

**THE EFFECT OF MORTGAGE FINANCING ON  
PROFITABILITY OF COMMERCIAL BANKS IN  
KENYA**

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# DECLARATION

## Student Declaration

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

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## Supervisor Declaration

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

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## **DEDICATION**

This project is dedicated to my parents Mr. Julius Mwendwa and Mrs. Cecilia Mwendwa, my wife Nancy and daughter Ndinda who have been a source of inspiration and moral support during the course of my studies.

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## **LIST OF ABBREVIATIONS**

<b>ANOVA</b>	Analysis of Variance
<b>CBK</b>	Central Bank of Kenya
<b>CHB</b>	Central Housing Board
<b>CFS</b>	Center for Financial Studies
<b>GMM</b>	Generalized method of moments
<b>GDP</b>	Gross Domestic Product
<b>KNBS</b>	Kenya National Bureau of Statistics
<b>MMLM</b>	Modern Mortgage Lending Model
<b>MPT</b>	Modern Portfolio Theory
<b>NHC</b>	National Housing Corporation
<b>ROA</b>	Return on assets
<b>ROE</b>	Return on equity
<b>S&amp;Ls</b>	Savings and Loans Associations
<b>SMM</b>	Secondary Mortgage Market
<b>SPVs</b>	Special purpose vehicles
<b>SPSS</b>	Statistical Package For Social Sciences
<b>TP</b>	Tenant-Purchase

## **ABSTRACT**

The mortgage market in Kenya has been rising over time which has seen growth in profitability of the commercial banks that have been offering mortgage financial services to Kenyans. Advancing mortgage credit implies that the commercial bank money is tied up somewhere whose payment is in the future. This study sought to determine the effect of mortgage financing on the profitability of commercial banks in Kenya. To achieve the objective of the study, a descriptive research design was used. The population of this study included all the 43 Commercial Banks in Kenya. The sample size of this study involved all commercial banks that offered mortgage financing between years 2010 to 2014. The secondary data was sourced from the annual reports available from the Central bank of Kenya. Data analysis was done using a regression model to test the influence of various variables on the profitability of commercial banks in Kenya. The correlation results found that firm size was moderately correlated to profitability of commercial banks in Kenya. The study found that firm size was statistically significant in explaining the effect mortgage financing on profitability of commercial banks in Kenya. Further, it was revealed that operating efficiency, capital adequacy and liquidity were found to be statistically insignificant. The study recommends that central bank of Kenya and other policy makers should use the empirical findings obtained from this study as a guide to promote policies that create a conducive atmosphere for commercial banks to grant their customers mortgage loans as a way of enhancing profitability of commercial banks in the long-term. The limitations experienced in the study was the reliance on secondary data only thus some issues that could have arisen if primary data was used could not be analyzed. Mortgage financing is mostly used to finance capital projects which are long-term in nature and whose maturity period exceeds ten years in most cases. The study therefore recommends that future researchers interested in this field of study should consider increasing the period of study to ten or twenty years in order to obtain more conclusive results. Then, findings may be compared upon which reliable conclusions can be drawn.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

A mortgage is a loan made for the purpose of purchasing, renovating or constructing a residential dwelling. The loan is secured by a mortgage lien over the property. Wider access to housing finance has a significant impact on construction, economic growth, and urban development (Renaud, 1999). Improved macroeconomic circumstances have played a big role in the emergence of housing finance including liberalization of financial markets and of housing finance. Instead of specialized, frequently publicly owned lenders providing limited amounts of often subsidized credit to a similarly limited number of borrowers, new lenders using new kinds of instruments coupled with new ways of accessing finance and managing risks have emerged in both developed and emerging markets. This has enabled commercial banks engage in mortgage financing (Chiquier and Lea, 2009).

Commercial banks play a crucial role in the economic resource allocation of countries by basically channeling funds from depositors to investors continuously. They offer the all important services of providing deposit and loan facilities for personal and corporate customers, making credit and liquidity available in adverse market conditions, and providing access to the nation's payments systems (Handley-Schachler, Juleff and Paton, 2007). As Saona (2011) argues, an efficient financial system improves banks' profitability by increasing the amount of funds available for investment, while enhancing the quality of services provided to the customers. Thus, an important role of banks arises because, by facilitating the use of external finance, they assist in reconciling the financial interest of the deficit economic units, which

invest more than they save, with those of the surplus economic units, which save more than they invest (Ojo, 2010), thereby generating reasonable income in the process.

### **1.1.1 Mortgage Financing**

Commercial banks have recently started engaging in mortgage financing an area which previously was a niche for mortgage financing companies. An efficient housing finance system has significant importance both in meeting the housing needs of individuals and in reinforcing the development of the construction, finance and other related sectors of an economy. International experience suggests that, the widespread availability of residential mortgages has a favorable impact on poverty alleviation, quality of housing, infrastructure, and urbanization (Erbas and Walley, 2005). Developed countries have advanced housing finance systems in which there is order where surplus funds are channeled to areas that are in need of them especially in mortgage markets. On the other hand, despite its recognized economic and social importance, housing finance often remains under-developed in developing countries mainly due to lack of stable inflation and employment (Ho Hahm, 2004).

Mortgage loans are generally structured as long-term loans, the periodic payments for which are similar to an annuity and calculated according to the time value of money formulae. The most basic arrangement would require a fixed monthly payment over a period of ten to thirty years, depending on local conditions. Over this period the principal component of the loan would be slowly paid down through amortization (Tse, 2002). Changes in mortgage design do not always lead to fundamentally different mortgage instruments. The emergence of a fixed rather than a variable rate mortgage would be an example of a new mortgage instrument (Dolde, 2006).

Mortgage financing is an important line of business for the banking industry which contributes significantly to the Kenyan economy. Most of the commercial banks rely on revenue from this line of business to grow and prosper (Bienert, 2006). Kenya's mortgage market is more evolved than most in Sub-Saharan Africa but equally there is much room for improvement. The supply of land for housing and having a functioning secondary market for housing sales are essential elements of an efficient mortgage system (World Bank, 2011).

### **1.1.2 Profitability of Commercial Banks**

Profitability of commercial banks is measured in the form of ratios which are normally reported by commercial banks in their annual reports. The use of profitability ratios are not influenced by changes in price levels because the real value of profits cannot be affected by the varying inflation rates according to Rasiah (2010). For one to realize how well a bank is performing it is much more useful to consider return on assets (ROA) and return on equity (ROE) as supported by other studies by Bourke (1989) and Molyneux and Thornton (1992). Return on assets is the ratio of Net Income after Taxes divided by Total Assets. The ROA signifies how effective and efficient the management of banks has been as they seek to transform assets into earnings thus, the higher the RAO ratio, the higher the banks performance in terms of profitability.

The ROE is used to measure the rate of return on the banks shareholders equity and it is calculated by dividing banks net income after taxes by total equity capital which includes common and preferred stock, surplus, undivided profits, and capital reserves. This measure of profitability gives an indication of what the banks earns on the shareholders investment according to Rasiah (2010). Bank profitability is best

measured by ROA in the sense that, ROA cannot be distorted by high equity multiplier.

### **1.1.3 Effect of Mortgage Financing on Profitability**

Overall lending by banks for real estate purposes represents the major type of lending at present. This includes lending for commercial property and other real estate linked activities. This has seen growth in profitability of the commercial banks that have been offering mortgage credit to Kenyans. Mortgage credit is positively related to profitability because it creates a long term source of revenue for the bank offering mortgage credit, (Sharpele, 2000). There is need to have an efficient mortgage credit management to minimize the costs involved in loan allocation whereas on the other hand maximizing the returns from such undertakings and thus making the bank more profitable.

Most economies real estate is normally used by borrowers as collateral for other types of loans, i.e. non-real estate lending, thus fluctuations in real estate prices are most likely to have an impact on the banking system through the balance sheet effect. When the prices of real estate fall sharply, they lead to a situation where the borrowing capacity of non-real estate businesses that borrow against their real estate constrained thus reducing the amount of real estate finance loans applied to commercial banks leading to lower interest earned by the banks (Case, Goetzemann and Rouwenhorst, 2000). As a result the new investments are constrained and hence their profits are reduced meaning they are unable to fully service their existing real estate finance loans with the commercial banks. Therefore, the credit risk exposure of banks to non-real estate loans also rise. Ultimately, the non-performing loans of both the real estate sector and the other sectors will increase the vulnerability of the

banking system which will result in lower financial performance since the banks earn lower interests from the loans they have extended to their borrowers (Davis and Zhu, 2004).

#### **1.1.4 Commercial Banks in Kenya**

The Banking industry in Kenya is governed by 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). The banking sector in Kenya was liberalized in 1995 and exchange controls lifted. As at 31st December 2014, the banking sector comprised of the Central Bank of Kenya, as the regulatory authority, 44 banking institutions, 43 commercial banks and 1 mortgage finance company. Out of the 44 banking institutions, 30 locally owned banks comprise 3 with public shareholding and 27 privately owned while 14 foreign owned. Of the 14 foreign owned banking institutions, 10 are locally incorporated subsidiaries of foreign banks and 4 are branches of foreign incorporated banks. Further, 11 of the 44 banking institutions are listed on the Nairobi Securities Exchange (CBK, 2014).

Banks represent a significant and influential sector of business worldwide that plays a crucial role in the global economy. The role of commercial banks in economic development rests chiefly on their role as financial intermediaries that serve as financial resource mobilization points in the global economy. They help drive the flow of investment capital throughout the marketplace. The chief mechanism of the capital allocation in the economy is through the lending process. A well-developed efficient banking sector is an important prerequisite for saving and investment decisions needed for rapid economic growth. It provides a system by which a

country's most profitable and efficient projects are systematically and continuously funded.

The increase of mortgage financing in Kenya may have been influenced by factors related to the changing mortgage climate, sustained economic growth, profitability and market penetration and liberalizations of the domestic market. The mortgage market in Kenya is dominated by the large banks representing over 90% of the total mortgage portfolio (Mutero, 2010). This has seen growth in profitability of the commercial banks that have been offering mortgage financing in the country.

## **1.2 Research Problem**

The demand for housing in Kenya is immense mainly driven by a growing population and urbanization; hence an efficient housing finance system has significant importance both in meeting the housing needs of individuals and in reinforcing the development of the construction, finance and other related sectors of an economy. While Kenya's mortgage market is growing, the industry is dominated by the large banks indicating barriers to entry or high risk for medium and smaller banks (Ndungu, 2010). However, the growth rates indicate that the small sized banks have the fastest growth rate of 38% on average, followed by medium banks which are growing at 25% on average with large banks closely following at 24% on average (Ndungu, 2010).

The mortgage market in Kenya has been rising over time which has seen growth in profitability of the commercial banks that have been offering mortgage financial services to Kenyans. Advancing mortgage credit implies that the commercial bank money is tied up somewhere whose payment is in the future. Mortgage credit is positively related to profitability because it creates a long term source of revenue for the bank offering mortgage credit (Sharpele, 2000)

Saona (2011) examined the determinants of the profitability of the US banks whose findings documented a negative link between the capital ratio and the profitability indicating that banks could be operating over-cautiously and ignoring potentially profitable trading opportunities. Sharma and Gounder (2012) investigated the Profitability determinants of deposit institutions in small, underdeveloped financial systems in Fiji and discovered that Market power is a key determinant of profitability. Additionally, raising deposit liabilities and granting loans beyond a certain point may not be profitable for institutions. Glenn and Wayne (2007), carried out a study on the Community Reinvestment Act and the profitability of mortgage-oriented banks with results suggesting that lenders active in lower-income neighbourhoods and with lower-income borrowers appear to be as profitable as other home purchase lenders.

Mwangi (2013) evaluated the relationship between mortgage financing and profitability of commercial banks in Kenya concluding that the two variables have a positive relationship. Kioko (2014) evaluated the effect of mortgage financing on performance of the real estate market in Kenya concluding that mortgage financing is important to enable potential homeowners acquire real estate at affordable rates. The study further concluded that there exists a negative relationship between mortgage repayment amount, mortgage terms and performance of the real estate market. Agao (2014) evaluated the effect of macroeconomic variables on mortgage uptake for the mortgage industry in Kenya and found that there is significant relationship between mortgage uptake and interest rates, inflation rates, house prices, Gross Domestic Product (GDP), and the level of money supply.

It is evident from the summary of other studies regarding mortgage financing on the profitability of commercial banks in Kenya that there is a gap in literature as far as the study on the effects of mortgage financing on the profitability of commercial banks in

Kenya is concerned. The following research question was therefore explored: What is the effect on the profitability of commercial banks offering mortgage financing in Kenya since the year 2010?

### **1.3 Research Objectives**

The study sought to determine the effect of mortgage financing on the profitability of commercial banks in Kenya.

### **1.4 Value of the study**

The findings and recommendations of this study stand to benefit many stakeholders and potential investors in the mortgage market e.g pension funds, insurance companies, who have substantial funds that they can invest in long term investments that raise shareholders wealth. The findings will also help bring out clearly the benefits of mortgage financing to banking institutions in Kenya. This will help them in developing more innovative strategies to diversify their product ranges and tackle affordability where cost of mortgages is spread out more evenly over life of loan reducing default and enhance financial performance.

The study will be significant to the government in developing policy and systems to enhance market liquidity and a platform for mortgage and asset financing. It may aid the CBK in drafting mortgage regulations in setting minimum product standards for mortgage loans to ensure responsible lending and protect both lender and consumer. Finally, it will also be significant to researchers and scholars who may use the study findings to stimulate further research in this area and as such form a basis of good background to future studies and contribute to the existing knowledge of research.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter reviews past literature in line with the research objective. First, a review of theories that guide this study will be presented explaining for each, its key propositions. Later, empirical studies done on this research topic will be looked at then conclude with a summary of the reviewed literature.

#### **2.2 Theoretical Review**

The study on the effect of mortgage financing on profitability of commercial banks in Kenya will be guided by the following theories: Modern Portfolio Theory, Modern mortgage lending model which highlights new developments in mortgage financing and finally the Mortgage Credit Intermediation Models.

##### **2.2.1 Modern Portfolio Theory**

According to Markowitz (1952), the Modern Portfolio Theory (MPT), is an investment theory based on the idea that risk-averse investors can construct portfolios to optimize or maximize expected return based on a given level of market risk, emphasizing that risk is an inherent part of higher reward. It is one of the most important and influential economic theories dealing with finance and investment (Kaplan and Schoar, 2005).

Also called "portfolio theory" or "portfolio management theory," MPT suggests that it is possible to construct an "efficient frontier" of optimal portfolios, offering the maximum possible expected return for a given level of risk. It suggests that it is not enough to look at the expected risk and return of one particular stock. By investing in

more than one stock, an investor can reap the benefits of diversification, particularly a reduction in the riskiness of the portfolio. MPT quantifies the benefits of diversification, also known as not putting all of your eggs in one basket (Kaplan and Schoar, 2005).

The theoretical rationale for investing in an alternative asset class such as private equity is to improve the risk and reward characteristics of an investment portfolio, with the expectation that the asset will offer a higher absolute return whilst improving portfolio diversification (Bodie, Kane & Marcus, 2005). In support to this theory, commercial banks will engage in mortgage financing as a way of diversifying their loan portfolio and also due to the fact that mortgage financing is more profitable in the long run. Mortgage financing is a secured loan and therefore offers lower risks of loss of the investment unlike the unsecured loans which are very popular with commercial banks today. This theory therefore justifies the reason as to why commercial banks will engage in mortgage financing and the effect it has on overall profitability of banks.

### **2.2.2 Modern Mortgage Lending Model**

A sign of financial-sector development is the funding of housing by formal financial institutions. These institutions can be private-sector entities, which can be shareholder-owned or mutual organizations, or government-sponsored or co-owned institutions. Historically, a characteristic of many housing finance systems was the existence of a special circuit in which particular types of lenders enjoyed preferential financing, often operating apart from the broader financial markets (Chiquier and Lea, 1992). As economies develop and financial systems are liberalized, provision of

housing finance often moves away from extensive reliance on special circuits toward integration of housing finance into the broader financial markets.

A secondary mortgage market (SMM) involves the sale of mortgage loans or mortgage securities backed by specific pools of mortgages. As such, it involves the transfer of the risks and ownership of mortgage loans to a third party. The loans are originated by a variety of primary lenders, including banks and specialized mortgage companies. Although portfolio lenders occasionally securitize pools of seasoned loans, a hallmark of secondary market-based systems is the widespread securitization of newly originated loans. They may be sold to specialized institutions called conduits or through special purpose vehicles (SPVs). These entities raise funds through issuance of securities backed (or collateralized) by the loans. The majority of residential mortgage loans in the United States are funded through the secondary market.

In the Modern Mortgage Lending Model (MMLM), there are a wide variety of investors ranging from depositories to mutual funds . The risk management is often specialized as well provided by third parties like mortgage or bond insurance companies. Origination specialist must be more aware of pipeline risk which is the risk between the time a lender makes a binding commitment to borrower and the time the loan is either sold or placed in portfolio because the loans are sold after origination.

The quality of mortgages produced by the primary market becomes much more important in a SMM. The SMM separates the act of making mortgage loans from the act of holding mortgage loans. The mortgage holding function is the strategic focus for dealing with the risks of mortgage lending (Renaud and Jaffee, 1996). According

to them, the basic principle of SMM is to tap capital market investor as the long-term source for the mortgage market, thus mitigating risks of interest rate and credit risk.

### **2.2.3 Mortgage Credit Intermediation Models**

In the traditional banking system, intermediation between savers and borrowers occurs in a single institution. Through the process of funding loans with deposits, banks engage in credit, maturity, and liquidity transformation. Savers entrust their funds to banks in the form of deposits, which banks use to fund loans to borrowers. Savers furthermore own the equity and long-term debt issuance of the banks. Credit intermediation provides savers with information and risk economies of scale by reducing the costs involved in screening and monitoring borrowers and by facilitating investments in a more diverse loan portfolio. (Tobias and Ashcraft, 2012)

In the Mortgage Credit intermediation model, the mortgage markets are dependent on the existence of a network of intermediation (Chiquier and Lea, 2009). This network underpins the funding and origination of the credit, the education of the market, the division of obligations and responsibilities, and the provision of support if there is default.

In most developed countries, mortgage intermediation was initially performed by a specially regulated and privileged class of institution. In the United Kingdom, it was the building society that was so privileged. In the United States, it was primarily the Savings and Loans Associations (S&Ls). Notably these institutions started as mutual societies or community-based organizations, since this was an activity driven by concern for housing for the community and not by maximizing profit for investors. These societies, organizations or institutions were given special tax and regulatory concessions on condition that they restricted themselves to mortgage lending. The

result was that they developed a network of mortgage intermediation, expertise and culture appropriate to support access to housing, which was almost their exclusive preserve. The key challenge however was to make the business efficient to be sustainable in the long term.

In countries with rapid economic growth and expanding urban populations like Kenya, mortgage intermediation is the most rapidly growing business, making a major contribution to financial systems and economic development. In addition, in some countries, such as the United States and United Kingdom, financial innovations undertaken with respect to mortgage lending have spread quickly to other parts of the financial system, resulting in increasing financial depth.

Some of the existing network of intermediaries used in Mortgage Credit intermediation model includes; State vs. a market-based mortgage system, Building societies/state banks savings and loans institutions, Commercial Banks, Secondary mortgage markets and International finance institutions. Given the recent development of the mortgage market in Kenya ,such institutions can be used in developing origination standards and network of mortgage intermediation for ensuring mortgages is accessible to low- and moderate income households.

### **2.3 Determinants of Bank Profitability**

The determinants of bank profitability can be classified into internal and external factors. Sastrossuwito and Suzuki (2010) refer to the internal factors as the bank specific determinants of profitability which are influenced by bank's management decisions and policy objectives for example efficiency management, bank size and capital adequacy. The external factors are the macroeconomic determinants of profitability that are beyond the control of the management of commercial banks.

### **2.3.1 Mortgage Financing**

Mortgage financing is offered by some commercial banks and is normally considered as a diversification strategy which is expected to lower their risks of loss through non-performing loans especially the unsecured ones. This reduction in risk is expected to result in improved performance of the commercial banks (Lipunga, 2014). Banks that offer mortgage loans hold diversified portfolios of mortgage loans and therefore spreading risks in a manner that would be impossible if individuals were making mortgage loans directly.

Since commercial banks are large in size and number they gain in economies of scale. They also have more expertise in analyzing credit, setting up loans, and making collections than individuals; thus reducing costs of processing loans and subsequently increasing the availability of real estate loans. Mortgage loans have thus become an important aspect of loan portfolios among commercial banks in Kenya, earning commercial banks profits as compared to other loan types.

### **2.3.2 Capital Adequacy**

Capital refers to the amount of own funds available to support a bank's business and, therefore, bank capital acts as a safety net in the case of adverse development (Athanasoglou, Brissimis and Delis, 2005). It is measured by the ratio of capital and reserves of each commercial bank to total assets or as the ratio of equity to total assets of a bank. Generally banks with high capital ratio, if other factors are constant, will face relatively lower financial difficulties during general financial crisis within the economy and this will translate to high profits. Also well capitalized banks are able to meet the capital requirements set by central bank while the excess can be used to provide loans.

There is a general perception that stronger banks are likely to withstand financial turbulences and therefore increase banking sector stability. Capital adequacy thus aids banks to benefit from economies of scale and lower their transaction costs meaning that the higher the capital ratio the more profitable the bank will be. It is thus seen as an instrument limiting excessive risk taking of bank owners with limited liability and, thus, promoting optimal risk sharing between bank owners and depositors. On the other hand, capital adequacy regulation is often viewed as a buffer against insolvency crises, limiting the costs of financial distress by reducing the probability of insolvency of banks (Caggiano and Calice, 2011).

### **2.3.3 Efficiency Management**

Efficiency management relates to the idea of efficient management of banks' resources. Reducing the cost of operations reduces the incidence of failure of the banks and hence strengthens the confidence of shareholders and the public through improved profitability of the banks. It is therefore expected that an efficiently managed bank will earn higher profits than the less efficient ones according to the Efficiency hypotheses.

Efficiency management is measured by having the ratio of operating expenses to total assets. This is due to the fact that only operating expenses can be directly associated to the outcome of bank management (Athanasoglou, Brissimis & Delis, 2008). A negative relationship is expected between efficiency management and profitability, since improved management of the expenses will increase efficiency and hence raise profits (Athanasoglou *et al.* (2005).

### **2.3.4 Size of the Bank**

Bank size accounts for the existence of economies or diseconomies of scale and scope in some, (Naceur and Goaid, 2008). Activities such as portfolio management and investment banking usually involve high start-up costs required to develop human capital and expertise that places such banks at a competitive advantage over their local rivals. This has favoured the development of networks of multinational banks, capable of offering highly innovative services at a marginal cost that is almost zero. The size is measured by total assets.

Economic theory suggests that market structure affects performance (Haron, 1996) and that if an industry is subject to economies of scale, larger institutions would be more efficient and could provide service at a lower cost (Rasiah, 2010). Also, the theory of the banking firm asserts that a firm enjoys economies of scale up to a certain level, beyond which diseconomies of scale set in. This implies that profitability increases with increase in size, and decreases as soon as there are diseconomies of scale. Thus, literature has shown that the relationship between the bank size and profitability can be positive or negative (Athanasoglou *et al.*, 2005).

### **2.3.5 Liquidity**

Commercial banks are required by regulators to hold a certain level of liquid assets according to Rasiah (2010). This is because liquidity is one of the important financial stability indicators since liquidity shortfall in one bank can cause systemic crisis in the banking sector due to their interconnected operations. Liquidity held by commercial banks depicts their ability to fund increases in assets and meet obligations as they fall due. Liquidity of the commercial bank is also considered to have an influence on the

profitability of the bank. Researchers note that insufficient liquidity of commercial banks is considered to be one of the major reasons why they fail.

It is however important to note that when a commercial bank holds a lot of liquid assets, then it incurs an opportunity cost of getting higher returns from investing with those assets. It is noted from the various studies that there is a positive relationship between liquidity and the performance of commercial banks although it is also noted that during times of instability in the business environment, commercial banks will tend to increase their cash holdings as a way of mitigating themselves against risks. It is therefore clear that there is a negative correlation between the level of liquidity and the financial performance of commercial banks.

## **2.4 Empirical Evidence**

The empirical review is done by identifying the similarities and differences across various studies by different researchers. Saona (2011) examined the determinants of the profitability of the US banks. The empirical analysis combined bank specific (endogenous) and macroeconomic (exogenous) variables through the Generalized Method of Moments, (GMM) system estimator. Tests on the hypotheses used information on 11,777 US banks from 1995 through 2007, with a total of 108,439 bank-year observations. The empirical findings document a negative link between the capital ratio and the profitability, which supports the notion that banks are operating over-cautiously and ignoring potentially profitable trading opportunities.

Sharma and Gounder (2012) investigated the Profitability determinants of deposit institutions in small, underdeveloped financial systems in Fiji over the 2000–2010 periods. The study used five banks and three credit institutions that were in existence as at the year 2011. The study used panel data techniques of fixed effects estimation

and GMM. The authors discovered that Market power (measured by the Lerner Index) is a key determinant of profitability. Thus, institutions were allowed to pass on to their clients the interest costs of raising deposit liabilities and the overall cost of operations.

Glenn and Wayne (2007), carried out a study on the Community Reinvestment Act and the profitability of mortgage-oriented banks between 1993 and 1995. Sample data for 1993 had 1,129 commercial banks, for 1994 it had 1,328 banks, and for 1995, 1,333 banks were used. Analysis of data using regression analysis found that there exists a positive relationship between home purchase lending in lower-income neighbourhoods and profitability. The study results also suggest that lenders active in lower-income neighbourhoods and with lower-income borrowers appear to be as profitable as other home purchase lenders.

Ewert, Schenk and Szczesny (2000) empirically identified factors that can explain the financial performance of bank lending activities. They also analyzed the individual bank's evaluation of a loan's risk. The study uses the common data set of a research project on credit management in Germany that was initiated by the Center for Financial Studies (CFS) in Frankfurt. The sample used comprised a randomly chosen cross-section of 260 borrowers over the seven years between 1992 and 1998 from six leading German banks. The design adopted involved a description of the various factors through observation of the data collected through secondary means. They used their results to test theoretical hypotheses on the impact of certain parameters on credit terms and distress probabilities. The study found that ratings act as an important factor in the bank's lending policy. Ratings reflecting higher risks lead to higher interest rate premiums. The findings on collateralization are less clear and do not fully support any of the hypotheses that are advanced to describe the role of collateral and covenants in credit contracts.

Mwangi (2013) evaluated the relationship between mortgage financing and profitability of commercial banks in Kenya. The study adopted a causal study design concerned with determining cause and effect relationships and to understand the dependent and independent variables. The target population for the study was 43 commercial banks in Kenya with a sample of 30 that were offering mortgage financing between 2008 and 2012. The study used primary data and secondary data. Multiple regression models were used to establish the relationship between mortgage financing and profitability of commercial banks in Kenya. The study concluded that mortgage financing was a profitable venture for commercial banks in Kenya. It further revealed that banks deposit, liquidity, size of bank and capital reserves were positively related to their profitability.

Kioko (2014) evaluated the effect of mortgage financing on performance of the real estate market in Kenya. The specific objectives were to ascertain the association between mortgage repayment and performance of the real estate market in Kenya; To determine the relationship between mortgage interest rates and rental income; Finally, the relationship between mortgage repayment and performance of the real estate market in Kenya. The study adopted a descriptive research study design by collecting data and administering questionnaires. The research for the study considered 35 mortgage and financial institutions licensed by CBK as at 31<sup>st</sup> December, 2013. The target population constituted 19,177 outstanding mortgage loans with a study sample of 392 respondents. Both primary and secondary data collection methods were used and multiple regression models were used to analyze the data. The study concluded that mortgage financing is important to enable potential homeowners acquire real estate at affordable rates. It further revealed that there exists a negative relationship between mortgage repayment amount, mortgage terms and performance of the real

estate market. The study therefore established that there is positive relationship between mortgage financing and performance of the real estate market in Kenya.

Agao (2014) evaluated the effect of macroeconomic variables on mortgage uptake for the mortgage industry in Kenya. The study adopted a descriptive research design which entails intense investigation of problem solving situations of problems relevant to the research problem. The target population for the study was 44 commercial banks in Kenya with a census study of all financial institutions that were offering mortgage financing. The study used primary data and secondary data. A multivariate regression analysis was used to come up with a model expressing relationship between mortgage financing uptake and macroeconomic variables. The study concluded that macroeconomic variables have an effect on mortgage uptake in Kenya. It further revealed that 95.7 % of mortgage finance uptake in mortgage firms in Kenya could be explained by macroeconomic variables. The study therefore concludes that there is significant relationship between mortgage uptake and interest rates, inflation rates, house prices, GDP, and the level of money supply.

Wahome (2010) did a survey of factors influencing mortgage financing in Kenya. The study adopted a causal research design with a target population was 46 firms offering mortgage financing in Kenya. The study used primary data through self-administered questionnaires. Descriptive statistics and multivariate regression analysis using SPSS was used to analyze the data. The study concluded that factors influencing mortgage financing in Kenya have a positive effect on firm performance. Additionally, mortgage financing is influenced by market and financial factors. Market factors includes increased investment and Improved Profitability of the firm, improvement of risk management, attraction of more customers, promotion of innovations, Market Penetration, diversification of investment and encountering competitions in the

market. Financial factors include lowering of interest on Treasury bonds. Kenya financial laws require banks to have less cash in reserve and high interest from Mortgage financing helps in wealth creation improving savings. The study therefore established that there is positive relationship between firm performances with effects of mortgage financing.

## **2.5 Summary of Literature Review**

This chapter reviews the existing literature that the study is based on. These theories are important in explaining the relationship between mortgage financing and profitability of commercial banks. The review has also presented various local studies previously done: Agao (2014) on the effect of macroeconomic variables on mortgage uptake for the mortgage industry in Kenya; Kioko (2014) on the effect of mortgage financing on performance of the real estate market in Kenya as well as, Mwangi (2013) on the relationship between mortgage financing and profitability of commercial banks in Kenya. From the review, it is clear that very few recent studies have specifically focused on the effect of mortgage financing on profitability of commercial banks in Kenya and on other bank specific and macroeconomic determinants of bank profitability. These are the gaps that this study sought to fill.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter presents the research methodology that was used to carry out the study. It further describes the research design, the target population and sampling methods and the techniques that was used to select the sample size. It also describes data collection and data analysis procedures.

#### **3.2 Research Design**

A research design is framework specifying the method and procedure for collecting and analyzing the needed information (Zikmund, 2003). It specifies details of procedures necessary for obtaining the information needed to solve the research problem. This study used a descriptive research design. Descriptive research design is a design that is used to obtain information concerning current status of the phenomena to describe what exists with respect to variables of a situation. The aim of the study was to evaluate the effects of mortgage financing on the profitability of Commercial banks in Kenya. Zikmund (2003) notes that descriptive studies are based on some previous understanding of the research problem. According to Cooper & Schindler (2003), a descriptive study tries to discover answers to who, what, when, where and how questions of a phenomena.

#### **3.3 Population**

Target population is the specific population about which information is desired. According to Ngechu (2004), a population is a well defined or set of people, services, elements, events, group of things or households that are being investigated. This

definition ensures that population of interest is homogeneous. The population of this study included all the 43 Commercial Banks in Kenya (See Appendix 1).

### **3.4 Sample Design**

The sample of this study involved all commercial banks that offered mortgage financing between years 2010 to 2014.

### **3.5 Data Collection**

For the purposes of this study, only secondary data was used. The secondary data was sourced from the annual reports available from the Central bank of Kenya website. Data on profitability, mortgage financing, bank size, capital adequacy and liquidity were sourced from financial statement of commercial banks in Kenya for a period of 5 years from 2010-2014.

### **3.6 Validity and Reliability**

The research ensured validity and reliability of the data collection instrument by utilizing data from audited financial statements prepared according to International Accounting Standards consistent across all banks to be used in the study.

### **3.7 Data Analysis**

Regression analysis was carried out to test the influence of various variables on the profitability of commercial banks in Kenya.

#### **3.7.1 Analytical Model**

The empirical model was used in the study to test the effect of mortgage financing on profitability of commercial banks in Kenya was presented as follows:

$$Y_{jt} = C + \beta_1 X_{1jt} + \beta_2 X_{2jt} + \beta_3 X_{3jt} + \beta_4 X_{4jt} + \beta_5 X_5 + \epsilon_{jt}$$

Where:

$j$  refers to the commercial bank;  $t$  refers to year;  $Y_{jt}$  is the dependent variable and refers to the return on assets (ROA) of bank  $j$  in a particular year  $t$ ;  $C$  is the intercept;  $X$  represents the independent variables;  $\beta$  represents the co-efficient of variables and  $\epsilon_{jt}$  represent the error term.

$Y_{jt}$ : **Return on assets (ROA)** for bank  $j$  in year  $t$ . It is a measure of profitability and is presented by dividing net income of the bank by the total assets.

$X_{1jt}$ : **Mortgage Financing (Mort.)** is computed using the number of mortgage accounts divided by mortgage outstanding for the bank  $j$  in year  $t$ .

$X_{2jt}$ : **Efficiency ratio** was calculated by dividing the banks' operating costs divided by its revenue. This ratio was meant to measure the bank's overhead as a percentage of its revenue. This variable was used as a quick and easy measure of the bank's ability to turn resources into revenue. The lower the ratio, the better (50% was regarded as the maximum optimal ratio). An increase in the efficiency ratio indicates either increasing costs or decreasing revenues.

$X_{3jt}$ : **Capital Adequacy (CA)** is a measure of the financial strength of a bank and is calculated as total capital to total risk weighted assets ratio for bank  $j$  in year  $t$ .

$X_{4jt}$ : **Bank Size (BS)** which was the natural log of Book Value of Total Assets at Year End for bank  $j$  in year  $t$ .

$X_{5jt}$ : **Liquidity (L)** which was measured as the ratio of current assets divided current liabilities.

### **3.5.2 Tests of Significance**

A correlation and regression analysis was used to test the effect of mortgage financing on the profitability of commercial banks in Kenya. A correlation matrix was used to show the interrelationship between the variables employed. A linear regression analysis was then carried out. The F test showed the fitness of the model used in the study. The coefficients showed how each of the variables influenced profitability. The results of significance were interpreted at 5 % level of significance.

## CHAPTER FOUR

### DATA ANALYSIS, RESULTS AND DISCUSSION

#### 4.1 Introduction

This chapter presents the analysis and interpretation as per research data collected. Secondary data was obtained from financial statements of commercial banks in Kenya and Central Bank of Kenya. It was possible to collect data from all the 43 licensed commercial banks although some few figures were missing especially for mortgage financing for the year 2010. This constitutes of 164 data points which was obtained by multiplying the number of commercial banks multiplied by five years. 51 data points were missing.

#### 4.2 Descriptive Statistics

Descriptive statistics has been used to give a summary of the results in form of mean, standard deviation, minimum and maximum values and number of observations in the period of study (2010-2014). This summary gives a trend of the variables in relation to its effect on mortgage financing and profitability of commercial banks in Kenya.

The results are presented in table 4.1 below:

**Table 4.1 Descriptive Statistics**

variables	Descriptive Statistics				
	N	Minimum	Maximum	Mean	Std. Deviation
Return on Assets	164	-.10	.08	.0264	.02403
Mortgage Financing	164	.00	1.33	.1284	.16805
Operating efficiency	164	-.65	4.47	.7600	.75204
Capital Adequacy	164	.00	1.11	.2555	.14086
Log of Assets	164	6.24	8.58	7.4089	.55860
Liquidity	164	0	2	.37	.271
Valid N (listwise)	164				

**Source: Research Findings** (N=Number of observations)

From the above analysis, the minimum value of mortgage financing of commercial banks is .00 and the maximum value is 1.33, it has increased rapidly over the study period. The mean value for the mortgage financing is .1284 or 12.84% of the total loans which implies that most customers are financing their homes using mortgage loans.

Profitability increased gradually over the study period, its minimum value is -.10 while its maximum value is .08. This is an indication that a quite a number of commercial banks generated income from their assets. Operating efficiency had a minimum value of -.65 while its maximum value is 4.47 this implies that most commercial banks were able to utilize available resources into revenue. The findings further revealed that most commercial banks had a stable asset base to give mortgage loans to their customers this is because the mean value of logarithm of assets was 7.4.

The mean ratio of liquidity for most commercial banks was .37. This was an indication that quite a number of commercial banks were not able to meet their short-term financial obligations in the study period (2010-2014). This is because they were not able to maintain optimal levels of liquidity as per the conventional rule which stipulates that both current and quick ratios conform to those of the standard conventional rule of 2:1 and 1:1 for current and quick ratios respectively. The findings conclude that even though most commercial banks were relatively stable in terms of assets they failed to meet their short-term financial obligations this negatively impacted on their profitability.

### **4.3 Pearson's Product Moment Correlation Coefficient**

The study conducted Pearson's correlation coefficient to establish the association between mortgage financing and profitability of commercial banks in Kenya. The

strength of the association between the variables was advanced by Pearson and University of London, correlation scale where the values between 0.0 to 0.3 indicate that there is no correlation, between 0.31 to 0.5 shows a weak correlation, between 0.51 to 0.7 a moderate correlation and between 0.71 to 1.0 indicates that there is a strong correlation between the variables. Below are the results the table 4.2 below:

**Table 4.2 Pearson’s Product Moment Correlation Coefficient**

	ROA	Mortgage financing	Operating Efficiency	Capital Adequacy	Logarithm of assets	Liquidity
ROA	1					
Mortgage Financing	.001	1				
Operating Efficiency	.098	.085	1			
Capital Adequacy	.003	.010	-.042	1		
Log of assets	.531	-.010	.121	-.294	1	
Liquidity	-.006	.037	-.001	.280	-.291	1

Source: Research Findings

From the above findings in table 4.2, the study found that there was no correlation between mortgage financing and profitability of commercial banks in Kenya. The correlation score which is represented by R is .001. Similarly, there was no correlation between operating efficiency and profitability. Also there was no correlation between capital adequacy and profitability of commercial banks in Kenya. The correlation scores were as follows: R=.098 and R=.003 respectively.

On the contrary, the findings revealed that there was a moderate correlation between logarithm of assets and profitability of commercial banks in Kenya. The correlation score was as follows R=.531. Further, it was also revealed that there was no correlation between liquidity and profitability of commercial banks in Kenya. The correlation score was R= -.006. Generally, the findings therefore conclude that there

is a moderate correlation between mortgage financing and profitability of commercial banks in Kenya.

#### 4.4 Regression Analysis and Hypothesis Testing

The study used regression analysis to establish the effect of mortgage financing on the profitability of commercial banks in Kenya. This was also intended to confirm the hypothesis for the study which predicted the existence of a positive relationship between mortgage financing and profitability of commercial banks in Kenya. To achieve this goal, a linear regression model was used and the results are presented in the table 4.3 below:

##### 4.4.1 Model Summary

The model summary describes the summary of the model. It consists of the multiple correlation, the coefficient of determination and the adjusted R square. Below are the results of the findings in table 4.3.

**Table 4.3: Model Summary**

<b>Model Summary</b>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.606 <sup>a</sup>	.367	.347	.01808

a. Predictors: (Constant), Liquidity, Mortgage Financing, Operating efficiency, Capital Adequacy, Log of Assets

**Source: Research Findings**

From the above results in table 4.3, multiple correlation which is represented by R was found to be .606. This implies that there was a moderately strong correlation between the variables as follows: R= .606. The coefficient of determination which is represented by R<sup>2</sup> is 36.7% which shows the extent to which the variance in the dependent variable (profitability) is explained by the independent variables.

#### 4.4.2 Analysis of Variance

The study tested the goodness of fit for the data, a linear regression model was used and the results are presented in the table 4.4 below:

**Table 4.4: Analysis of Variance (ANOVA)**

ANOVA <sup>a</sup>						
Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	.030	5	.006	18.325	.000 <sup>b</sup>
	Residual	.052	158	.000		
	Total	.082	163			

a. Dependent Variable: ROA

b. Predictors: (Constant), Liquidity, Mortgage Financing, Operating efficiency, Capital Adequacy, Log of Assets

#### Source: Research Findings

From the above findings in table 4.4, the probability value is .000 which an indication that the regression model is statistically significant and thus a good predictor in predicting the relationship between mortgage financing and profitability of commercial banks in Kenya.

#### 4.4.3 Model Coefficients

The study carried out a test of the coefficients to define the direction of the relationship between the mortgage financing and profitability of commercial banks in Kenya. The results are provided in the table 4.5 below:

**Table 4.5 Model coefficients**

Model	Coefficients <sup>a</sup>					
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
	(Constant)	-.176	.022		-7.985	.000
	Mortgage Financing	-.001	.008	-.007	-.108	.914
1	Operating efficiency	.002	.002	.086	1.342	.181
	Capital Adequacy	.009	.011	.055	.832	.407
	Log of Assets	.026	.003	.611	9.247	.000
	Liquidity	.012	.006	.122	1.849	.066

a. Dependent Variable: ROA

**Source: Research Findings**

From the results above in table 4.5, the linear regression model obtained in this study as follows:

$$ROA = -.176 + .002X_1 + .009X_2 + .026X_3 + .012X_4 + \epsilon$$

Mortgage financing was excluded from the regression model this is because it showed a negative relationship with profitability of commercial banks in Kenya. This contradicts the hypothesis of this study which predicted a positive relationship between mortgage financing and profitability of commercial banks in Kenya. Holding all the other factors constant, a unit increase in mortgage financing results into a corresponding decrease in ROA by -.001. A unit change in operating efficiency, capital adequacy, firm size and liquidity results into a corresponding increase in profitability of commercial banks in Kenya by .002, .009, .026 and .012 respectively. The regression model above depicts a positive relationship between mortgage financing and profitability of commercial banks.

The level of significance was determined at 5% level of significance. The criteria for comparing whether the predictor variables were significant in the model was achieved by comparing the corresponding probability value that was obtained;  $\alpha=0.05$ . If the

probability value was less than  $\alpha$ , then the predictor variable was considered to be significant. From the above model coefficients, mortgage financing was statistically insignificant in the model. This is because its probability value was more than 5%, .914. This finding contradicts with the hypothesis of this study which predicted a statistically significant relationship between mortgage financing and profitability of commercial banks in Kenya. On the contrary, firm size was found to be statistically significant since its probability value was less than 5%,  $p=.000$ . On the other-hand, operating efficiency, capital adequacy and liquidity were found to be statistically insignificant since their probability values were above 5%. These values were as follows: .181, .407 and .066 respectively.

#### **4.5 Chapter Summary and Discussions**

The descriptive results indicated that only most commercial banks had the capacity to issue mortgage loans to their customers. The percentage of mortgage loans increased rapidly over the study period which was an indication that most customers financed their homes using mortgage loans.

There was no correlation between the variables under investigation part from firm size which showed a moderate correlation with profitability of commercial banks in Kenya. Mortgage financing, operating efficiency, capital adequacy and liquidity did not exhibit any correlation with profitability of commercial banks in Kenya. These findings contradict a study by Kioko (2014) who indicated that mortgage financing was positively correlated with profitability of the real estate market in Kenya.

The regression results concluded that mortgage financing was negatively related to profitability of commercial banks in Kenya. The findings further revealed that mortgage financing was statistically insignificant in predicting the relationship

between mortgage financing and profitability of commercial banks in Kenya. Operating efficiency, capital adequacy and liquidity were found to be statistically insignificant since their probability values were above 5%. These values were as follows: .181, .407 and .066 respectively. These findings are consistent with a study by Wahome (2010) who found that capital adequacy was statistically insignificant in the regression model. On the contrary, firm size was found to be statistically significant since its probability value was less than 5%. These findings are consistent with a study by Mwangi (2013) who concluded that mortgage financing was a profitable venture for commercial banks in Kenya. It further revealed that bank size was statistically significant.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter provides a summary of findings, discussions and conclusions. It further presents the policy recommendations, limitations of the study and suggestions for further research.

#### **5.2 Summary of Findings**

The study sought to examine the effect of mortgage financing on the profitability of commercial banks in Kenya. From the findings, descriptive results indicated that most commercial banks had the capacity to issue mortgage loans to their customers. The percentage of mortgage loans increased rapidly over the study period which was an indication that most customers financed their homes using mortgage loans. Further, the findings observed that even though most commercial banks were relatively stable in terms of assets base they failed to meet their short-term financial obligations which negatively impacted on their profitability. These findings are consistent with a study by Saona (2011) who concluded that most commercial banks with a huge asset base had an impressive growth in their mortgage portfolios.

There was no correlation between the variables under investigation apart from bank size which showed a moderate correlation with profitability of commercial banks in Kenya. The correlation score for this association was .531. Mortgage financing, operating efficiency, capital adequacy and liquidity did not exhibit any relationship with profitability of commercial banks in Kenya. Their correlation scores were as follows: .001, .098, .003 and -.006 respectively.

The regression results revealed that the coefficient of determination as 36.7% which showed the extent to which the variance in the dependent variable (profitability) was explained by the independent variables. It was also revealed that the regression model was statistically significant in predicting the relationship between mortgage financing and profitability of commercial banks in Kenya. These findings are consistent with a study by Kioko (2014) on the effect of mortgage financing on performance of the real estate market in Kenya. The coefficient of determination was found to be 43% which was considered reliable in predicting the relationship between mortgage financing and performance of the real estate market in Kenya.

Mortgage financing was statistically insignificant in the model. This is because its probability value was more than 5%, .914. On the other-hand, operating efficiency, capital adequacy and liquidity were found to be statistically insignificant since their probability values were above 5%. These values were as follows: .181, .407 and .066 respectively. Finally, on the contrary, firm size was found to be statistically significant since its probability value was less than 5%,  $p=.000$ . These results collaborate with a study by Mwangi (2013) who concluded that bank size was statistically significant in predicting the relationship between mortgage financing and financial performance of commercial banks in Kenya.

### **5.3 Conclusion**

The findings indicated that bank size was moderately correlated to profitability of commercial banks in Kenya. The study therefore concludes that most commercial banks have the ability and the capacity to issue mortgage loans to their customers since most of them were stable. This kind of stability makes it easier for commercial banks to access credit and use debt which is cheaper. Based on the findings mortgage financing did not contribute significantly to profitability of commercial banks in

Kenya. The study therefore concludes that commercial banks might have spent more issuing out more mortgage loans in the period of study which was yet to accumulate interest to effectively impact on profitability of commercial banks in Kenya.

The findings observed that mortgage financing was negatively related to profitability of commercial banks in Kenya. This might have been as a result of the increased mortgage loans issued by commercial banks the last three years. It is worth noting that mortgage loans are mostly offered for capital investments which are long-term in nature this is because mortgage loans have a maturity period of in most cases more than 10 years which might take a long period of time before commercial banks recoup their interest rates.

The results further revealed that regression model explained 37% effect of mortgage financing on profitability of commercial banks in Kenya. This shows that the linear regression model was a reliable predictor in predicting the hypothesis for this study which was the existence of a positive relationship between mortgage financing and profitability of commercial banks in Kenya

#### **5.4 Policy Recommendations**

From the above findings, it was found that there was a moderate positive correlation between bank size and profitability of commercial banks in Kenya. The study therefore recommends that commercial banks should diversify their investments in order to increase their asset base to build more capacity to be able provide mortgage loans to a wide range of customers.

The study recommends that commercial banks should ensure consider increasing access to mortgage loans to all classes of customers. This can be achieved through assessing the financial capabilities of their customers through their current business,

financial statements for the last five years and collateral. This will make mortgage loans attractive to a wide range of customers and thus contribute to growth of mortgage financing leading to improved profitability of commercial banks.

The study recommends that commercial banks should look for different alternatives of generating interest as a source of primary income for commercial banks other than relying so much on mortgage loans. This will provide an array of different sources of bank revenues from investment and interest income and thus minimize exposure to financial losses if one line of business suffers from financial difficulties.

From the empirical findings, it is evident that mortgage financing enhances profitability of commercial banks. The study recommends that Central Bank of Kenya and other policy makers should use the empirical findings obtained from this study as a guide to promote policies that create a conducive atmosphere for commercial banks to grant their customers mortgage loans as a way of enhancing profitability of commercial banks in the long-term.

### **5.5 Limitations of the Study**

The study was conducted within a limited time and scope. This however necessitated the need to study a period of five years only. It would have been appropriate to conduct the study for a period of 10 years or more in order to obtain more detailed and conclusive results that could be used to make generalization of the entire banking industry in Kenya.

The study was limited to the following variables; Profitability, mortgage financing, operating efficiency, bank size and liquidity. Profitability is affected by many macroeconomic variables for example inflation and gross domestic product. It is

imperative for future researchers to consider integrating more independent variables to investigate whether the results obtained in this study will hold or not.

The study relied on secondary data alone. While it is reliable since it was extracted from financial statements of commercial banks and from Central bank reports, this limits the analysis of mortgage financing issues that could have arisen had primary data been used in the study. This could have been improved through use of mixed data collection methods.

## **5.6 Areas for Further Research**

Mortgage financing is mostly used to finance capital projects which are long-term in nature and whose maturity period exceeds ten years in most cases. The study therefore recommends that future researchers interested in this field of study should consider increasing the period of study to ten or twenty years in order to obtain more conclusive results as well aid in understanding the long term effect of mortgage financing on profitability of commercial banks in Kenya.

The study limited itself to commercial banks only whereas the banking sector is very wide and constitutes microfinance institutions and Sacco's that also issue loans to finance mortgages. It would be an interesting idea for future researchers to do a comparative study on the same variables with either microfinance institutions or Sacco's to find out whether the findings and conclusion drawn from this study will hold then compare the findings to make reliable conclusions.

The study also recommends that a similar study be conducted to establish the effect of mortgage financing on the profitability of commercial banks within the larger East African Region and also incorporate the use of both primary and secondary data. This

will give key pointers for the researcher to make a comparison on the findings obtained upon which reliable conclusions can be drawn based on concrete facts.

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## APPENDICES

### **Appendix I: Commercial Banks in Kenya as at December 2014**

1. African Banking Corporation Limited
2. Bank of Africa Kenya Limited
3. Bank of Baroda (Kenya) Limited
4. Bank of India
5. Barclays bank of Kenya Limited
6. CFC Stanbic Bank Limited
7. Chase Bank Kenya Limited
8. Commercial Bank of Africa
9. Consolidated Bank
10. Co-operative Bank of Kenya Limited
11. Development Bank of Kenya Limited
12. Diamond Trust Bank
13. Dubai Bank Kenya Limited
14. Ecobank Kenya Limited
15. Equatorial Commercial Bank Limited
16. Equity Bank
17. Family Bank Limited
18. Fidelity Commercial Bank Limited
19. First community Bank Limited
20. Giro Commercial Bank Limited
21. Guardian Bank Limited
22. Gulf African Bank Limited
23. Imperial Bank Limited
24. Investments & Mortgages Bank Limited – I&M Bank Limited
25. Jamii Bora Bank Limited
26. Kenya Commercial Bank
27. Middle East Bank (K) Limited
28. National Bank of Kenya Limited
29. NIC Bank Limited
30. Oriental Commercial Bank Limited

31. Paramount Universal Bank Limited
32. Prime Bank Limited
33. Standard Chartered Bank Kenya Limited
34. Trans-National Bank (K) Limited
35. Victoria commercial Bank Limited
36. UBA Kenya Bank Limited
37. K-Rep Bank Limited
38. Habib Bank AG Zurich
39. Habib Bank Limited
40. Credit Bank
41. Citibank N. A. Kenya
42. Guaranty Trust Bank (Formerly Fina Bank)

**Non Banking Financial Institution**

43. Housing Finance Company of Kenya Limited

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## Appendix II: Research Data

In Million Ksh				In Million Ksh			In Million Ksh					In Million Ksh		
2010	ASSETS	Profit After Tax	ROA	Total Interest Income	Total Interest Expense	Efficiency	Total Capital	Overall Risk Weighted Assets	Capital Adequacy	LIQUIDITY	Asset Log	Mortgage Outstandg	No of Mort A/Cs	Mortgage financing
Kenya Commercial (KCB)	223,024.56	8,818.86	0.052	21,441.26	2,942.88	7.285807	35,280.00	152,311.00	0.2316	0.307	8.3483527	N/A	N/A	N/A
Barclays Bank	172,690.92	10,598.98	0.07	17,130.55	1,457.14	11.75629	33,311.00	106,928.00	0.3115	0.541	8.2372695	N/A	N/A	N/A
Co-op Bank	153,983.53	4,379.23	0.036	11,816.19	2,638.13	4.479002	18,402.00	111,233.00	0.1654	0.394	8.1874743	N/A	N/A	N/A
Standard Chartered Bank Ltd	142,880.03	5,366.19	0.054	9,912.44	1,533.37	6.464473	11,729.00	81,936.00	0.1432	0.55	8.1549715	N/A	N/A	N/A
Equity Bank Limited	133,890.00	7,554.38	0.062	12,885.30	1,828.77	7.045877	25,320.00	90,805.00	0.2788	0.4	8.1267481	N/A	N/A	N/A
CFC Stanbic Bank	107,138.60	1,477.18	0.02	6,057.15	1,917.00	3.159703	12,314.00	76,004.00	0.162	0.368	8.029946	N/A	N/A	N/A
Commercial Bank of Africa	63,591.64	1,870.87	0.048	4,479.78	1,147.30	3.904615	6,028.00	41,553.00	0.1451	0.4471	7.8034	N/A	N/A	N/A
I & M Bank	62,552.11	2,117.40	0.045	5,223.56	2,057.50	2.538791	8,924.00	44,807.00	0.1992	0.4347	7.796242	N/A	N/A	N/A
Citibank, N.A.	62,069.59	1,731.11	0.049	2,912.69	522.17	5.578084	12,738.00	35,352.00	0.3603	0.69	7.7928789	N/A	N/A	N/A
National Bank(NBK)	60,026.69	2,021.92	0.044	5,430.76	1,064.06	5.103835	9,447.00	25,591.00	0.3692	0.41	7.7783444	N/A	N/A	N/A
Diamond Trust Bank Kenya	58,605.82	2,058.15	0.046	5,402.13	1,966.96	2.746435	7,973.00	43,249.00	0.1843	0.358	7.7679408	N/A	N/A	N/A
NIC Bank Ltd	54,776.43	1,730.40	0.042	4,585.68	1,433.52	3.198905	7,283.00	46,955.00	0.1551	0.3038	7.7385937	N/A	N/A	N/A
Prime Bank Limited	32,444.42	606.41	0.007	2,473.95	1,347.36	1.836149	2,258.00	16,411.00	0.1376	0.488	7.5111401	N/A	N/A	N/A
Bank of Baroda (K) Ltd			0.057			2.321431			0.2361	0.651	7.5096259	N/A	N/A	N/A

	32,331.51	1,393.40		2,946.25	1,269.15		3,472.00	14,708.00						
Ecobank Kenya Ltd	26,892.18	125.12	0.025	1,440.55	552.72	2.606317	2,758.00	14,265.00	0.1933	0.58	7.4296261	N/A	N/A	N/A
Bank of Africa	26,699.12	355.26	0.019	1,780.12	891.48	1.996803	2,682.00	17,684.00	0.1517	0.42	7.426497	N/A	N/A	N/A
Chase Bank Limited	21,858.60	381.39	0.024	1,954.04	855.96	2.282874	1,700.00	11,744.00	0.1447	0.424	7.3396224	N/A	N/A	N/A
Family Bank	20,188.38	391.00	0.05	1,896.11	225.73	8.400069	2,995.00	12,523.00	0.2392	0.4496	7.3051014	N/A	N/A	N/A
Bank of India	19,671.46	687.11	0.064	1,841.25	877.54	2.098194	2,756.00	6,373.00	0.4324	0.806	7.2938365	N/A	N/A	N/A
Imperial Bank Limited	19,399.09	896.06	0.025	3,026.06	922.80	3.27923	2,369.00	11,192.00	0.2117	0.288	7.2877813	N/A	N/A	N/A
Fina Bank Limited	14,112.37	133.52	0.025	1,427.75	681.66	2.094515	1,321.00	7,743.00	0.1706	0.48	7.1495998	N/A	N/A	N/A
Development Bank of Kenya	10,649.76	160.22	0.062	838.07	437.87	1.913992	1,454.00	5,349.00	0.2718	0.4	7.0273397	N/A	N/A	N/A
Consolidated Bank of Kenya	10,478.68	172.48	0.022	887.05	266.47	3.328925	1,082.00	8,205.00	0.1318	0.33	7.0203067	N/A	N/A	N/A
Equitorial Commercial Bank	10,398.81	(106.79)	-	687.12	391.19	1.756463	886.00	6,118.00	0.1449	0.3373	7.0169834	N/A	N/A	N/A
African Banking Corporation	10,296.56	342.23	0.047	1,053.36	360.84	2.919172	1,394.00	6,924.00	0.2013	0.4095	7.0126922	N/A	N/A	N/A
Giro Commercial Bank	10,223.96	513.76	0.062	857.82	449.71	1.907506	1,340.00	5,386.00	0.2487	0.438	7.0096193	N/A	N/A	N/A
Gulf African Bank	9,594.06	73.89	0.049	687.60	99.13	6.936536	1,224.00	7,542.00	0.1623	0.289	6.9820025	N/A	N/A	N/A
Fidelity Commercial Bank	8,208.54	271.78	0.046	705.23	479.94	1.469414	801.00	4,583.00	0.1749	0.372	6.9142658	N/A	N/A	N/A
Habib AG Zurich	8,127.14	159.42	0.031	504.05	155.47	3.242186	1,027.00	2,550.00	0.4028	0.788	6.9099375	N/A	N/A	N/A
Guardian Bank	8,031.21	75.23	0.014	772.48	486.42	1.588107	948.00	4,917.00	0.1929	0.391	6.9047812	N/A	N/A	N/A
K-Rep Bank Ltd	7,670.00	50.64	0.014	1,052.86	178.82	5.887693	1,141.00	5,281.00	0.2161	0.3	6.8847954	N/A	N/A	N/A
First community Bank			-			6.758687			0.1443	0.4	6.8048274	N/A	N/A	N/A

	6,380.10	(97.51)	0.025	408.83	60.49		565.00	3,918.00						
Victoria Comm. Bank Ltd	6,215.38	214.77	0.05	584.55	213.87	2.733233	1,099.00	4,677.00	0.235	0.3	6.793468	N/A	N/A	N/A
Habib Bank Limited	5,425.54	149.36	0.043	423.86	92.28	4.593333	896.00	2,148.00	0.4172	0.8653	6.734443	N/A	N/A	N/A
Transnational Bank Limited	4,761.85	142.34	0.033	444.90	97.16	4.579092	1,541.00	2,182.00	0.7062	0.77	6.677776	N/A	N/A	N/A
Oriental Comm. Bank	4,558.35	155.77	0.044	328.81	182.17	1.804955	1,004.00	2,789.00	0.3599	0.42	6.6588076	N/A	N/A	N/A
Credit Bank Ltd	4,530.09	33.79	0.007	465.78	176.51	2.63876	785.00	2,442.00	0.3758	0.556	6.6561072	N/A	N/A	N/A
Paramount-Universal Bank	4,419.81	252.25	0.063	400.03	247.75	1.61466	785.00	1,655.00	0.4744	0.6	6.6454032	N/A	N/A	N/A
Middle East Bank of Kenya	4,018.42	141.00	0.051	237.23	122.69	1.933668	1,006.00	1,915.00	0.5253	0.424	6.6040554	N/A	N/A	N/A
UBA BANK	2,363.05	(106.63)	-	116.40	49.83	2.335748	889.00	1,093.00	0.814	1.348	6.3734735	N/A	N/A	N/A
Dubai Bank Limited	1,874.27	1.85	0.002	148.47	24.34	6.100168	596.00	1,670.00	0.3568	0.495	6.2728317	N/A	N/A	N/A
Jamii Bora Bank	1,723.23	(84.12)	-	149.26	9.42	15.84795	231.00	646.00	0.3569	0.278	6.236344	N/A	N/A	N/A
<b>2011</b>	<b>ASSETS</b>	<b>Profit After Tax</b>	<b>ROA</b>	<b>Total Interest Income</b>	<b>Total Interest Expense</b>	<b>Efficiency</b>	<b>Total Capital</b>	<b>Overall Risk Weighted Assets</b>	<b>Capital Adequacy</b>	<b>LIQUIDITY</b>	<b>Asset Log</b>	<b>Mortgage Outstandg</b>	<b>No of Mort A/Cs</b>	<b>Mortgage financing</b>
Kenya Commercial (KCB)	282,493.55	9,838.34	0.035	25181.308	3904.546	6.449228	39,920.00	192,939.00	0.206905	0.313	8.4510085	18,105.00	4073	0.22497
Equity Bank Limited	176,911.00	9,773.86	0.055	18376.01	2815.48	6.526777	27,633.00	127,548.00	0.216648	0.37	8.2477548	3,387.00	682	0.20136
Co-op Bank	167,772.39	5,186.34	0.031	16374.032	4505.915	3.633897	22,622.00	137,792.00	0.164175	0.272	8.2247205	2,165.90	289	0.13343
Barclays Bank	167,304.94	8,072.64	0.048	17632.272	1296.149	13.60358	33,478.00	120,366.00	0.278135	0.425	8.2235088	4,371.00	939	0.21482
Standard Chartered Bank Ltd	164,181.64	5,834.01	0.036	12122.717	2011.118	6.02785	16,414.00	114,760.00	0.143029	0.34	8.2153246	7,753.00	1251	0.16136

CFC Stanbic Bank	140,086.55	1,922.88	0.014	8577.949	2561.426	3.348896	15,356.00	80,655.00	0.190391	0.378	8.1463964	8,807.00	1210	0.13739
Commercial Bank of Africa	83,283.37	1,640.01	0.02	5487.378	1890.795	2.902154	8,038.00	55,270.00	0.145432	0.4495	7.9205583	2,769.00	452	0.16324
Diamond Trust Bank Kenya	77,453.02	2,246.89	0.029	7225.667	2509.264	2.879596	9,718.00	57,898.00	0.167847	0.357	7.8890384	300.00	35	0.11667
I & M Bank	76,903.27	3,094.62	0.04	7171.265	2515.825	2.850463	11,584.00	60,079.00	0.192813	0.3832	7.8859448	1,546.30	171	0.11059
Citibank, N.A.	74,646.42	2,942.22	0.039	4067.285	946.714	4.296213	15,680.00	49,816.00	0.314758	0.63	7.873009	-	0	0
NIC Bank Ltd	73,581.32	2,533.05	0.034	6285.41	2337.059	2.689453	9,623.00	60,555.00	0.158913	0.2741	7.8667676	248.00	37	0.14919
National Bank(NBK)	68,664.52	1,546.11	0.023	6457.997	1376.887	4.690288	10,004.00	34,286.00	0.291781	0.34	7.8367324	3,100.00	154	0.04968
Bank of Africa	38,734.22	432.73	0.011	3012.731	1641.877	1.834931	4,303.00	26,888.00	0.160034	0.261	7.5880948	482.00	39	0.08091
Bank of Baroda (K) Ltd	36,700.80	1,363.88	0.037	3925.869	1639.739	2.394204	4,667.00	21,812.00	0.213965	0.492	7.5646755	433.60	52	0.11993
Chase Bank Limited	36,513.02	602.25	0.016	3313.471	1505.347	2.201134	2,844.00	22,554.00	0.126097	0.472	7.5624477	777.00	169	0.2175
Prime Bank Limited	35,184.68	834.42	0.024	3234.618	1610.47	2.008493	3,242.00	19,641.00	0.165063	0.423	7.5463536	262.00	22	0.08397
Housing finance	31,972.11	675.01	0.021	3464.079	1562.561	2.216924	5,911.00	17,369.00	0.340319	0.291	7.5047713	25,777.00	4932	0.19133
Ecobank Kenya Ltd	27,210.50	202.11	0.007	2034.384	-	-	4,557.00	17,811.00	0.255853	0.41	7.4347365	2,269.00	391	0.17232
Family Bank	26,001.75	354.61	0.014	2844.452	490.08	5.804056	3,150.00	18,519.00	0.170096	0.282	7.4150026	330.00	87	0.26364
Imperial Bank Limited	25,617.62	1,197.38	0.047	4300.331	1757.7	2.446567	3,072.00	14,894.00	0.206258	0.336	7.4085387	-	0	0
Bank of India	23,352.16	765.86	0.033	2159.381	1055.306	2.046213	3,522.00	7,589.00	0.464093	0.785	7.368327	99.40	37	0.37223
Consolidated Bank of Kenya	15,318.15	149.82	0.01	1585.851	720.968	2.199614	1,190.00	9,402.00	0.126569	0.276	7.1852063	2,764.00	302	0.10926
Fina Bank Limited	14,630.46	224.90	0.015	1510.962	692.594	2.181598	1,546.00	8,133.00	0.19009	0.48	7.165258	-	0	0

Equitorial Commercial Bank	12,926.90	72.34	0.006	1076.04	684.436	1.572156	1,152.00	8,074.00	0.14268	0.3233	7.1114945	-	0	0
Gulf African Bank	12,915.17	95.34	0.007	964.396	168.119	5.736389	1,319.00	9,264.00	0.142379	0.38	7.1111003	590.00	95	0.16102
African Banking Corporation	12,506.90	373.39	0.03	1266.999	514.381	2.463153	1,599.00	6,658.00	0.240162	0.3464	7.0971495	1,237.00	100	0.08084
Giro Commercial Bank	11,846.37	228.43	0.019	813.472	413.064	1.969361	1,579.00	6,658.00	0.237158	0.419	7.0735854	414.10	49	0.11833
Development Bank of Kenya	11,523.04	108.07	0.009	1038.436	706.407	1.470025	1,562.00	5,768.00	0.270804	0.36	7.061567	2,272.00	276	0.12148
Fidelity Commercial Bank	10,789.50	197.20	0.018	1056.634	652.551	1.619236	996.00	6,548.00	0.152108	0.306	7.0330012	315.10	34	0.1079
K-Rep Bank Ltd	9,318.72	173.37	0.019	1306.778	210.147	6.2184	1,315.00	6,650.00	0.197744	0.29	6.969356	-	0	0
Guardian Bank	8,753.94	123.86	0.014	660.969	338.152	1.954651	1,065.00	5,841.00	0.182332	0.301	6.9422035	140.60	8	0.0569
First community Bank	8,740.33	71.32	0.008	595.333	62.856	9.471379	767.00	5,403.00	0.141958	0.48	6.9415278	-	0	0
Habib AG Zurich	8,721.78	162.15	0.019	625.322	194.586	3.213602	129.00	3,279.00	0.039341	0.734	6.9406052	-	0	0
Victoria Comm. Bank Ltd	7,645.24	230.25	0.03	740.07	269.216	2.748982	1,269.00	5,772.00	0.219854	0.36	6.8833908	65.60	158	2.40854
Transnational Bank Limited	7,286.91	202.58	0.028	700.692	167.815	4.175384	1,738.00	3,707.00	0.468843	0.67	6.8625432	70.70	17	0.24045
Habib Bank Limited	5,860.51	166.01	0.028	485.255	113.943	4.258752	1,062.00	3,163.00	0.335757	0.779	6.7679353	17.00	12	0.70588
Credit Bank Ltd	5,394.06	47.07	0.009	560.314	228.369	2.453547	965.00	3,215.00	0.300156	0.413	6.7319161	135.30	9	0.06652
Oriental Comm. Bank	5,030.09	152.00	0.03	460.175	265.496	1.733265	1,113.00	3,156.00	0.352662	0.44	6.7015758	20.60	5	0.24272
Paramount-Universal Bank	4,727.24	100.47	0.021	491.23	297.269	1.652476	1,026.00	1,900.00	0.54	0.58	6.6746074	117.00	40	0.34188
Middle East Bank of Kenya	4,639.16	94.20	0.02	393.075	197.949	1.985739	1,080.00	2,478.00	0.435835	0.3229	6.6664394	-	0	0
UBA BANK	3,206.40	(152.15)	0.047	233.838	154.388	1.514613	728.00	1,040.00	0.7	1.918	6.506017	-	0	0

Dubai Bank Limited	2,316.00	14.17	0.006	205.024	41.748	4.91099	712.00	1,953.00	0.364567	0.339	6.3647386	-	0	0
Jamii Bora Bank	2,070.01	(37.88)	- 0.018	112.17	5.585	20.08415	771.00	698.00	1.104585	1.46	6.3159722	65.80	158	2.40122
<b>2012</b>	<b>ASSETS</b>	<b>Profit After Tax</b>	<b>ROA</b>	<b>Total Interest Income</b>	<b>Total Interest Expense</b>	<b>Efficiency</b>	<b>Total Capital</b>	<b>Overall Risk Weighted Assets</b>	<b>Capital Adequacy</b>	<b>LIQUIDITY</b>	<b>Asset Log</b>	<b>Mortgage Outstandg</b>	<b>No of Mort A/Cs</b>	<b>Mortgage financing</b>
Kenya Commercial	304,112.31	11,089.84	0.036	38,898.30	11,104.14	3.503045	44,925.00	197,734.00	0.227	0.355	8.483034	31,455.00	5,091	0.16185
Equity Bank Limited	215,829.30	10,996.84	0.051	28,496.53	6,384.91	4.463107	44,741.00	148,660.00	0.301	0.46	8.3341104	3,684.00	702	0.19055
Co-op Bank	199,662.97	7,329.43	0.037	24,596.10	8,680.01	2.83365	34,542.00	145,187.00	0.238	0.358	8.3002975	6,643.00	398	0.05991
Standard Chartered	195,493.00	8,043.25	0.041	19,698.32	5,482.20	3.593142	23,929.00	132,652.00	0.18	0.39	8.2911312	9,723.00	1,480	0.15222
Barclays Bank	185,101.57	8,740.70	0.047	21,041.00	2,895.84	7.265954	32,169.00	124,840.00	0.258	0.468	8.2674101	4,341.00	1,021	0.2352
CFC Stanbic Bank	133,378.18	3,109.38	0.023	11,653.74	5,155.87	2.260287	21,231.00	83,127.00	0.255	0.464	8.1250848	9,488.00	1,340	0.24663
NIC Bank Ltd	101,771.71	2,907.86	0.029	10,446.41	5,526.85	1.890121	13,246.00	80,565.00	0.164	0.3538	8.0076271	715.00	133	0.18601
Commercial Bank of Africa	100,455.56	2,640.55	0.026	9,025.66	4,411.38	2.045992	10,063.00	62,608.00	0.161	0.4762	8.001974	3,194.00	516	0.16155
Diamond Trust Bank Kenya	94,511.82	3,068.69	0.032	12,682.02	5,934.73	2.136916	13,511.00	68,104.00	0.198	0.38	7.9754861	423.00	50	0.12293
I & M Bank	91,519.62	3,362.89	0.037	10,966.39	6,035.22	1.817064	12,109.00	69,848.00	0.173	0.354	7.9615142	2,309.00	293	0.1269
Citibank, N.A.	69,579.80	4,428.59	0.064	7,101.67	1,728.88	4.107679	17,225.00	41,192.00	0.418	0.82	7.8424831	-	-	0
National Bank(NBK)	67,154.81	729.75	0.011	8,430.12	3,655.33	2.306257	10,027.00	35,280.00	0.284	0.3	7.8270771	4,123.00	221	0.0536
Chase Bank Limited	49,105.50	904.37	0.018	6,416.83	3,717.14	1.726282	4,982.00	37,709.00	0.132	0.434	7.6911301	1,531.00	163.00	0.10647
Bank of Africa	48,957.93	473.74	0.01	5,634.47	3,993.89	1.410771	4,547.00	34,543.00	0.132	0.256	7.689823	1,212.00	143.00	0.11799

Bank of Baroda (K) Ltd	46,137.78	1,376.10	0.03	5,901.17	3,753.39	1.572224	5,875.00	24,951.00	0.235	0.558	7.6640567	434.00	127.00	0.29263
Prime Bank Limited	43,462.89	954.72	0.022	5,108.46	3,597.88	1.419854	3,816.00	22,412.00	0.17	0.475	7.6381186	350.00	31.00	0.08857
Housing finance	40,685.93	687.05	0.017	5,068.82	3,118.86	1.625215	6,448.00	21,848.00	0.295	0.368	7.6094442	30,293.00	5,235.00	0.17281
Imperial Bank Limited	34,589.61	1,403.30	0.041	6,518.62	3,632.81	1.794372	3,752.00	20,057.00	0.187	0.393	7.5389457	-	-	0
Ecobank Kenya Ltd	31,771.34	(1,055.75)	-	2,586.21	2,542.06	1.017367	6,275.00	19,303.00	0.325	0.4	7.5020355	1,136.00	302.00	0.26585
Family Bank	30,985.10	540.72	0.017	4,775.72	1,485.38	3.21516	4,786.00	21,096.00	0.227	0.386	7.4911528	1,193.00	214.00	0.17938
Bank of India	24,876.82	586.44	0.024	2,840.25	2,059.38	1.379181	4,090.00	10,096.00	0.405	0.659	7.3957949	101.00	38.00	0.37624
African Banking Corporation	19,070.78	423.88	0.022	2,224.68	1,349.37	1.648682	1,739.00	12,079.00	0.144	0.425	7.2803684	1,506.00	103.00	0.06839
Consolidated Bank of Kenya	18,000.86	139.25	0.008	2,636.74	1,704.80	1.546659	1,543.00	10,268.00	0.15	0.474	7.2552932	3,848.00	566.00	0.14709
Fina Bank Limited	17,149.89	283.44	0.017	2,138.86	1,375.65	1.554802	1,788.00	10,062.00	0.169	0.44	7.2342614	-	-	0
Equitorial Commercial Bank	14,109.00	(481.94)	-	1,883.80	1,540.67	1.222714	848.00	9,556.00	0.089	0.3233	7.1494961	-	-	0
Gulf African Bank	13,561.82	242.22	0.018	1,476.45	298.15	4.952037	1,561.00	10,757.00	0.145	0.2898	7.1323179	1,069.00	145.00	0.13564
Development Bank of Kenya	13,417.10	71.95	0.005	1,431.70	1,161.97	1.232123	1,634.00	6,558.00	0.249	0.46	7.1276585	2,617.00	579.00	0.22125
Giro Commercial Bank	12,279.81	226.36	0.018	1,643.68	1,159.95	1.417021	1,775.00	6,014.00	0.295	0.5505	7.0891916	-	-	0
Fidelity Commercial Bank	11,772.12	90.05	0.008	1,618.75	1,344.67	1.203831	1,185.00	6,410.00	0.185	0.343	7.0708546	261.00	28.00	0.10728
Guardian Bank	11,745.36	153.61	0.013	1,608.49	1,115.21	1.442318	1,219.00	7,048.00	0.172	0.386	7.0698664	-	-	0
Victoria Comm. Bank Ltd	10,322.82	350.53	0.034	1,352.82	693.02	1.952065	2,072.00	8,258.00	0.251	0.384	7.0137983	63.00	7.00	0.11111
First community Bank	9,958.77	241.31	0.024	940.31	136.61	6.882933	1,008.00	6,397.00	0.158	0.4	6.9982055	-	-	0

Habib AG Zurich	9,702.22	250.02	0.026	1,062.40	430.44	2.468184	1,490.00	2,618.00	0.569	0.863	6.9868713	-	-	0
K-Rep Bank Ltd	9,548.05	196.08	0.021	1,846.94	536.56	3.442219	1,492.00	6,929.00	0.215	0.31	6.9799147	-	-	0
Transnational Bank Limited	8,801.38	213.39	0.024	984.97	433.24	2.273493	1,825.00	4,718.00	0.387	0.6	6.9445509	192.00	49.00	0.25521
Paramount-Universal Bank	7,254.56	110.25	0.015	681.45	556.55	1.224415	1,136.00	2,390.00	0.475	0.66	6.8606111	-	-	0
Habib Bank Limited	7,014.40	286.03	0.041	833.40	245.74	3.391362	1,348.00	3,204.00	0.421	0.6302	6.8459902	18.00	11.00	0.61111
Credit Bank Ltd	6,407.49	69.67	0.011	938.31	536.51	1.748929	1,203.00	3,914.00	0.307	0.489	6.8066876	-	-	0
Oriental Comm. Bank	6,219.91	94.47	0.015	694.99	573.91	1.210982	1,188.00	3,939.00	0.302	0.45	6.7937838	17.00	5.00	0.29412
Middle East Bank of Kenya	5,869.72	44.34	0.008	624.98	440.57	1.418579	1,104.00	2,741.00	0.403	0.4089	6.768617	-	-	0
Jamii Bora Bank	3,479.66	52.33	0.015	235.74	26.36	8.942455	1,338.00	1,600.00	0.836	0.62	6.5415363	218.00	184.00	0.84404
UBA BANK	2,923.81	(287.39)	-	256.17	234.13	1.094145	1,219.00	1,678.00	0.727	1.128	6.4659493	-	-	0
Dubai Bank Limited	2,584.33	(23.04)	-	411.80	121.13	3.399761	916.00	1,978.00	0.463	0.241	6.4123485	3.00	2.00	0.66667
<b>2013</b>	<b>ASSETS</b>	<b>Profit After Tax</b>	<b>ROA</b>	<b>Total Interest Income</b>	<b>Total Interest Expense</b>	<b>Efficiency</b>	<b>Total Capital</b>	<b>Overall Risk Weighted Assets</b>	<b>Capital Adequacy</b>	<b>LIQUIDITY</b>	<b>Asset Log</b>	<b>Mortgage Outstandg</b>	<b>No of Mort A/Cs</b>	<b>Mortgage financing</b>
Kenya Commercial (KCB)	323,312.45	12,426.67	0.039	29,000.59	20,768	1.40	61,199.00	272,565.00	0.224	0.333	8.5096224	34,030.00	5,343.00	0.15701
Equity Bank Limited	238,194.35	12,641.84	0.053	23,689.76	15,669	1.51	44,151.00	187,346.00	0.236	0.34	8.3769315	5,277.00	1,091.00	0.20675
Co-op Bank	228,874.48	8,979.19	0.039	18,595.11	16,069	1.16	43,195.00	205,152.00	0.211	0.326	8.3595974	5,911.00	439.00	0.07427
Standard Chartered Bank Ltd	220,523.87	9,236.24	0.042	16,737.76	9,460	1.77	30,721.00	147,682.00	0.208	0.38	8.3434556	10,099.00	1,385.00	0.13714
Barclays Bank			0.037		14,778				0.173	0.42	8.3159905			0.22931

	207,009.62	7,622.64		18,859.00		1.28	33,172.00	191,652.00				4,640.00	1,064.00	
CFC Stanbic Bank	170,726.46	4,959.00	0.029	7,509.40	7,917	0.95	25,125.00	119,641.00	0.210	0.679	8.2323008	11,621.00	1,441.00	0.124
Commercial Bank of Africa	124,881.96	3,476.82	0.028	5,511.54	4,265	1.29	10,927.00	81,060.00	0.135	0.4112	8.0964997	2,889.00	352.00	0.12184
Diamond Trust Bank Kenya	114,136.43	4,057.90	0.036	7,848.32	3,673	2.14	18,484.00	87,817.00	0.210	0.326	8.0574243	442.00	47.00	0.10633
NIC Bank Ltd	112,916.81	3,385.58	0.03	6,533.78	3,454	1.89	14,108.00	95,220.00	0.148	0.2854	8.0527586	1,618.00	178.00	0.11001
I & M Bank	110,315.68	4,194.44	0.038	6,953.23	2,857	2.43	18,547.00	97,526.00	0.190	0.3402	8.0426373	2,743.00	320.00	0.11666
National Bank(NBK)	92,493.03	1,089.90	0.012	5,638.11	6,377	0.88	10,948.00	45,333.00	0.242	0.42	7.966109	5,150.00	214.00	0.04155
Chase Bank Limited	76,568.93	1,569.91	0.021	4,866.22	3,578	1.36	7,086.00	47,133.00	0.150	0.405	7.8840526	1,947.00	156.00	0.08012
Citibank, N.A.	71,242.66	2,998.59	0.042	4,195.84	2,593	1.62	15,786.00	44,600.00	0.354	0.63	7.8527401	-	-	0
Bank of Africa	52,683.30	755.69	0.014	2,134.85	2,038	1.05	5,587.00	43,923.00	0.127	0.256	7.721673	1,735.00	113.00	0.06513
Bank of Baroda (K) Ltd	52,021.52	2,039.70	0.039	3,044.38	743	4.10	7,663.00	35,458.00	0.216	0.606	7.7161831	394.00	54.00	0.13706
Prime Bank Limited	49,460.89	1,440.77	0.029	2,497.15	1,371	1.82	4,951.00	26,914.00	0.184	0.424	7.6942619	473.00	36.00	0.07611
Housing finance	46,755.11	808.97	0.017	2,553.01	1,363	1.87	6,246.00	28,946.00	0.216	0.3312	7.6698291	35,279.00	5,402.00	0.15312
Family Bank	43,500.99	1,226.41	0.028	4,450.40	4,175	1.07	5,896.00	31,127.00	0.189	0.365	7.6384991	393.00	71.00	0.18066
Imperial Bank Limited	43,006.23	1,853.99	0.043	4,167.08	2,518	1.65	4,755.00	31,709.00	0.149	0.338	7.6335314	459.00	52.00	0.11329
Ecobank Kenya Ltd	36,907.14	(881.89)	-	901.21	2,543	0.35	7,018.00	22,968.00	0.306	0.318	7.5671104	1,393.00	254.00	0.18234
Bank of India	30,721.44	1,009.46	0.033	1,423.78	365	3.90	5,068.00	12,205.00	0.415	0.752	7.4874416	91.00	21.00	0.23077
Fina Bank Limited	25,638.05	331.29	0.013	1,106.43	1,061	1.04	4,353.00	12,892.00	0.338	0.65	7.408885	-	-	0
Consolidated Bank of Kenya			-		1,255				0.108	0.275	7.3630464			0.14189

	23,069.93	(109.11)	0.005	1,075.06		0.86	1,217.00	11,254.00				3,686.00	523.00	
African Banking Corporation	19,639.37	424.13	0.022	1,090.00	970	1.12	1,873.00	12,429.00	0.151	0.38	7.2931276	2,075.00	137.00	0.06602
Gulf African Bank	16,053.97	285.48	0.018	1,286.01	1,135	1.13	2,686.00	14,804.00	0.181	0.338	7.2055825	1,197.00	178.00	0.14871
Development Bank of Kenya	15,580.63	188.58	0.012	549.11	289	1.90	1,640.00	6,944.00	0.236	0.386	7.192585	2,711.00	529.00	0.19513
Equitorial Commercial Bank	15,562.48	55.65	0.004	828.51	840	0.99	1,485.00	12,122.00	0.123	0.3461	7.1920787	145.00	14.00	0.09655
Victoria Comm. Bank Ltd	13,644.24	431.90	0.032	780.28	386	2.02	2,373.00	11,980.00	0.198	0.308	7.1349494	9.00	2.00	0.22222
Giro Commercial Bank	13,623.30	378.05	0.028	707.01	443	1.60	2,087.00	7,212.00	0.289	0.505	7.1342822	393.00	41.00	0.10433
K-Rep Bank Ltd	13,199.24	359.92	0.027	1,398.14	1,224	1.14	1,852.00	8,654.00	0.214	0.311	7.1205489	-	-	0
Guardian Bank	12,834.69	275.34	0.022	734.28	487	1.51	1,494.00	8,312.00	0.180	0.334	7.1083853	257.00	19.00	0.07393
Fidelity Commercial Bank	12,778.51	211.92	0.017	555.90	563	0.99	1,402.00	7,574.00	0.185	0.4263	7.1064802	117.00	19.00	0.16239
First community Bank	11,305.40	132.20	0.012	850.40	869	0.98	1,140.00	7,702.00	0.148	0.287	7.0532859	129.00	30.00	0.23256
Habib AG Zurich	11,009.48	313.59	0.029	673.44	309	2.18	1,835.00	5,533.00	0.332	0.824	7.0417668	-	-	0
Transnational Bank Limited	9,657.87	158.12	0.016	698.49	602	1.16	1,869.00	5,956.00	0.314	0.496	6.9848813	98.00	18.00	0.18367
Habib Bank Limited	8,078.12	318.63	0.04	649.63	233	2.79	1,660.00	4,477.00	0.371	0.63	6.9073104	-	-	0
Paramount-Universal Bank	8,028.88	87.95	0.011	310.43	219	1.42	1,220.00	2,914.00	0.419	0.63	6.9046548	56.00	18.00	0.32143
Credit Bank Ltd	7,308.85	52.80	0.007	519.38	533	0.97	1,256.00	4,719.00	0.266	0.367	6.8638493	-	-	0
Jamii Bora Bank	7,010.32	93.89	0.013	388.26	469	0.83	1,447.00	5,600.00	0.258	0.424	6.845738	626.00	309.00	0.49361
Oriental Comm. Bank	7,006.51	139.97	0.02	299.76	290	1.03	1,372.00	4,510.00	0.304	0.44	6.8455016	9.00	5.00	0.55556
Middle East Bank of Kenya			0.012		249				0.363	0.23	6.7608595			0.14286

	5,765.80	71.25		276.76		1.11	1,165.00	3,212.00				14.00	2.00	
UBA BANK	3,709.63	(272.09)	-	121.59	500	0.24	1,059.00	2,258.00	0.469	1.128	6.5693306	-	-	0
Dubai Bank Limited	2,926.86	8.94	0.003	189.11	247	0.77	1,036.00	6,023.00	0.172	0.215	6.4664019	3.00	2.00	0.66667
<b>2014</b>	<b>ASSETS</b>	<b>Profit After Tax</b>	<b>ROA</b>	<b>Total Interest Income</b>	<b>Total Interest Expense</b>	<b>Efficiency</b>	<b>Total Capital</b>	<b>Overall Risk Weighted Assets</b>	<b>Capital Adequacy</b>	<b>LIQUIDITY</b>	<b>Asset Log</b>	<b>Mortgage Outstandg</b>	<b>No of Mort A/Cs</b>	<b>Mortgage financing Ratio</b>
Kenya Commercial (KCB)	376,969.40	15,879.02	0.042	31,185.45	22,000.91	1.417462	71,210.00	338,877.00	0.21	0.361	8.5763061	41,327.00	5,914.00	0.14
Co-op Bank	282,689.11	8,351.33	0.03	21,200.82	17,734.65	1.195446	55,534.00	256,511.00	0.216	0.331	8.4513091	5,694.00	483.00	0.08
Equity Bank Limited	276,115.73	15,168.72	0.055	26,159.57	19,895.76	1.314831	47,552.00	268,518.00	0.177	0.345	8.4410911	6,375.00	1,351.00	0.21
Barclays Bank	226,118.12	8,387.35	0.037	19,603.61	14,590.01	1.343633	38,419.00	205,806.00	0.187	0.433	8.3543354	4,922.00	933.00	0.19
Standard Chartered Bank Ltd	222,635.99	10,404.18	0.047	17,879.88	10,386.31	1.721485	36,288.00	183,105.00	0.198	0.3816	8.3475954	13,092.64	1,652.00	0.13
Commercial Bank of Africa	175,808.83	3,774.56	0.021	6,174.61	5,102.10	1.210209	21,705.00	121,180.00	0.179	0.4121	8.2450407	3,929.00	438.00	0.11
CFC Stanbic Bank	171,347.15	5,478.70	0.032	8,381.96	8,144.58	1.029145	30,529.00	138,735.00	0.22	0.6151	8.2338769	13,039.80	1,678.00	0.13
Diamond Trust Bank Kenya	141,175.79	4,152.44	0.029	8,842.54	4,147.25	2.132144	25,065.00	132,274.00	0.189	0.3568	8.1497602	574.99	60.00	0.10
I & M Bank	137,299.35	5,618.88	0.041	8,309.08	3,362.92	2.470791	22,863.00	121,260.00	0.189	0.3498	8.1376685	3,293.00	407.00	0.12
NIC Bank Ltd	137,087.46	4,019.17	0.029	7,279.48	3,889.77	1.871444	27,340.00	131,045.00	0.209	0.2826	8.1369977	1,621.00	188.00	0.12
National Bank(NBK)	122,864.89	800.70	0.007	6,789.88	6,936.64	0.978843	11,206.00	80,433.00	0.139	0.5228	8.0894278	2,311.30	404.00	0.17
Chase Bank Limited	107,112.47	2,316.60	0.022	6,681.67	5,021.28	1.330672	10,376.00	67,948.00	0.153	0.4106	8.02984	3,268.70	176.00	0.05
Citibank, N.A.	79,397.81	2,443.06	0.031	4,523.75	3,171.64	1.426312	18,057.00	66,136.00	0.273	0.4373	7.8998085	-	-	-

Bank of Africa	62,211.64	144.11	0.002	2,305.22	2,639.07	0.873496	8,244.00	51,781.00	0.159	0.2527	7.7938717	1,901.00	116.00	0.06
Bank of Baroda (K) Ltd	61,944.65	2,216.91	0.036	3,376.25	851.96	3.962909	9,683.00	40,044.00	0.242	0.6676	7.7920038	468.45	57.00	0.12
Family Bank	61,812.66	1,780.60	0.029	5,370.72	4,917.20	1.092231	10,551.00	52,067.00	0.203	0.3658	7.7910774	2,899.12	399.00	0.14
Housing finance	60,490.83	870.14	0.014	3,018.01	1,693.81	1.781794	6,571.00	43,534.00	0.151	0.282	7.7816896	45,278.00	5,840.00	0.13
Imperial Bank Limited	56,599.36	2,064.49	0.036	4,336.50	2,609.39	1.661882	6,634.00	43,219.00	0.153	0.3451	7.7528115	605.73	67.00	0.11
Prime Bank Limited	54,917.67	1,736.02	0.032	2,971.81	1,546.91	1.921135	6,722.00	40,100.00	0.168	0.4106	7.7397121	517.00	33.00	0.06
Ecobank Kenya Ltd	45,934.46	(320.21)	-	997.55	2,725.89	0.365954	6,530.00	32,967.00	0.198	0.338	7.6621386	701.00	170.00	0.24
Bank of India	34,370.42	1,021.29	0.03	1,487.64	434.41	3.424532	6,037.00	15,316.00	0.394	0.7383	7.5361849	174.34	17.00	0.10
Fina Bank/GT Bank Limited	32,991.93	533.65	0.016	1,448.13	1,116.33	1.297228	4,862.00	18,750.00	0.259	0.3609	7.5184077	-	-	-
African Banking Corporation	21,438.73	258.15	0.012	1,199.68	1,216.44	0.98622	2,945.00	17,096.00	0.172	0.3704	7.331199	904.00	86.00	0.10
Gulf African Bank	19,753.65	401.37	0.02	1,551.94	1,267.87	1.224047	3,147.00	23,285.00	0.135	0.3862	7.2956473	885.84	109.00	0.12
Victoria Comm. Bank Ltd	17,244.09	464.35	0.027	851.80	423.26	2.012479	2,756.00	14,376.00	0.192	0.2918	7.2366403	5.41	1.00	0.18
Development Bank of Kenya	16,954.23	219.95	0.013	604.09	300.81	2.008248	2,010.00	6,780.00	0.296	0.3734	7.229278	3,314.80	634.00	0.19
Equitorial Commercial Bank	16,589.36	(326.43)	-0.02	919.28	974.39	0.943437	1,442.00	13,457.00	0.107	0.3336	7.2198296	46.24	7.00	0.16
Fidelity Commercial Bank	16,515.40	221.66	0.013	606.55	622.12	0.974966	1,678.00	10,230.00	0.164	0.4521	7.2178892	1,052.00	70.00	0.07
K-Rep Bank Ltd	15,798.78	514.04	0.033	1,638.50	1,402.06	1.168638	2,379.00	11,572.00	0.206	0.8665	7.1986235	-	-	-
First community Bank	15,278.03	50.44	0.003	906.74	1,101.89	0.822893	1,423.00	12,413.00	0.115	0.2862	7.1840672	101.43	27.00	0.27
Giro Commercial Bank	15,082.20	395.60	0.026	719.21	451.95	1.591352	2,422.00	10,186.00	0.238	0.514	7.1784647	209.96	29.00	0.14

Consolidated Bank of Kenya	15,077.05	(281.63)	-	913.14	1,207.54	0.7562	1,444.00	13,139.00	0.11	0.2667	7.1783164	3,201.80	299.00	0.09
Guardian Bank	14,570.60	261.25	0.018	856.46	525.26	1.630547	1,755.00	10,600.00	0.166	0.3308	7.1634774	389.00	30.00	0.08
Jamii Bora Bank	13,117.89	19.69	0.002	583.51	728.21	0.801288	2,273.00	8,709.00	0.261	0.4251	7.1178641	1,052.00	277.00	0.26
Habib AG Zurich	12,147.29	399.98	0.033	722.46	360.46	2.004281	2,243.00	6,036.00	0.372	0.2807	7.0844793	-	-	-
Paramount-Universal Bank	10,402.33	123.81	0.012	337.64	286.70	1.177669	1,376.00	5,404.00	0.255	0.6496	7.0171305	190.36	26.00	0.14
Transnational Bank Limited	10,239.92	125.71	0.012	777.61	680.57	1.142593	1,915.00	8,824.00	0.217	0.4968	7.0102966	619.00	26.00	0.04
Habib Bank Limited	9,449.37	318.53	0.034	654.01	236.45	2.765977	1,942.00	5,924.00	0.328	0.6372	6.9754026	-	-	-
Credit Bank Ltd	8,864.58	(91.72)	-0.01	549.27	659.18	0.833259	1,165.00	6,185.00	0.188	0.2735	6.947658	-	-	-
Oriental Comm. Bank	7,857.52	71.95	0.009	306.27	330.64	0.926296	1,450.00	5,659.00	0.256	0.4293	6.8952852	4.70	3.00	0.64
Middle East Bank of Kenya	5,936.60	68.63	0.012	271.28	283.50	0.956868	1,227.00	3,641.00	0.337	0.2479	6.7735379	28.00	3.00	0.11
UBA BANK	4,755.79	(282.04)	-	64.69	536.22	0.120633	1,139.00	1,943.00	0.587	1.1298	6.6772223	6.28	1.00	0.16
Dubai Bank Limited	3,502.27	4.39	0.001	169.90	243.56	0.697554	1,040.00	4,768.00	0.218	0.2448	6.5443491	3.40	2.00	0.59