both large, medium and small banks have been increasing at slower rates. The increase in loan uptake for large banks between 2009-2011 can be attributed to international financial institution giving money to large banks after post-election violence of 2007-2008 for lending to facilitate re-construction thereby increasing loan uptakes in large banks.

4.3 Diagnostic Tests

4.3.1 Test for Multi-collinearity

Table 4. 1: Multi-collinearity

Regression analysis is based on a number of assumptions, one of which is that there is no collinearity among the independent variables. Value inflation factor (VIF) for the independent variables was thus computed to check for unusually high values. The results of the analysis

showed that there was no multicolliniearity among all the variables. This was indicated by VIF values less than 4 that indicate absence of multicollinearity. The results presented in Table 4.1.

Variable	VIF	1/VIF
Liquidity	1.05	0.956586
TotalAssets	1.03	0.968480
OwnershipS~s	1.02	0.980786
LendingRates	1.01	0.993906
Mean VIF	1.03	

4.3.2 Normality Tests

A normality test was conducted on the panel data to determine the distribution of data in the series. The aim of the test was to determine the normality of the variables for analysis. From the results of the Shapiro wilts test the results indicated that only one variable was not normal, with the variable being ownership structure. This variable was a categorical variable. The pertinent results are presented in Tables 4.2 below.

Table 4. 2: Normality Test

Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
LendingRates	110	0.84426	13.927	5.873	0.00000
Liquidity	110	0.91572	7.536	4.504	0.00000
TotalAssets	110	0.88936	9.894	5.111	0.00000
OwnershipS~s	110	0.99598	0.360	-2.280	0.98870
LoanUptakeM	110	0.79417	18.406	6.495	0.00000

4.3.3 Heteroscedasticity

Wooldrige(2002) test for auto correlation was used to test for residuals. The results indicated that there was serial correlation in the data. This was shown by p-values less than 0.05. However, Wooldrige (2003) argues that heteroscedasticity does occur in panel data with less than 20 years,

in the study data set. Thus he argue that heteroscedasticity has minimal impact on data analysis results of small data sets but large data set, and hence can be assumed in small data sets.

Table 4. 3: Heteroscedasticity Test

```
Wooldridge test for autocorrelation in panel data
H0: no first order autocorrelation
     F(  1,        10) =       9.169
               Prob > F =       0.0127
```

4.3.4 Unit Root Tests for Stationarity

Unit root test for stationary was carried out for the panel data. Harris and Tzavalis(1999)test was used for unit root test as it assumes lack of cross-section dependence and is most suitable for small sample size, similar to the study. The results revealed that all the independent variables were stationary except bank size. Total assets was converted to stationarity through first order difference making the data fit for modelling.

```
Harris-Tzavalis unit-root test for LoanUptakeM
---------------------------------------------

Ho: Panels contain unit roots                Number of panels  =      11
Ha: Panels are stationary                    Number of periods =      10

AR parameter: Common                         Asymptotics: N -> Infinity
Panel means:  Included                                    T Fixed
Time trend:   Not included
------------------------------------------------------------------------------
                     Statistic          z          p-value
------------------------------------------------------------------------------
 rho                    0.2747       -5.4459        0.0000
------------------------------------------------------------------------------

. xtunitroot ht LendingRates

Harris-Tzavalis unit-root test for LendingRates
----------------------------------------------

Ho: Panels contain unit roots                Number of panels  =      11
Ha: Panels are stationary                    Number of periods =      10

AR parameter: Common                         Asymptotics: N -> Infinity
Panel means:  Included                                    T Fixed
Time trend:   Not included
------------------------------------------------------------------------------
                     Statistic          z          p-value
------------------------------------------------------------------------------
 rho                    0.1922       -6.4385        0.0000
------------------------------------------------------------------------------

. xtunitroot ht Liquidity

Harris-Tzavalis unit-root test for Liquidity
-------------------------------------------

Ho: Panels contain unit roots                Number of panels  =      11
Ha: Panels are stationary                    Number of periods =      10

AR parameter: Common                         Asymptotics: N -> Infinity
Panel means:  Included                                    T Fixed
Time trend:   Not included
------------------------------------------------------------------------------
                     Statistic          z          p-value
------------------------------------------------------------------------------
 rho                    0.1834       -6.5436        0.0000
------------------------------------------------------------------------------

. xtunitroot ht TotalAssets

Harris-Tzavalis unit-root test for TotalAssets
---------------------------------------------

Ho: Panels contain unit roots                Number of panels  =      11
Ha: Panels are stationary                    Number of periods =      10

AR parameter: Common                         Asymptotics: N -> Infinity
Panel means:  Included                                    T Fixed
Time trend:   Not included
------------------------------------------------------------------------------
                     Statistic          z          p-value
------------------------------------------------------------------------------
 rho                    1.0318        3.6637        0.9999
------------------------------------------------------------------------------
```

```
Harris-Tzavalis unit-root test for gap_d1
---------------------------------------------

Ho: Panels contain unit roots                  Number of panels  =      11
Ha: Panels are stationary                      Number of periods =       9

AR parameter: Common                           Asymptotics: N -> Infinity
Panel means:  Included                                      T Fixed
Time trend:   Not included
------------------------------------------------------------------------------
                     Statistic          z          p-value
------------------------------------------------------------------------------
 rho                    0.0369       -7.2880        0.0000
------------------------------------------------------------------------------
```

4.4 Descriptive Statistics

This section focuses on exploring the variables to understand the patterns of the data generally. Descriptive statistics was carried out to explore the patterns of the variables.

Table 4. 4: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
LoanUptakeM	110	96836.09	94025.18	4467	619561
LendingRates	110	18.02615	4.39047	13	33
Liquidity	110	.794028	.0926185	.4427779	1.050956
TotalAssets	110	1.64e+08	1.15e+08	1.04e+07	5.95e+08
OwnershipS~s	110	2.181818	.719095	1	3

The sample covered a total of 11 commercial banks that are listed at the NSE covering a period of 10 years from 2007 to 2016. The period of observation is from January 2007 to December 2016 resulting to a balanced panel. The mean score for loan uptake was 96,836 million with a standard deviation of 94,025 million and minimum- maximum values of 44,670,000 and 619,561,000 respectively. These results indicate that there is a large dispersion in terms of loan uptake between banks during the study period. Lending rates for the study averaged 18.02, with the minimum lending rates and maximum lending rates been 13% and 33% respectively while standard deviation was 4.39047. This results indicate that most of the banks' lending rates revolve around 18%, with small variation across banks. Concerning liquidity, the study results

indicate that the mean for liquidity is 0.794028 with a standard deviation of 0.0926185. This results demonstrate that most banks in Kenya have a positive liquidity position. Further, the results indicated that the mean of banks total assets is 16.4 billion with a standard deviation of 1.15 billion. The findings show that most banks in Kenya have good asset base. Finally, the results indicated that the mean of ownership structure was 2 showing that most of commercial banks in Kenya have government participation in ownership.

4.5 Fitting the Model

The next technical issues relate to the panel structure of the sample. The first one to be addressed is testing for unit effects (Wooldridge, 2002). When unobserved unit effects are present in a panel the OLS estimator is biased and inconsistent. However, there are panel estimation methods that deal with this and their main difference relates to the correlation between the unit effects and the explanatory variables. Random effects estimation assumes that there is no correlation, whereas fixed effects estimation allows for it. If there is such correlation, the random effects estimator is inconsistent. There is a method developed by Hausman (1978) which tests whether there is a systematic difference between the estimated coefficients of the random and fixed effects estimation. According to Park (2011) the selection of random tests and fixed effect is determined by the p-value, with a p-value of less than 0.05 leading to selection of fixed effect and above 0.05 leading to selection of random effect model. Table 4.5 below has the results of Hausman specification tests. The Hausman specification test shows that random effect is used in the model since p-value is above 0.05.

Table 4. 5: Hausmann Tests

	Coefficients			
	(b) fixed	(B) random	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
LendingRates	1163.345	1391.179	-227.8337	454.3941
Liquidity	64696.52	92121.99	-27425.48	22073.55
Assets	.000664	.0009621	-.000298	.000044

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

Test: Ho: difference in coefficients not systematic

chi2(2) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 1.56
Prob>chi2 = 0.4585
(V_b-V_B is not positive definite)

4.6 Testing the Fixed Effects Model

A random effect analysis was performed on the relationship between the study variables, bank size, total assets, liquidity, and ownership structure and loan uptake. Table 4.6 and Table 4.7 below reports the regression results with and without control variables.

The linear relationship was modelled into equation (1) below.

$$Y_{it} = \beta_0 + \beta_1 X_{1t} + \beta_2 X_{2t} + \beta_3 X_{3t} + \beta_4 X_{4t} + \alpha_i + \mu_{it}$$ *Where:*

α = Constant

β1 – β4 = Beta coefficients

X_{it} *= Bank Size at time t*

X_{2t} *= Liquidity at time t*

X_{3t} = *Interest rate at time t*

X_{4t} = *Ownership structure*

α_i = *error term between variables*

t = 110 observations

i=11 commercial banks

μ_{it} = *error term within variables*

To test for the controlling effects the study used:

Table 4. 6: Regression Results without Control Variable

```
. xtreg LoanUptakeM LendingRates Liquidity Assets, re

Random-effects GLS regression                   Number of obs      =        99
Group variable: IDnumber                        Number of groups   =        11

R-sq:  within  = 0.0601                         Obs per group: min =         9
       between = 0.6438                                        avg =       9.0
       overall = 0.2126                                        max =         9

                                                Wald chi2(3)       =     11.41
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0097

------------------------------------------------------------------------------
 LoanUptakeM |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
LendingRates |   1391.179   2011.346     0.69   0.489    -2550.987    5333.344
   Liquidity |   92121.99   92703.93     0.99   0.320    -89574.38    273818.4
      Assets |   .0009621   .0003112     3.09   0.002     .0003521     .001572
       _cons |  -14485.9    82974.64    -0.17   0.861    -177113.2    148141.4
-------------+----------------------------------------------------------------
     sigma_u |  38345.018
     sigma_e |  69589.265
         rho |  .23290654   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```

Table 4. 7: Regression Results with Control Variable

```
. xtreg LoanUptakeM LendingRates Liquidity Assets OwnershipStatus, re

Random-effects GLS regression                   Number of obs      =        99
Group variable: IDnumber                        Number of groups   =        11

R-sq:  within  = 0.0601                         Obs per group: min =         9
       between = 0.5825                                        avg =       9.0
       overall = 0.2114                                        max =         9

                                                Wald chi2(4)       =     10.64
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0309
```

LoanUptakeM	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
LendingRates	1391.763	2018.965	0.69	0.491	-2565.336	5348.862
Liquidity	86823.83	93207.52	0.93	0.352	-95859.56	269507.2
Assets	.0009204	.0003114	2.96	0.003	.00031	.0015308
OwnershipS~s	6178.633	21255.71	0.29	0.771	-35481.79	47839.06
_cons	-22902.15	93559.39	-0.24	0.807	-206275.2	160470.9
sigma_u	42366.585					
sigma_e	69589.265					
rho	.27041842	(fraction of variance due to u_i)				

In Table 4.6 and 4.7 the model had a coefficient of determination (R^2) = 0.21, indicating that 21% of the variation in loan uptake in commercial banks in Kenya was explained by the model leaving 79% of the variations in financial performance as unexplained. This result implies that total assets has a small effect on the loan uptake among commercial banks in Kenya. The study results indicated a similarity in R results with or without control variable. This could be attributed to what Ahmad and Nor (2015) says small sample size of the study can result to weak models and failure to include important variables in the study.

Table 4.6 and 4.7 above presents the regression results of the study with and without control variable. The regression coefficient of lending rates was positive and non-significant in

predicting the loan uptake of commercial banks in Kenya. This implies that a unit increase in lending rates results in increased loan uptake by 1391. These results support the findings of Okwany (2017) who established that increased lending rates leads to improved loan uptakes in Kenya.

The regression coefficient of bank size was established to be positive and significant. This implies that a unit increase in bank size results in improved loan uptake by 0.009621. This is influenced by what Pollet& Wilson, (2008) states as the ability of banks to convert liquid assets into finance available for lending.

Finally, the regression results revealed that ownership structure has no effect on the relationship between bank specific factors and loan uptake of commercial banks in Kenya. These findings demonstrates that ownership structure on its own does not impact on loan performance in banks. This study aligns with the results of Rabab'ah (2015) that ownership structure has no significant effect on bank credit.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The study sought to find the effect of bank specific factors on loan uptake by commercial banks in Kenya. This objective was realized by assessing the effect of bank size, bank liquidity, lending rates and bank ownership structure on loan uptake of commercial banks.

5.2 Summary of Findings and Discussion

The study sought to establish the effect of bank size on loan uptake in commercial banks. The study revealed a positive and significant relationship between bank size and loan uptake in commercial banks. From the results it was evident that the null hypothesis which states that bank size has no significant effect on the loan uptake in commercial banks was rejected. These findings imply that banks with large assets have higher loan uptake. This can be attributed to the following reasons cited by Adusei (2015). Banks with large assets can easily convert their liquid assets thereby availing more money for lending to consumers. Similarly, Pham (2015) argues that banks with few assets are likely to spend more money in liquid assets instead of availing more money for loans. This prediction is consistent with other studies arguing that banks with large assets are more likely to lend more credit. The findings support the findings of Kim and Sohn (2017) and Rabab'ah (2015) who concluded that bank size leads to more uptake of credit facilities.

Concerning the lending rates, the study revealed that there was non-significant but positive relationship between lending rates and loan uptake in commercial banks in Kenya. Dyck and Pomorski (2011) argue that lending rates effect on loan uptake are determined by

market conditions and other bank specific factors that may affect the cost of loans. These findings support the findings of Pham and Hong (2015) who established that lending rate does have non-significant relationship with loan uptake in commercial banks.

The study also sought to establish the effect of liquidity on loan uptake. Findings of the study indicated that liquidity has no significant effect on the loan uptake of commercial banks in Kenya. As argued by Bateman and Mitchell (2004), funding liquidity is not of importance to the banking industry as is market liquidity that has a great effect on lending in banks. This study results support the findings of Marozva (2015) who concluded that liquidity has no significant relationship with lending in banks.

From the regression output, results indicated a non-significant relationship between ownership structure and loan uptake in Kenya. According to Lang and So (2002), ownership structure has no significant direct relationship with bank credit but affects the management of financial institutions, and this has the potential to affect the bank lending. The finding also concurs with Sarker& Nahar (2017) who established that type of ownership structure does not affect bank lending in Bangladesh.

Bank specific factors was confirmed to affect the loan uptake in commercial banks as shown by an R squared value of 21%. However, the effect of bank specific factors was found to be small. A situation that Chen, Hong, Huang &Kubik (2004) attributes to the interaction among many bank specific factors an market forces thereby limiting the individual effect of bank specific factors. These results concur with the results of Rabab'ah (2015) who established a minimal effect of bank specific factors on loan uptake in banks.

5.3 Conclusion

From the foregoing presented and analyzed findings bank specific factors is a significant firm characteristic of loan uptake among commercial banks in Kenya. Thus, it can be concluded that more assets portends loan uptake in commercial banks. The study conclusion also indicates that large banks exhibits higher loan uptake than small and medium commercial banks.

Lending rates, Liquidity and ownership structure were not found to be key contributors to loan uptake in commercial banks in Kenya. Thus, it can be concluded that increasing or decreasing lending rates, liquidity and ownership on their own does not necessarily results to loan uptake in commercial banks.

The whole regression analysis was statistically significant indicating that bank specific factors significantly determines the loan uptake in commercial banks in Kenya. However, the significance of bank specific factors is small thus commercial banks in Kenya should put more emphasis on other bank specific factors not included in the model.

5.4 Recommendations

The study recommends that commercial banks should pay more attention to bank assets that are found to have positively influence on loan uptake in Kenya. Further the study recommends the need for banks to pay significant attention to bank specific factors as the study revealed bank specific factors influence loan uptake. From the study findings, the study recommends the need for bank to pay attention to other bank specific factors not included in the model. The study recommends the need for government to develop policies and regulations that would enhance asset based of commercial banks. Related to these there was need for government to encourage and create environment that would lead to the enhancement of the asset quality of banks thus significantly affecting their Loan uptake.

5.5 Recommendations for Further Research

The study recommends the need for more studies that would have a large sample size, covering all the commercial banks in Kenya. Further the study recommends the need for studies that would test other covariates not included in the study.

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