# THE EFFECT OF REAL ESTATE FINANCEON FINANCIAL PERFORMANCE OF COMMERCIAL BANKS LISTED ON THE NAIROBI SECURITIES EXCHANGE

BY

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# DECLARATION

I declare that this research project is my original work and has not been presented for a degree in any other University.

Signed _____          Date_____

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

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# DEDICATION

I dedicate this work to my loving mother the late Jane Atieno Kwena, my beloved

husband Joseph Juma Malimaand our childrenRyan Juma Malima, Ray Juma Malima

and Rael Amaris Malima.

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# LIST OF ABBREVIATIONS

**CBK**   Central Bank of Kenya

**GDP**   Gross Domestic Product

**KBA**   Kenya Bankers Association

**MPT**   Market Portfolio Theory

**NIM**   Net Interest Margin

**NSE**   Nairobi Securities Exchange

**RBV**   Resource Based View

**ROA**   Return on Assets

**ROE**   Return on Equity

**SCP**   Structure Conduct Performance

# ABSTRACT

It is generally observed that commercial banks' lending criteria are pro-cyclical in nature. This means that their lending criteria are not very strict in a real estate boom while during the bust they are very strict. As a result of this,commercial banks are more likely to underestimate the default risk of real estate loans during a real estate boom. Such a situation leads to real estate price inflation and this increases the banks' credit risk exposure to the real estate. When there is a sharp drop in real estate prices, commercial banks that have a high proportion of real estate loans in their portfolios or loans to other financial institutions that specialize in real estate lending suddenly find themselves faced by a high exposure to real estate risk. This therefore affects their financial performance in a significant manner. As a result, the country's financial system becomes at risk and exposed. The study sought to evaluate the effects of real estate finance on the financial performance of listed commercial banks in Kenya. This study adopted a descriptive researchdesign.The population of this study was all the 11 listed commercial banks in Kenya. For the purposes of this study, only secondary data was used. The secondary data was sourced from the annual reports that are available from their websites, the NSE and the Central bank of Kenya website. Data was collected for a period of 5 years from 2009-2013 since most of the other studies have used a similar period. Then, the study used descriptive statistics and inferential statistics to establish the relationship between the variables and financial performance of commercial. The results showed that the model explained 59% of the variance in financial performance as given by the value of $R^2$. The model was also fit to explain the relationship as the $F$-statistic of 5.598 was significant at 5% level, $p = 0.000$. The major finding of the study was that mortgage finance had a strong negative effect on the financial performance of listed commercial banks in Kenya, $\beta = -2.147$, $p = 0.054$. Further, liquidity and cost of operations also had a strong effect on the financial performance of commercial banks. The study concludes that real estate finance influence the financial performance of listed commercial banks in Kenya. The study recommends that commercial banks be wary of the way mortgage financing affects their financial performance. The current levels of mortgage finance have not improved the financial performance of banks and it may therefore be necessary to examine how mortgage finance can be used to improve the financial performance of banks in Kenya.

# CHAPTER ONE
# INTRODUCTION

## 1.1    Background of the Study

Real estate financing over the years has been a preserve for mortgage financing companies but with time, commercial banks have started engaging in mortgage financing. 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 favourable impact on poverty alleviation, quality of housing, infrastructure, and urbanization (Erbas, 2005). Developed countries currently have very advanced housing finance systems in which funds flow from people with fund surpluses to the ones that have deficits and need the funds through the various channels provided by the mortgage markets. The situation in the developing countries is however very different in that real estate has remained largely under developed despite the fact that sector players recognise the economic and social importance of the sector. This has been attributed to the unstable inflation rates experienced and the high level of unemployment (Dolde, 2006).

Commercial banks play a crucial role in the economic resource allocation of countries by basically channelling funds from depositors to investors continuously (Ongore and Kusa, 2013). They offer 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 et al., 2007) Commercial banks make most of their money from lending to their customers in various forms.The soundness of the banks to a larger extent

depends on their financial performance which indicates the strength and weakness of a particular bank (Makkar and Singh, 2013). Financial performance is evaluated by the profitability.

Real estate financing is an important line of business for the banking industry, and real estate financing activities contribute significantly to the Kenyan economy. Most of the commercial banks rely on revenue from this line business to grow and prosper (Bienert, 2006). History has shown, however, that imprudent risk taking and inadequate risk management, particularly during periods of rapid economic growth, can lead to significant losses and be a major impediment to the performance of commercial banks with risks of failure very high. One of the major ways in which this line of business influences the performance of commercial banks is through the cyclical nature of real estate markets where, as markets peak and decline, banks with large concentrations of real estate loans may suffer considerable losses leading to poor performance (Kibirige, 2006).

## 1.1.1  Real Estate Finance

Real estate financing is the provision of finance or capital for housing purchase or building. Real estate finance also means the capital required for construction of housing or the resources required to acquire or access housing project by household or the credit supplied by housing finance institutions against some collateral (Dymski, 2007).Internationally, there are various institutions that are involved in the lending of money for real estate projects and these include: commercial banks, mortgage finance firms, saving and loans co-operatives, insurance companies, government parastatals, pension funds, trusts and other real investment institutions (Lwali,2008). Unlike unsecured loans, real estate financing is a form of a secured loan whereby the

mortgaged property acts as the security for the loan extended by the lending institution (Macharia, 2013).

A home buyer or builder can obtain financing (a loan) either to purchase or secure against the property from a financial institution, such as a bank, either directly or indirectly through intermediaries. Features of mortgage loans such as the size of the loan, maturity of the loan interest rate, method of paying off the loan, and other characteristics can vary considerably (KlugerandMiller,2000). It is however noted that in most countries, it is very normal for a housing project and home purchases to be funded by a mortgage loan. This is due to the fact that very few individuals have enough savings or liquid funds to allow them to purchase property directly on cash basis. In countries where the demand for home ownership is highest, strong domestic markets have developed (Aalbers, 2008).

The commercial real estate market worldwide is increasingly dominated by institutional investors. This presents a challenge to private real estate investments because individual properties are not bought and sold on a regular basis like stocks and bonds (Lwali, 2008). Unlike the developed countries that use stocks and bonds, financing of real estate in developing countries is predominantly through mortgage financing. Real estate is a highly cyclical industry that is affected by changes in local and national economic conditions. Although national conditions affect the overall real estate industry, how national conditions influence local conditions is most important. Factors such as rates of employment, consumer demand, household formation, and the level of economic activity can vary widely from state to state and among metropolitan areas, cities, and towns. Metropolitan markets comprise various submarkets where property values and demand can be affected by many factors, such as demographic makeup, geographic features, transportation, recreation, local government, school

systems, utility infrastructure, tax burden, building-stock age, zoning and building codes, and available land for development (Dirnhofer, 2012).

Real estate finance 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 formula. The most basic arrangement would require a fixed monthly payment over a period of ten to thirty years depending on the conditions of the agreement. Over this period, the principal component of the loan would be slowly paid down through amortization. In practice, many variants are possible and common worldwide ad within each country (Tse, 2002).

## 1.1.2 Financial Performance

The financial performance of commercial banks is measured through its profitability. There are various profitability measures that are used to measure the performance of organisations such as the Net interest margin, the Return on Assets (ROA) and the Return on Equity (ROE). The Net Interest Margin is a measure of the difference between the interest income generated by banks from their loans and the amount of interest paid out to their lenders (for example, deposits), relative to the amount of their (interest-earning) assets. It is usually expressed as a percentage of what the financial institution earns on loans in a specific time period and other assets minus the interest paid on borrowed funds divided by the average amount of the assets on which it earned income in that time period (the average earning assets). The NIM variable is defined as the net interest income divided by total earnings assets (Gull etal., 2011).

Net interest margin measures the gap between the interest income the bank receives on loans and securities and interest cost of its borrowed funds. It reflects the cost of bank intermediation services and the efficiency of the bank. The higher the net

interest margin, the higher the bank's profit and the more stable the bank is. Thus, it is one of the key measures of bank profitability. However, a higher net interest margin could reflect riskier lending practices associated with substantial loan loss provisions (Khrawish, 2011).

The Return on Equity (ROE) is a financial ratio that refers to how much profit a company earned compared to the total amount of shareholder equity invested or found on the balance sheet. ROE is what the shareholders look in return for their investment. A business that has a high return on equity is more likely to be one that is capable of generating cash internally. Thus, the higher the ROE the better the company is in terms of profit generation. It is further explained by Khrawish (2011) that ROE is the ratio of Net Income after Taxes divided by Total Equity Capital. It represents the rate of return earned on the funds invested in the bank by its stockholders. ROE reflects how effectively a bank management is using shareholders' funds. Thus, it can be deduced from the above statement that the better the ROE the more effective the management in utilizing the shareholders capital.

The Return on Assets (ROA) is another financial ratio that refers to the profitability of a bank. It is a ratio of Income to its total asset (Khrawish, 2011). It measures the ability of the bank management to generate income by utilizing company assets at their disposal. In other words, it shows how efficiently the resources of the company are used to generate the income. It further indicates the efficiency of the management of a company in generating net income from all the resources of the institution (Khrawish, 2011). Wen (2010), state that a higher ROA shows that the company is more efficient in using its resources.

### 1.1.3 Effect of Real Estate Finance on Financial Performance

Commercial banks that offer real estate financing consider it a diversification strategy which is expected to lower their risks of loss through non-performing loans particularly 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 financing requires borrowers to put in some savings to finance part of the cost of property by making a down payment. This in turn lowers the ratio of the non-performing loans to total loan portfolio of the bank (Kimeu, 2008).

Generally, the boom and bust (pro cyclical) nature of the real estate market plays a critical role in business cycles, fuelling the upswing and magnifying the downswing. Falling real estate prices tend to put downward pressure on the banking sector, not only because of increases in bad debt expenses for non-performing real estate loans, but also because of a deterioration in the balance sheets of borrowers who rely on real estate as collateral (Davis and Zhu, 2004). Price fluctuations of real estate can have a significant effect on the financial performance of commercial banks. A sharp drop in real estate prices may lead to commercial banks facing a financial crisis through several channels. Directly through rising bad debt cost in real estate loans, worsening of the financial conditions of debtors and the banks, or indirectly through the fall in financial transactions and the economic activities (Zhu, 2005).In most situations real

estate financing loansmake up a major part of the loans extended by commercial banks. In some countries it can be one third while in others it can be more than half of total bank credit. Falling real estate prices means a lower return for real estate and therefore loans to real estate sector are expected to default. This reduces the banks' profitability and raises the bad debt expenses of the banks (Heath, 2005).

Since in most economies real estate is normally used by borrowers as collateral for other types of loans, i.e. non-real estate lending, 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 is constrained thus reducing the amount of real estate finance loans applied to commercial banks leading to lower earned interest by the banks (Case, Goetzemann and Rouwenhorst, 2000). As a result their 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 no-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 Listed Commercial Banks in Kenya

The Companies Act, (1978), The Banking Act, (1991), the Central Bank of Kenya Act, (1984), and the various prudential guidelines issued by the Central Bank of Kenya (CBK), govern the Banking industry in Kenya. The banking sector was liberalised in 1995 and exchange controls lifted. The CBK, which falls under the Minister for Finance's docket, is responsible for formulating and implementing monetary policy and fostering the liquidity, solvency and proper functioning of the financial system. The CBK publishes information on Kenya's commercial banks and non-banking financial institutions, interest rates and other publications and guidelines. The banks have come together under the Kenya Bankers Association (KBA), which serves as a lobby for the banks' interests and addresses issues affecting its members (CBK, 2012). According to the NSE, there are 11 listed commercial banks in Kenya (NSE, 2014).

In order to increase their profitability, commercial banks in Kenya have moved into housingand consumer lending (Ng'ang'a, 2012). This trend has been going on among most of the commercial banks as they seek to diversify their loan portfolios and minimise the risks that come about as a result of the unsecured loans that are more popular in the country. For example, only about 5% of the banking system'scredit went to real estate (RE) over 1997-2008 with a declining trend, about 6% to privatehouseholds (PH) with an increasing trend and 2% to consumer durables (CD) with an increasingtrend. Building and construction (B&C) took an average 5 % (Kilonzo, 2008).

## 1.2    Research Problem

It is generally observed that commercial banks' lending criteria are pro-cyclical in nature. This means that their lending criteria are not very strict in a real estate boom while during the bust they are very strict. As a result of this,commercial banks are more likely to underestimate the default risk of real estate loans during a real estate boom. Such a situation leads to real estate price inflation and this increases the banks' credit risk exposure to the real estate (Macharia, 2013). When there is a sharp drop in real estate prices, commercial banks that have a high proportion of real estate loans in their portfolios or loans to other financial institutions that specialize in real estate lending suddenly find themselves faced by a high exposure to real estate risk. This therefore affects their financial performance in a significant manner. As a result, the country's financial system becomes at risk and exposed (Macit, 2011).

Kenya has a large housing gap which is growing every year and is increasingly prevalent in urban areas due to differences in income levels in the economy. The yearly annual increase in demand for housing in Kenya is of 206 000 units annually of which 82 000 in urban areas. In 2011, the ministry of housing estimated that the formal supply of houses to the market reached 50 000 creating a 156 000 shortfall which added up to the 2 million units existing backlog. In 2012, it is estimated that further 85 000 units were also added to the backlog (CAFA 2011; CAHF 2012).

Avery, et al (2006) indicated that low interest rate schemes in commercial banks made between 2001 to 2004 made a positive impact on the credit growth of mortgage finance loans from loan takeovers from existing lenders. While Kenya's mortgage market is growing, the industry is dominated by the commercial 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 of38% 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 effects of real estate financing on the economy as well as on the performance of the financial sector in general has not been given a lot of focus by researchers in Kenya. A search for empirical literature on the determinants of financial performance of commercial banks in general and the effect of real estate financing on the financial performance of commercial banks in Kenya revealed several studies. Macharia (2013) evaluated the effects of global financial crisis on the financial performance of commercial banks offering mortgage finance in Kenya. Ndururu (2012) evaluated the effects of mortgage on the financial performance of commercial banks in Kenya. This study focused on all the commercial banks and therefore it was not possible to measure other determinants such as ownership status and the price of the banks' shares in the financial markets.It is therefore evident that there is lack of adequate studies on the effects of real estate financing on the financial performance of listed commercial banks in Kenya. There is therefore a gap in literature as far as the study on the effects of real estate financing on the financial performance of listed commercial banks in Kenya is concerned. This study will focus on listed commercial banks in order to factor in the performance in the financial markets.The following research question was therefore explored: What is the effect of real estate finance on the financial performance of listed commercial banks in Kenya?

## 1.3    Research Objective

To evaluate the effects of real estate finance on the financial performance of listed commercial banks in Kenya, specifically how mortgage size affects the financial performance of commercial banks in Kenya.

## 1.4    Value of the Study

This study would be of great benefit to banking institutions in Kenya since it outlined risk factors involved in financing mortgages. The development of the bank depends on several factors of which mortgage financing plays a major role in the current banking sector.

The findings of this study will be significant to individual investors interested in seeking mortgage financing since it provides the various channels through which one can access the services.

The findings of this study will be significant to academicians in that it will add to the knowledge of the researchers in this field of study

The findings will also be significant to policymakers in that it will serve as a guide to them when making policies regarding real estate financing in the country private equity fund investing.

# CHAPTER TWO
# LITERATURE REVIEW

## 2.1 Introduction

This chapter presents the literature review. First, a theoretical review is provided focusing on theories that explain issues to do with the determinants of the financial performance of commercial banks. Secondly, an empirical review of the studies that have been done on the effects of real estate finance on the financial performance of commercial is carried out. A summary of the chapter is then provided.

## 2.2 Theoretical Review

This study will be based on two main theories, the modern portfolio theory, and the resource based view

## 2.2.1 Modern Portfolio Theory

Modern Portfolio Theory (MPT), a hypothesis put forth by Markowitz (1952) 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 (guided by Modern Portfolio Theory) 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 et al., 2005). According to this theory, commercial banks will engage in real estate financing as a way of diversifying their loan portfolio and also due to the fact that real estate financing is more profitable in the long run. Real estate 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 invest in real estate financing and why this has an effect on the financial performance of the commercial bank.

## 2.2.2 Resource Based View

The Resource Based View is an approach to achieving competitive advantage that emerged in 1980s and 1990s, after the major work published by Wernerfelt, (1984). The supporters of this view argue that organizations should look inside the company to find the sources of competitive advantage instead of looking at competitive environment for it. The resource-based view (RBV) emphasizes the firm's resources as the fundamental determinants of competitive advantage and performance. It adopts two assumptions in analysing sources of competitive advantage (Barney, 1991 and Peteraf and Barney, 2003). First, this model assumes that firms within an industry (or within a strategic group) may be heterogeneous with respect to the bundle of resources that they control. Second, it assumes that resource heterogeneity may persist

over time because the resources used to implement firms' strategies are not perfectly mobile across firms (i.e., some of the resources cannot be traded in factor markets and are difficult to accumulate and imitate). Resource heterogeneity (or uniqueness) is considered a necessary condition for a resource bundle to contribute to a competitive advantage. The argument goes "If all firms in a market have the same stock of resources, no strategy is available to one firm that would not also be available to all other firms in the market" (Cool, and Dierickx, 2002).

The central proposition of the resource-based research is that firms are heterogeneous in terms of the strategic resources they own and control. It is generally suggested that this heterogeneity is an outcome of resource-market imperfections, resource immobility, and firms' inability to alter their accumulated stock of resources over time (Carroll, 1993). In this vein, each firm can be conceptualized as a unique bundle of tangible and intangible resources and capabilities. Resources, which are the basic unit of analysis for RBV, can be defined as those assets that are tied semi-permanently to the firm (Maijoor & Witteloostuijn, 1996). It includes financial, physical, human, commercial, technological, and organizational assets used by firms to develop, manufacture, and deliver products and services to its customers (Barney, 1991). We can classify resources as tangible (financial or physical) or intangible (i.e., employee's knowledge, experiences and skills, firm's reputation, brand name, organizational procedures). This theory therefore tends to suggest thata commercial bank will offer real estate financing if they have the available resources needed and thus this will have an effect on the financial performance of the bank.

### 2.2.3  Market Structure Conduct Performance Hypothesis

Market structure conduct and performance (SCP) framework is derived from the neo-classical analysis of markets. It was first formalized by Mason in 1939 as a method of analyzing markets and firms (Worthington, 1997) .The SCP was the central opinion of the Harvard school of thought and popularized during 1940-60 with its empirical work involving the identification of correlations between industry structure and profitability. Most early research explanation for the relationship between the market concentration and profitability based on the structure-conduct performance (SCP) hypothesis, and focused on the interpretation of a positive empirical relationship between concentration and profitability Goddard et al. (2004).

The SCP paradigm asserts that there is a relationship between the degree of market concentration and the degree of competition among firms. This hypothesis assumes that firms behave or rivalry in the market determined by market structure conditions, especially the number and size distribution of firms in the industry and the conditionsof entry. This rivalry leads to unique levels of prices, profits and other aspects of market performance (Berger et al., 1989). The Structure-Conduct-Performance (SCP) hypothesis, which also sometimes referred to as the MP hypothesis, asserts that increased market power yields monopoly profits. A special case of the SCP hypothesis is the Relative-Market-Power (RMP) hypothesis, which suggests that only firms with large market shares and well-differentiated products are able to exercise market power and earn non-competitive profits (Berger, 1995).

The assumptions of SCP hypotheses have been applied in different studies by various researchers and supported positive relationship between market concentration (measured by concentration ratio) and performance (measured by profits) exists.

Furthermore, SCP recognized the competitiveness of small market share banks with large market share is weak as a result the positive relationship between market concentration and performance (profitability) of high market share banks exist (Berger and Hannan, 1989). As explained in the SCP, the market concentration encourages collusion among large firms in the industry, which subsequently leads to higher profits. Hence, SCP pointed out those changes in market concentration may have a direct influence on a firm's financial performance. Firms in more concentrated industries can earn higher profit than firms operating in less concentrated industries earn, irrespective of their efficiency (Goldberg et al., 1996). This therefore means that a highly concentrated mortgage market will lead to improved performance of the larger banks in the industry.

## 2.3    Determinants of Bank Financial Performance
## 2.3.1  Real Estate Finance

Real estate financing is offered by some commercial banks and is normally consideredas a diversification strategy which is expected to lower their risks of loss through non-performing loans particularly 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 analysing 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 financing requires borrowers to put in some savings to finance part of the

cost of property by making a down payment. This in turn lowers the ratio of the non-performing loans to total loan portfolio of the bank (Kimeu, 2008).

## 2.3.2 Market Structure

One of the main strands of literature on the determinants of the financial performance of commercial banks has focused on the influence of industry specific factors such as the market structure and bank specific variables to explain the differences in the financial performance of commercial banks across the various countries. A lot of studies in the area of banking literature have focused on investigating whether the structure of the financial sector, which has been defined as the relative importance of commercial banks has any major role in influencing the financial performance of commercial banks. These studies have shown that generally, a high bank asset-to-GDP ratio shows that financial development plays a very critical role in the economy in the economy of a country. This relative importance may be an indication of a higher demand for banking services, which in turn, leads to a situation where more competitors are attracted to enter the market. Increased competitiveness in the banking sector leads to a situation where these commercial banks are required to adopt different competitive strategies in order to ensure that they sustain their financial performance levels (Karasulu, 2001).

According to Demirguc-Kunt & Huizinga (1999) "financial development and structure variables are very important in determining the financial performance of commercial banks. The results of the study show that commercial banks in countries that have more competitive banking sectors, where the bank assets make up a large part of the GDP of the country, generally tend to have smaller profit margins and are therefore less profitable. They also note that countries that have underdeveloped or

poorly developed financial systems tend to exhibit lower efficiency in their operations and also tend to adopt less-than-competitive pricing behaviours which lead to poor financial performance. It is clear that for such countries, an improvement in financial development would lead to an improvement in the efficiency levels of the banking sector which is a clear indication that the market structure of the banking industry has a significant influence on the financial performance of the commercial banks in the industry.

Another study by Wood (2003) suggests that "industry concentration has a positive impact on the financial performance of commercial banks". The study notes that as the industry gets more concentrated, the commercial banks tend to gain more monopolistic power which has the result of increasing the profit margins of the commercial banks. It is however important to note that there are studies that have posted conflicting results with researchers such as Naceur (2003) reporting that there is a negative coefficient between industry concentration and the financial performance of commercial banks in Tunisia. Further, the results of Karasulu (2001) in Korea show that the increasing industry concentration is not a guarantee that there will be improved financial performance of commercial banks.

The SCP hypotheses have been applied in different studies by various researchers and the results of these studies have clearly shown that there is a positive relationship between market concentration (measured by concentration ratio) and financial performance (measured by profits) of commercial banks. Furthermore, the hypotheses showed that the competitiveness of small banks (small market share) with large banks (large market share) is weak due to the positive relationship between market concentration and the financial performance (profitability) of these large banks (Goddard et al., 2004). It is therefore clear that market concentration has a significant influence on the financial

performance of commercial banks due to the reduction in competition between smaller banks and larger banks in the industry.

### 2.3.3  Costs of Operations

One of the major firm specific factors that influence the financial performance of commercial banks is the cost of operations. The operating costs of a bank are normally expressed as a percentage of the profits and they are normally expected to influence the financial performance of the bank in a negative manner. In the literature in financial performance, the level of operating expenses is normally looked at as a way of measuring the efficiency of a firm's management. Abreu & Mendes (2001) in their study of several European countries conclude that "operating costs have a negative effect on profit measures despite their positive effect on net interest margins". Another dimension of operating costs is that the bank expenses are considered to influence the financial performance of commercial banks and this is supported by Bourke (1989) and Molyneux & Thorton (1992) who carried out their studies and showed that there is a negative relationship between the financial performance of commercial banks and the management of their expenses. Efficiency in cost management is normally measured as a ratio (operating costs to assets (income). This is due to the fact that only operating expenses can be directly associated to the outcome of bank management (Athanasoglou, Brissimis & Delis, 2008). This has resulted in a negative relationship due to the fact that improved management of bank expenses lead to improved efficiency and thus improved profitability ratios.

## 2.3.4 Ownership Status

Ownership status of the bank is another firm specific factor that has in the recent past drawn a lot of attention from researchers in financial management who are interestedin the evaluating the determinants of the financial performance of commercial banks. The literature on this has mainly focused on the influence of foreign ownership on financial performance as compared to the influence of domestic ownership on the financial performance of commercial banks. In developing countries like Kenya, literature shows that foreign ownership brings in several advantages to the performance of commercial banks such as improved technology, risk management expertise, improved knowledge on corporate governance as well as increased competitiveness. All these advantages lead to the improved performance of the commercial banks in terms of improved efficiency in cost management which results in improved financial performance (Athanasoglou, Brissimis & Delis, 2008). It is therefore clear that foreign ownership leads to better financial performance of commercial banks in developing countries.

Researchers have also evaluated the influence of government or private ownership on the financial performance of commercial banks and the results from the various studies have been contradictory. Some of the empirical studies show that there is no significant negative effect of either government or private ownership on the financial performance of commercial banks (Bonin, Hasan & Wachtel, 2005). Some studies on the other hand show that privately owned commercial banks post better financial results than government owned banks due to the improved efficiency associated with the private sector (Dietrich & Wanzenried, 2008). This means that the ownership of a commercial bank particularly in the developing countries like Kenya influences their financial performance in one way or another.

### 2.3.5  Size of the Bank

Another factor that researchers have evaluated in relation to the financial performance of commercial banks is the size of the bank which is normally measured in terms of assets. The results of these studies have also been conflicting since researchers have not been able to agree on whether size actually influences performance of commercial banks. Goddard et al. (2004) identified only slight relationship between the size of a bank and their financial performance. Another researcher Smirlock (1985) carried out a study thatshowed that there is a significant and positive relationship between the bank's size and its financial performance. This is associated with the fact that the bigger the size of the bank the lower the cost of raising capital for that bank and thus the higher the profitability ratios. Other studies by Bikker & Hu (2002) and Goddard et al. (2004) agree with the previous study and they note that an increase in the bank's size has a positive influence on the financial performance of that bank due to the fact that the cost of seeking capital for that bank is reduced significantly. It is however important to note that researchers have had no consensus on whether an increase in the size of the bank through increased assets provide economies of scale to commercial banks which eventually leads to the improved financial performance. This is therefore an issue that needs to be evaluated further through more studies.

### 2.3.6  Capital Adequacy

Capital is one of the bank specific factors that influence the level of bank profitability. Capital is the amount of own fund available to support the bank's business and act as a buffer in case of adverse situation (Athanasoglou et al. 2005). Banks capital creates liquidity for the bank due to the fact that deposits are most fragile and prone to bank runs. Moreover, greater bank capital reduces the chance of distress (Diamond, 2000).

However, it is not without drawbacks that it induce weak demand for liability, the cheapest sources of fund Capital adequacy is the level of capital required by the banks to enable them withstand the risks such as credit, market and operational risks they are exposed to in order to absorb the potential loses and protect the bank's debtors. According to Dang (2011), the adequacy of capital is judged on the basis of capital adequacy ratio (CAR). Capital adequacy ratio shows the internal strength of the bank to withstand losses during crisis. Capital adequacy ratio is directly proportional to the resilience of the bank to crisis situations. It has also a direct effect on the profitability of banks by determining its expansion to risky but profitable ventures or areas (Sangmi and Nazir, 2010).

Researchers argue that commercial banks that have higher levels of capital post better financial results than their counterparts who have less capital at their disposal. Staikouras and Wood (2003) claim that "there exists a positive link between a greater equity and financial performance among EU commercial banks". Abreu and Mendes (2001) also show that there is a positive impact of the equity level of a commercial bank on the financial performance of that bank. Goddard et al. (2004) supports the prior finding of a "positive relationship between capital/asset ratio and bank's earnings".

## 2.3.7  Liquidity

Liquidity of the commercial bank is also considered to have an influence on the financial performance 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 reserves (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.

## 2.3.8 Level of Inflation

The inflation rate in a country is also another macro-economic factor that has been associated with the performance of commercial banks and a number of researchers have focused on establishing this relationship. It is noted that generally, high inflation rates lead to high interest rates on loans and thus lead to higher income to commercial banks. Perry (1992), however, asserts that "the effect of inflation on banking performance depends on whether inflation is anticipated or unanticipated". In an event where an increase in the inflation rates is fully anticipated and an adjustment is made to the interest rates accordingly, then this leads to a positive influence on the financial performance of commercial banks. On the other hand, when an increase in the inflation rates is not anticipated, it results in a situation where the local borrowers are faced with cash flow difficulties and this can result in the termination of bank loan agreements in a premature fashion thus causing loan losses for the issuing commercial bank. The general observation is that when commercial banks take a lot of time to adjust their interest rates after changes in the inflation rates, it leads to a situation where the bank's operating costs may rise faster than the revenues of the bank. Hoggarth et al. (1998) even conclude that "high and variable inflation may cause difficulties in planning and in negotiation of loans".

## 2.4    Empirical Review

This section presents a review on the empirical literature related to the determinants of bank financial performance.

### 2.4.1  International Evidence

Ewert, Schenk and Szczesny (2000) empirically identified factors that can explain the financial performance of bank lending activities. They also analyse 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) inFrankfurt. The sample used comprised a randomly chosen cross-section of 260 borrowers over the seven years between 1992 and 1998. 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 premia. The findings on collateralization are less clear and do not fully support any of hypotheses that are advanced to describe the role of collateral and covenants in credit contracts

Haas, Ferreira and Taci (2009) explored how bank characteristics and the institutional environment influence the composition of banks' loan portfolios in transition countries. They use a new and unique data set based on the EBRD Banking Environment and Performance Survey (BEPS), which was conducted for 220 banks in 20 transition countries. The study also used primary data which was collected through the use of questionnaires. The study used a correlational design and regression analysis was carried out on the variables to test the relationship. The results show that

bank ownership, bank size, and legal creditor protection are important determinants of the compositionof banks' loan portfolios. In particular, the results show that foreign banks play an active role in mortgagelending. Moreover, banks that perceive pledge and mortgage laws to be of high quality choose to focusmore on mortgage lending.

Ayele (2012) investigated the determinants of private commercial banksprofitability in Ethiopia by using panel data of seven private commercial banks from year2002 to 2011. The study used quantitative research approach and secondary financialdata are analyzed by using multiple linear regressions models for the three bankprofitability measures; Return on Asset (ROA), Return on Equity (ROE), and Net InterestMargin (NIM). Fixed effect regression model was applied to investigate the impact ofcapital adequacy, asset quality, managerial efficiency, liquidly, bank size, and real GDPgrowth rate on major bank profitability measures i.e., (ROA), (ROE), and (NIM)separately. Beside this the study used primary data analysis to solicit mangers perceptiontowards the determinants of private commercial banks profitability. The empiricalresults shows that bank specific factors; capital adequacy, managerial efficiency, banksize and macro-economic factors; level of GDP, and regulation have a strong influenceon the profitability of private commercial banks in Ethiopia. Thus, management bodies ofprivate commercial bank should strive to strengthen the identified significant factors andgovernment bodies should also see the adverse effect of tight polices imposed on theexisting private banks as well as for the new entrant.

Amare (2012) examined the effect of bank-specific, industry-specific and macroeconomic determinants of Ethiopian commercial banking industry profitability from the period 2000 – 2011. The study was a survey of the entire industry and used both primary and secondary data. By using OLS estimation method to measure the effects of internal and external determinants on profitability interms of average return

on asset and net interest margin. The estimation results show that profitability persists in some extent, implies that the indicator of the existence of relatively fairly competitive market in Ethiopian commercial banking environment, especially competition between private banks. Regarding the explanatory variables, all bank-specific determinants, with the exception of bank size, expense management and credit risk, affect bank profitability significantly and positively in the anticipated way. However, bank size, expense management and credit risk affect the commercial banks profitability significantly and negatively. In addition to this, no evidence is found in support of the presence of market concentration. Finally, from macro-economic determinants GDP has positive and significant effect on both asset return and interest margin of the bank. But interest rate policy has significant and positive effect only on interest margin.

Dirnhofer (2012)examined the impact Mortgage Backed Securities on the performance of the Top 375 US banks during the financial crisis. The study used a correlational study design and only secondary data was used. Regression analysis was carried out to examine the relationship between the variables and bank performance. Banks which were highly involved in the securitization process of mortgage loans tended to perform very poorly during the financial turmoil. Furthermore, Mortgage Backed Securities did not only affect bank performance but also had a positive correlation on the number of impaired loans. These findings were strongly related to mortgage and real estate banks and illustrate how Mortgage Backed Securities and mortgage loans had a strong impact on the performance of banks during the financial turmoil of 2007.

Swarnapalia (2014) investigated the impact of bank-specific factors which include the operating expenses, credit risk, liquidity risk, capital strength and the bank size of Sri

Lankan Licensed Commercial Banks (LCBs) on their financial performance, which is measured by return on assets (ROA) and return on equity (ROE). The study adopted a survey design and only secondary data was used. The data needed was collected from the annual reports of the LCBs for the period under analysis. Regression analysis was carried out on the data to determine the impact of the independent variables on the financial performance of commercial banks.According to the findings, it is found that banks' performance in Sri Lanka only affects by the operating expenses and the bank size. The regression coefficients representing size of the banks is statistically significant on bank performance at 5% level for both models whereas operating expenses is significant at 1% level in ROA (model 1) and at 5% level in ROE (model 2). Conversely, the estimated regression coefficients for credit ratio, liquidity ratio and capital strength ratio in the both models are not statistically significant and do not contribute towards performance of LCBs in Sri Lanka. Thus, it is apparent that the Sri Lankan LCBs performance affects by two of the firm-specific determinants; operating expenses and size of the banks. On the whole, results imply that firm-specific determinants employed in this study have only a small contribution on the financial performance of Sri Lankan LCBs.

## 2.4.2 Local Evidence

Ndururu (2012) evaluated the effects of mortgage on the financial performance of commercial banks in Kenya. The study sought to answer the following specific objectives; to determine effects of mortgage saving on financial performance in commercial banks, to establish effects of mortgage diversification on financial performance of commercial banks. This study adopted descriptive research design for it portrays an accurate profile of situations. The target population of this study was 44 commercial banks in Kenya. The study used primary data and secondary data. The

inferential analysis which included regression and correlations was done to establish effects of mortgage financing on financial performance in commercial banks in Kenya. The study concluded that commercial banks in Kenya emphases on mortgage financing to improve bank performance. The study concluded that mortgage financing is influenced by market and financial factors which includes increased investment and Improve 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 lowering of interest on Treasury bond, Kenya financial laws require bank to have less cash in reserve and High interest from Mortgage, creating of wealth and Improving savings. The study therefore established that there is positive relationship between commercial bank performance with effects of mortgage financing which are core saving, diversification of portifolio, increase income and economic growth.

Macharia (2013) evaluated the effects of global financial crisis on the financial performance of commercial banks offering mortgage finance in Kenya.The study also sought to determine the influence of inflation, interest rates, capital flow and foreign exchange rates on the financial performance of commercial banks offering mortgage finance in Kenya. This study was carried out through a descriptive research design. The target population of this study therefore was 330. The sample size of this study was therefore 99 respondents. The study collected primary data which was largely quantitative, using semi-structured questionnaire. In addition the researcher used both descriptive and inferential statistics to analyze the data. In descriptive statistics, the researcher used frequencies, percentages, mean and standard deviation. In inferential statistics, the researcher used multivariate regression analysis to determine the relationship between variables (dependent and independent). This study established

that capital flow as a result of global financial crisis was influencing financial performance of commercial banks offering mortgage finance in Kenya followed by foreign exchange rates, inflation and interest rates. This study recommends that financial institutions should avoid high level of debts. This study also recommends that financial institutions should ensure that their interest rates are well regulated so as to avoid poor financial performance.

## 2.5    Summary of Literature Review

The review has evaluated the various theories that the study is based on. These theories are important in explaining what influences the financial performance of commercial banks. It is however important to note that the theories have not focused on the effects of real estate financing on the financial performance of commercial banks.The review has also presented various studies previously done on the determinants of the financial performance of commercial banks as well as the influence of real estate financing on the financial performance of commercial banks. From the review, it is clear that very few recent studies have specifically focused on how real estate financing affects the financial performance of commercial banks in Kenya. These are the gaps that this study seeks to fill.

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**CHAPTER THREE**

**RESEARCH METHODOLOGY**

</div>

## 3.1    Introduction

This chapter presents the research methodology. First, a presentation of the research design is provided. This is followed by an explanation on the target population, description of research instruments, a description of data collection procedures and a description of data analysis procedures.

## 3.2    Research Design

This study adopted a descriptive researchdesign.Descriptive research designis a design that is used when the researcher wants to describe specific behaviour as it occurs in the environment(Greener, 2008).The aim of the studywas to evaluate the effects of real estate (mortgage) financing on the financial performance of listed commercial banks in Kenya.  According to Mugenda & Mugenda (2003) the purpose of descriptive research is to determine and report the way things are and it helps in establishing the current status of the population under study. Borg & Gall (1996) note that descriptive survey research is intended to produce statistical information about aspects of a study that interest policy makers.

## 3.3    Population

The population of this study was all the listed commercial banks in Kenya. According to the NSE, there were 11 listed commercial banks in Kenya as of 31December 2013 (See Appendix 1). All of them were surveyed.

## 3.4    Data Collection

For the purposes of this study, only secondary data was used. The secondary data was sourced from the annual reports that are available from their websites, the NSE and the Central bank of Kenya website. Data on financial performance, costs of

operations, size in terms of assets, capital adequacy, and liquidity level were sourced from the financial statements of the commercial banks. Market structure data and data on inflation rates were collected from the website of the Central Bank of Kenya. Data on ownership status were collected from the website of the NSE. Data was collected for a period of 5 years from 2009-2013 since most of the other studies have used a similar period.

## 3.5 Data Analysis

Then, the study used descriptive statistics and inferential statistics to establish the relationship between the variables and financial performance of commercial. Linear regression was carried out to test the influence of the variables on the financial performance of the listed commercial banks. The model was tested for statistical significance at a level of significance of 95%

### 3.5.1 Analytical Model

The study used the following model

$$Y = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \beta_6 x_6 + \beta_7 x_7 + \beta_8 x_8 + \text{\euro}$$

**Table 3.1:    Operationalization of Variables**

| Symbol | Definition | Measurement |
|---|---|---|
| $Y$ | Financial performance | Ratio of net income to total assets |
| $x_1$ | Real estate finance {Mortgage size} | Ratio of mortgage loans over total loan portfolio |
| $X_2$ | Market Structure | Ratio of Bank asset to GDP |
| $X_3$ | Costs of Operations | Natural logarithm of costs of operations |
| $x_4$ | Ownership status | An indicator equal to 1 if a firm is foreign owned and zero otherwise. |
| $x_5$ | Size of Bank | The natural logarithm of the book value of total assets at the end of the year |
| $X_6$ | Capital Adequacy | Ratio of bank's capitalrisk weighted credit exposures |
| $X_7$ | Liquidity | Ratio of banks liquid assets  to short-term liabilities |
| $X_8$ | Inflation | A measure of price changes in consumer goods and services such as gasoline, food, clothing and automobiles |

**Source: Researcher**

## 3.5.2 Test of Significance

A correlation and a multiple regression analysis was carried out to test the effect of real estate finance on performance. A correlation matrix showed the interrelationships within the variables under study. This helped show any serial correlations. A multiple 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 influence performance. The results of significance were interpreted at 5% level of significance. The p-values were interpreted for significance.

# CHAPTER FOUR

## DATA ANALYSIS, RESULTS AND DISCUSSION

## 4.1    Introduction

This chapter presents the results of the descriptive analysis, the correlation analysis, and the multiple regression analysis. The chapter also presents the discussion of results.

## 4.2    Descriptive Analysis

Table 4.1 shows the summary of descriptive analysis results for all the variables in the study in terms of the mean scores, the median, the standard deviation and the number of observations.

**Table 4.1:    Summary Descriptive Results**

|           | ROA   | MORT  | MKT   | SIZE   | CA    | COST  | FOR   | INFL  | LIQ   |
|-----------|-------|-------|-------|--------|-------|-------|-------|-------|-------|
| **Mean**      | 4.771 | 0.191 | 0.000 | 11.592 | 0.260 | 6.970 | 0.300 | 8.460 | 0.843 |
| **Median**    | 4.894 | 0.109 | 0.000 | 11.785 | 0.252 | 7.027 | 0.000 | 9.200 | 0.847 |
| **Std. Dev.** | 2.062 | 0.274 | 0.000 | 0.652  | 0.064 | 0.998 | 0.462 | 3.488 | 0.038 |
| **N**         | 50    | 50    | 50    | 50     | 50    | 50    | 50    | 50    | 50    |

**Source: Research Findings**

*Key: ROA = Return on Assets; MORT = Mortgage loans; MKT = Market Structure; SIZE = Size of the bank; CA = Capital Adequacy; COST = Cost of Operations; FOR = Foreign Ownership; INFL = Inflation Rate; LIQ = Liquidity ratio.*

As shown in Table 4.1, a panel data was collected from 10 listed banks over a period of five years giving a total of 50 observations that were used in the study for analysis. The average performance as measured by ROA was 4.77 with a standard deviation of 2.06. The mean mortgage loan was 0.191 or 19.1% of the total loans.

## 4.3 Correlations

Table 4.2 presents the results of correlation analysis on all the independent variables used in the study. This analysis was conducted to test how the independent variables were related to each other in order to ascertain the presence of multicollinearity.

**Table 4.2:    Correlation Matrix**

|      | MORT   | MKT    | SIZE   | CA     | COST   | FOR    | INFL   |
|------|--------|--------|--------|--------|--------|--------|--------|
| MORT | 1.000  |        |        |        |        |        |        |
| MKT  | -0.429 | 1.000  |        |        |        |        |        |
| SIZE | -0.607 | 0.933  | 1.000  |        |        |        |        |
| CA   | -0.029 | 0.022  | 0.082  | 1.000  |        |        |        |
| COST | -0.698 | 0.829  | 0.896  | 0.222  | 1.000  |        |        |
| FOR  | -0.205 | 0.086  | 0.154  | 0.079  | 0.272  | 1.000  |        |
| INFL | 0.001  | 0.006  | -0.022 | 0.031  | -0.004 | 0.000  | 1.000  |
| LIQ  | 0.032  | -0.039 | -0.093 | -0.997 | -0.232 | -0.072 | -0.018 |

**Source: Research Findings**

*Key: ROA = Return on Assets; MORT = Mortgage loans; MKT = Market Structure; SIZE = Size of the bank; CA = Capital Adequacy; COST = Cost of Operations; FOR = Foreign Ownership; INFL = Inflation Rate; LIQ = Liquidity ratio.*

The results in Table 4.2 show that mortgage loans, market structure, size of the bank, capital adequacy and cost of operations were highly correlated. This means that there was evidence of multicollinearity among the independent variables which suggests that there entry into the regression model as they are without transformation would lead to spurious regression results. These were therefore transformed using first differences before being entered into the regression equation for analysis.

## 4.4 Regression Analysis

Table 4.3 shows the summary of regression analysis conducted on the data gathered. The table shows the correlation coefficients, the standard errors, the t-statistics and the p-values.

**Table 4.3:    Regression Coefficients**

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 23.76920 | 6.200944 | 3.833159 | 0.0006 |
| MORTGAGELOANS | -2.147607 | 1.072650 | -2.002152 | 0.0541 |
| D(CAPITAL ADEQUACY) | -8.972894 | 8.777723 | -1.022235 | 0.3146 |
| D(COST OF OPERATIONS) | 10.03475 | 3.298611 | 3.042112 | 0.0048 |
| FOREIGN OWNERSHIP | 0.820155 | 0.596791 | 1.374274 | 0.1792 |
| INFLATION RATE | -0.018813 | 0.066486 | -0.282957 | 0.7791 |
| LIQUIDITY RATIO | -22.45914 | 7.128320 | -3.150692 | 0.0036 |
| D(MARKET STRUCTURE) | 343490.3 | 938012.5 | 0.366189 | 0.7167 |
| D(BANK SIZE) | -8.131030 | 6.034899 | -1.347335 | 0.1876 |
| R-squared | 0.590948 | Mean dependent var | | 4.851201 |
| Adjusted R-squared | 0.485386 | S.D. dependent var | | 2.184200 |
| S.E. of regression | 1.566870 | Akaike info criterion | | 3.931145 |
| Sum squared resid | 76.10756 | Schwarz criterion | | 4.311143 |
| Log likelihood | -69.62290 | Hannan-Quinn criter. | | 4.068540 |
| F-statistic | 5.598124 | Durbin-Watson stat | | 0.397641 |
| Prob(F-statistic) | 0.000201 | | | |

**Source: Research Findings**

As shown in Table 4.3, mortgage loans had negative effect on the financial performance of listed commercial banks in Kenya. This effect was marginally significant at 5% level, $\beta$ = -2.147, $p$ = 0.054. The results also show that capital adequacy had a negative effect on the financial performance of listed banks. This effect was insignificant at 5% level, $\beta$ = -8.972, $p$ = 0.314. The table further shows that cost of operations had a positive and significant effect on the financial performance of listed banks, $\beta$ = 10.03, $p$ = 0.004. The results further reveal that foreign ownership had a positive but insignificant effect on the financial performance of listed banks, $\beta$ = 0.820, $p$ = 0.179.

Inflation rate was found to have a negative effect but insignificant effect on the financial performance of listed banks, $\beta$ = -0.018, $p$ = 0.779. The results also show that liquidity had a negative and significant effect on the financial performance of listed banks, $\beta$ = -22.459, $p$ = 0.003. Market structure had a positive but insignificant effect on the financial performance of listed banks, $\beta$ = 343490, $p$ = 0.716. Finally, the

study revealed that bank size had a negative but insignificant effect on the financial performance of listed banks in Kenya, $\beta$ = -8.131, $p$ = 0.187. The $R^2$ value shows that the model explained 59% of the variance in financial performance of listed banks. The $F$-statistic was 5.598 and significant at 5% level, $p$ = 0.000.

## 4.5    Interpretation of Findings

The study examined the effect of mortgage loans on the financial performance of listed commercial banks in Kenya. Mortgage loans was the main independent variable in the study. The results showed that mortgage loans had strong negative effect on the financial performance of listed commercial banks in Kenya. As was shown, a unit increase in mortgage loans led to a 2.147 units decline in the financial performance of listed banks. This suggests therefore that focusing on mortgage loans is counterproductive to the financial performance of commercial banks in Kenya. This is consistent with the findings of Ndururu (2012).

The study examine the effect of capital adequacy on the financial performance of listed commercial banks in Kenya. This was a control variable in the regression model. The results also showed that capital adequacy had a weak negative effect on the financial performance of listed banks. This means that financial performance of listed banks in Kenya was not influenced by the level of capital adequacy. This result is inconsistent with the findings of Sangmi and Nazir (2010).

The study examined the effect of cost of operations on the financial performance of listed commercial banks in Kenya. Cost of operations was used as a control variable in the model. The results showed that cost of operations had strong positive effect on the financial performance of listed commercial banks in Kenya. As the results showed, a unit increase in cost of operations led to a 10.03 units increase in the

financial performance of listed banks. This suggests therefore that financial performance of commercial banks is influenced by the cost of operations. This is consistent with Abreu & Mendes (2001) who found a negative relationship.

The study examined the effect of foreign ownership on the financial performance of listed commercial banks in Kenya. Foreign ownership was used as a control variable for ownership structure. The results showed that foreign ownership had a weak positive effect on the financial performance of listed banks. Thus, the financial performance of listed commercial banks in Kenya is not influenced by the ownership structure as measured by foreign ownership. This is consistent with the results of Athanasoglou, Brissimis & Delis (2008).

The study examined the effect of inflation on the financial performance of listed commercial banks in Kenya. Inflation was used as a control variable for economic environment. The results showed that inflation had a weak negative effect on the financial performance of listed banks. Thus, the financial performance of listed commercial banks in Kenya is not influenced by the inflation rates. This is inconsistent with the findings of Perry (1992).

The study examined the effect of liquidity on the financial performance of listed commercial banks in Kenya. Liquidity was used as a control variable in the model. The results showed that liquidity had a strong negative effect on the financial performance of listed commercial banks in Kenya. As the results showed, a unit increase in liquidity led to a 22.459 units decline in the financial performance of listed banks. This suggests therefore that financial performance of commercial banks is influenced by liquidity.

The study examined the effect of market structure on the financial performance of listed commercial banks in Kenya. Market structure was used as a control variable in

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the study. The results showed that market structure had a weak effect on the financial performance of listed banks. Thus, the financial performance of listed commercial banks in Kenya is not influenced by the level of market structure. This is consistent with the findings of Wood (2003).

The study examined the effect of bank size on the financial performance of listed commercial banks in Kenya. Bank size was used as a control variable in the study. The results showed that bank size had a weak negative effect on the financial performance of listed banks. Thus, the financial performance of listed commercial banks in Kenya is not influenced by the size of the banks as measured by total assets. This is inconsistent with the findings of Goddard et al. (2004)

# CHAPTER FIVE
# SUMMARY, CONCLUSION AND RECOMMENDATIONS
## 5.1    Introduction

This section presents the summary of findings, conclusions, limitations of the study, recommendations for policy and practice, and suggestions for further research.

## 5.2    Summary

The study sought to examine the effect of mortgage loans on the financial performance of commercial banks in Kenya. The study focused on ten commercial banks and collected data for 5 years from 2009 to 2013 from the annual reports of the listed commercial banks. Eviews version 8 was then used to analyse the panel data using OLS regression analysis, correlation analysis and descriptive analysis.

The results showed that the model explained 59% of the variance in financial performance as given by the value of $R^2$. The model was also fit to explain the relationship as the $F$-statistic of 5.598 was significant at 5% level, $p = 0.000$. This model was therefore good enough to explain how mortgage loans influence the financial performance of listed commercial banks in Kenya.

The study found that mortgage loans had a strong negative effect on the financial performance of listed commercial banks in Kenya, $\beta = -2.147$, $p = 0.054$. The results also show that capital adequacy had a weak negative effect on the financial performance of listed banks, $\beta = -8.972$, $p = 0.314$. The study further showed that cost of operations had a strong positive effect on the financial performance of listed banks, $\beta = 10.03$, $p = 0.004$. It was also revealed that that foreign ownership had a weak positive effect on the financial performance of listed banks, $\beta = 0.820$, $p = 0.179$.

Inflation rate was found to have a weak negative effect on the financial performance of listed banks, $\beta = -0.018$, $p = 0.779$. The results also showed that liquidity had a strong negative effect on the financial performance of listed banks, $\beta = -22.459$, $p = 0.003$. Market structure had a weak positive effect on the financial performance of listed banks, $\beta = 343,490$, $p = 0.716$. Finally, the study revealed that bank size had a weak negative effect on the financial performance of listed banks in Kenya, $\beta = -8.131$, $p = 0.187$.

## 5.3    Conclusion

The study examined the effect of mortgage loans on the financial performance of listed banks. The study found that mortgage loans had a strong negative effect on the financial performance of listed commercial banks in Kenya. Thus, the study concludes that mortgage loans influence the financial performance of listed commercial banks in Kenya.

The study assessed the effect of capital adequacy on the financial performance of listed banks in Kenya. The results showed that capital adequacy had a weak negative effect on the financial performance of listed banks. Thus, it is concluded that capital adequacy does not affect the financial performance of listed firms in Kenya.

The study examined the effect of cost of operations on the financial performance of listed banks in Kenya. The results showed that cost of operations had a strong positive effect on the financial performance of listed banks. The study therefore concludes that cost of operations affect the financial performance of listed firms in Kenya.

The study assessed the effect of foreign ownership on the financial performance of listed banks in Kenya. The results showed that foreign ownership had a weak positive effect on the financial performance of listed banks. Thus, it is concluded that foreign ownership does not affect the financial performance of listed firms in Kenya.

The study assessed the effect of inflation on the financial performance of listed banks in Kenya. The results showed that inflation had a weak negative effect on the financial performance of listed banks. Thus, it is concluded that inflation rate does not affect the financial performance of listed firms in Kenya.

The study examined the effect of liquidity on the financial performance of listed banks in Kenya. The results showed that liquidity had a strong negative effect on the financial performance of listed banks. The study therefore concludes that liquidity affects the financial performance of listed firms in Kenya.

The study assessed the effect of market structure on the financial performance of listed banks in Kenya. The results showed that market structure had a weak positive effect on the financial performance of listed banks. Thus, it is concluded that market structure does not affect the financial performance of listed firms in Kenya.

The study examined the effect of bank size on the financial performance of listed banks in Kenya. The results showed that bank size had a weak negative effect on the financial performance of listed banks. Thus, it is concluded that bank size does not affect the financial performance of listed firms in Kenya.

## 5.4    Limitations of the Study

The study used secondary data from 11 listed commercial banks in Kenya. This sample may not be representative of all commercial banks in Kenya and therefore the study may not be applicable to all banks as the ones targeted here were the listed. To improve this limitation it may be important to include more banks whether listed or unlisted.

The results may also not be applicable to other financial firms as the focus in this study was on banks. While it can offer important insights to other financial institutions, such conclusions should be approached with care given the variations in the way banks operate and the way other financial institutions operate. To improve this, it may be important to replicate this study to other financial firms or to include them in the study.

The study also relied on secondary data from the financial statements of the firms. While this is a reliable source of data, it is quantitative in nature and therefore it was not possible to fully interrogate the mortgage financing issues of the banks as may have been the case if interviews were conducted. To improve this, it will be important to used mixed methods in data collection.

The time span for the data collected in this study was five years. This is not a very long period that can help provide robust results for applicability by the banks. A longer period, of say 10 years, would have been preferred to be able to conduct a long

time series analysis or panel analysis. A longer period would help reduce this limitation.

## 5.5    Recommendations for Policy

The study recommends that commercial banks be wary of the way mortgage financing affects their financial performance. The current levels of mortgage finance have not improved the financial performance of banks and it may therefore be necessary to examine how mortgage finance can be used to improve the financial performance of banks in Kenya.

The study also recommends that the banks check on their liquidity ratios as the current ratios are negatively affecting performance. As such, lower liquidity ratios would be preferred to offer better financial performance for the listed commercial banks in Kenya.

The study further recommends that while higher cost of operations were found to lead to better financial performance, it is important that banks understand which costs matter the most in order not to spend more on costs that will be detrimental to the banks' bottom-line.

## 5.6    Suggestions for Further Research

The study suggests that more studies be done in this area focusing on other banks in Kenya as well as other financial institutions such as microfinance that also give loans for purposes of mortgages. This can be done by focusing on all commercial banks in Kenya or on SACCOs and microfinance institutions.

Studies should also be conducted on the topic using fairly longer time periods (more than 5 years) as such studies may be useful in showing the trends as well as the long terms relationship between mortgage financing and financial performance of commercial banks in Kenya.

The study also recommends that further studies explore the relationship between mortgage finance and financial performance using a mixed methodology where both primary and secondary sources of data are used. This way, some of the issues that cannot be addressed through secondary data can be accurately captured.

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# APPENDICES

## Appendix I:Listed Commercial Banks in Kenya

1. Barclays Bank Limited
2. CFC Stanbic Holdings
3. I&M Holdings Ltd
4. Diamond Trust Bank Kenya Ltd
5. Housing Finance Co Ltd
6. Kenya Commercial Bank Ltd
7. National Bank of Kenya Ltd
8. NIC Bank Ltd
9. Standard Chartered Bank Ltd
10. Equity Bank Ltd
11. The Co-operative Bank of Kenya Ltd

**Source: NSE (2014).**

# Appendix II:    Research Data

| Bank | Year | FOR | INFL | ROA | MORT | MKT | COST | SIZE | CA | LIQ |
|------|------|-----|------|-----|------|-----|------|------|-----|-----|
| KCB | 2013 | 0 | 5.70 | 6.52 | 0.17 | 0.0000087 | 8.66 | 12.86 | 0.26 | 0.841 |
| KCB | 2012 | 0 | 9.40 | 7.20 | 0.17 | 0.0000078 | 8.56 | 12.66 | 0.30 | 0.819 |
| KCB | 2011 | 0 | 14.00 | 6.12 | 0.10 | 0.0000083 | 8.29 | 12.56 | 0.26 | 0.844 |
| KCB | 2010 | 0 | 4.00 | 5.17 | 0.11 | 0.0000069 | 7.88 | 12.32 | 0.23 | 0.842 |
| KCB | 2009 | 0 | 9.20 | 5.88 | 0.11 | 0.0000058 | 7.79 | 12.09 | 0.27 | 0.836 |
| HF | 2013 | 0 | 5.70 | 1.49 | 1.00 | 0.0000009 | 4.95 | 10.63 | 0.25 | 0.848 |
| HF | 2012 | 0 | 9.40 | 1.53 | 1.00 | 0.0000010 | 4.94 | 10.59 | 0.21 | 0.874 |
| HF | 2011 | 0 | 14.00 | 1.69 | 1.00 | 0.0000009 | 4.83 | 10.39 | 0.26 | 0.846 |
| HF | 2010 | 0 | 4.00 | 1.91 | 1.00 | 0.0000009 | 4.86 | 10.29 | 0.23 | 0.859 |
| HF | 2009 | 0 | 9.20 | 2.28 | 1.00 | 0.0000007 | 4.72 | 9.98 | 0.31 | 0.817 |
| CFC | 2013 | 0 | 5.70 | 1.79 | 0.11 | 0.0000036 | 6.48 | 11.98 | 0.26 | 0.842 |
| CFC | 2012 | 0 | 9.40 | 1.59 | 0.12 | 0.0000037 | 6.29 | 11.90 | 0.23 | 0.864 |
| CFC | 2011 | 0 | 14.00 | 1.82 | 0.13 | 0.0000035 | 6.23 | 11.71 | 0.24 | 0.854 |
| CFC | 2010 | 0 | 4.00 | 1.96 | 0.11 | 0.0000033 | 6.18 | 11.58 | 0.23 | 0.864 |
| CFC | 2009 | 0 | 9.20 | 1.97 | 0.11 | 0.0000032 | 6.10 | 11.50 | 0.21 | 0.874 |
| SCB | 2013 | 1 | 5.70 | 4.56 | 0.09 | 0.0000049 | 7.72 | 12.28 | 0.24 | 0.857 |
| SCB | 2012 | 1 | 9.40 | 5.60 | 0.07 | 0.0000042 | 7.69 | 12.05 | 0.25 | 0.851 |
| SCB | 2011 | 1 | 14.00 | 5.56 | 0.10 | 0.0000045 | 7.59 | 11.95 | 0.19 | 0.887 |
| SCB | 2010 | 1 | 4.00 | 5.37 | 0.09 | 0.0000044 | 7.48 | 11.87 | 0.14 | 0.918 |
| SCB | 2009 | 1 | 9.20 | 5.35 | 0.11 | 0.0000043 | 7.39 | 11.79 | 0.12 | 0.925 |
| Co-op | 2013 | 0 | 5.70 | 2.81 | 0.11 | 0.0000058 | 7.40 | 12.45 | 0.28 | 0.830 |
| Co-op | 2012 | 0 | 9.40 | 3.62 | 0.11 | 0.0000047 | 7.35 | 12.14 | 0.33 | 0.804 |
| Co-op | 2011 | 0 | 14.00 | 3.94 | 0.12 | 0.0000047 | 7.28 | 11.98 | 0.26 | 0.845 |
| Co-op | 2010 | 0 | 4.00 | 3.61 | 0.12 | 0.0000047 | 7.15 | 11.94 | 0.20 | 0.880 |
| Co-op | 2009 | 0 | 9.20 | 3.99 | 0.01 | 0.0000043 | 7.09 | 11.78 | 0.15 | 0.911 |
| BBK | 2013 | 1 | 5.70 | 6.87 | 0.11 | 0.0000052 | 8.20 | 12.35 | 0.24 | 0.856 |
| BBK | 2012 | 1 | 9.40 | 6.77 | 0.11 | 0.0000050 | 8.04 | 12.20 | 0.24 | 0.857 |
| BBK | 2011 | 1 | 14.00 | 6.75 | 0.11 | 0.0000054 | 7.97 | 12.13 | 0.28 | 0.830 |
| BBK | 2010 | 1 | 4.00 | 6.24 | 0.08 | 0.0000053 | 7.82 | 12.06 | 0.32 | 0.807 |
| BBK | 2009 | 1 | 9.20 | 6.38 | 0.09 | 0.0000050 | 7.71 | 11.93 | 0.29 | 0.826 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| NBK | 2013 | 0 | 5.70 | 5.83 | 0.11 | 0.0000018 | 6.96 | 11.27 | 0.23 | 0.861 |
| NBK | 2012 | 0 | 9.40 | 5.50 | 0.08 | 0.0000018 | 6.81 | 11.18 | 0.22 | 0.866 |
| NBK | 2011 | 0 | 14.00 | 4.89 | 0.12 | 0.0000020 | 6.62 | 11.11 | 0.18 | 0.889 |
| NBK | 2010 | 0 | 4.00 | 4.49 | 0.08 | 0.0000019 | 6.43 | 11.00 | 0.19 | 0.884 |
| NBK | 2009 | 0 | 9.20 | 3.90 | 0.14 | 0.0000017 | 6.14 | 10.85 | 0.18 | 0.890 |
| Equity | 2013 | 0 | 5.70 | 10.53 | 0.11 | 0.0000038 | 8.30 | 12.02 | 0.44 | 0.734 |
| Equity | 2012 | 0 | 9.40 | 9.94 | 0.08 | 0.0000037 | 8.13 | 11.91 | 0.38 | 0.774 |
| Equity | 2011 | 0 | 14.00 | 7.91 | 0.14 | 0.0000041 | 7.86 | 11.86 | 0.35 | 0.789 |
| Equity | 2010 | 0 | 4.00 | 6.95 | 0.03 | 0.0000041 | 7.67 | 11.80 | 0.32 | 0.811 |
| Equity | 2009 | 0 | 9.20 | 6.20 | 0.03 | 0.0000039 | 7.45 | 11.70 | 0.31 | 0.816 |
| NIC | 2013 | 0 | 5.70 | 4.52 | 0.11 | 0.0000019 | 6.79 | 11.36 | 0.27 | 0.835 |
| NIC | 2012 | 0 | 9.40 | 4.17 | 0.06 | 0.0000019 | 6.59 | 11.23 | 0.25 | 0.849 |
| NIC | 2011 | 0 | 14.00 | 4.20 | 0.02 | 0.0000020 | 6.51 | 11.15 | 0.23 | 0.859 |
| NIC | 2010 | 0 | 4.00 | 4.41 | 0.06 | 0.0000017 | 6.32 | 10.91 | 0.23 | 0.863 |
| NIC | 2009 | 0 | 9.20 | 4.30 | 0.09 | 0.0000015 | 6.15 | 10.77 | 0.23 | 0.861 |
| DBK | 2013 | 1 | 5.70 | 5.01 | 0.08 | 0.0000019 | 6.85 | 11.32 | 0.37 | 0.775 |
| DBK | 2012 | 1 | 9.40 | 5.19 | 0.14 | 0.0000019 | 6.81 | 11.24 | 0.34 | 0.796 |
| DBK | 2011 | 1 | 14.00 | 5.08 | 0.10 | 0.0000019 | 6.65 | 11.10 | 0.39 | 0.768 |
| DBK | 2010 | 1 | 4.00 | 4.90 | 0.20 | 0.0000018 | 6.49 | 10.98 | 0.32 | 0.808 |
| DBK | 2009 | 1 | 9.20 | 4.26 | 0.13 | 0.0000018 | 6.30 | 10.93 | 0.30 | 0.822 |

**Source: Bank Annual Reports (2009 – 2013)**