THE EFFECT OF ASSET LIABILITY MANAGEMENT ON FINANCIAL PERFORMANCE OF MICROFINANCE BANKS IN KENYA

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DECLARATION

This research project is my original work and has not been presented to any other university or college for an award of a certificate, diploma or degree.

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D61/76222/2012

This research project has been submitted for examination with my approval as University of Nairobi supervisor

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DEDICATION

I wish to dedicate this project to my dear parents for the assistance and encouragement during the study.
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## LIST OF ABBREVIATIONS AND ACRONYMS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ALM</td>
<td>Asset Liability Management</td>
</tr>
<tr>
<td>N/A</td>
<td>Not Available</td>
</tr>
<tr>
<td>NPMARG</td>
<td>Net Profit Margin</td>
</tr>
<tr>
<td>ROA</td>
<td>Return on Assets</td>
</tr>
<tr>
<td>ROCE</td>
<td>Return on Capital Employed</td>
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<td>ROE</td>
<td>Return on Equity</td>
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ABSTRACT

Asset liability management is an approach that provides institutions with protection that makes such risk acceptable. Asset-liability management models enable institutions to measure and monitor risk, and provide suitable strategies for their management. Following the financial liberation of the finance sector in Kenya, there has been a tremendous growth of commercial banks that have intensified competition in the banking industry. This has triggered the need for risk management among banks to minimize risks of financial loss and thus boost financial performance. To achieve the objective of this study the researcher used a descriptive research design to establish the relationship between asset liability management and profitability of microfinance banks in Kenya. The study carried out a census survey of nine (9) microfinance banks that had been in operation for five years (2010-2014). The study used secondary sources of data since the nature of data to be collected is quantitative. Secondary data was obtained from the association of microfinance banks in Kenya (AMFI) based on availability and accessibility. The data was extracted from audited financial statements of microfinance banks for the period of five years (2010-2014). Data selection was done based on the measurements of the variables under investigation. Data analysis was done using decriptive statistics, correlation analysis and regression analysis. The findings concluded that most microfinance banks were not able maintain optimal levels of assets and liability and thus were unable to meet their short-term financial obligations. The findings also revealed that asset quality increased rapidly over the years. Microfinance banks gave out huge loans and advances that contributed to increased non-performing loans, this impacted negatively on asset and liability management leading to poor financial performance of microfinance banks. The correlation results concluded that there was no correlation between asset quality, liquidity and firm size with financial performance of microfinance banks in Kenya apart from operating efficiency which was strongly correlated to financial performance of microfinance banks in Kenya. The regression results concluded that asset and liability management was negatively related to profitability of microfinance banks in Kenya. Logarithm of assets and operating efficiency were found to be statistically significant in the model. On the contrary, asset quality and liquidity were found to be statistically insignificant because their probability values were above 5%. The limitation for this study is that it utilized secondary sources of data that are prepared under accounting and financial reporting assumptions and concepts which are subjective and might not be uniformly applied especially in terms of provisions and estimates. The study further recommends that the role of Asset liability committees has grown in its importance in the management of balance sheet, liquidity risks and in the implementation of liquidity risk management strategies. Hence, there is need for further research on the role of this important committee with a view to coming up with recommendation to strengthen the committees role in banking institutions.
CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

With asset liability management (ALM), all the relevant asset and liability classes are managed in an integrated fashion. Stierwald (2010) argue that the values of the assets and the liabilities are influenced by, amongst others, management strategy and economic circumstances. Management cannot influence the latter. ALM models can be used to show the expected development of an organization, usually measured as solvency and profitability, dependent on both internal (strategy) and external (economy) factors. Asset-liability management in banks is the strategic management of assets and liabilities aimed to optimize profitability, while ensuring liquidity, and protecting against different risks (Angelopoulos and Mourdoukoutas, 2001).

According to DeYoung and Yom (2008) asset liability management acts as a tool that enables the bank’s managements to take business decisions in a more informed framework with an eye on the risks that bank is exposed to. It is an integrated approach to financial management, requiring simultaneous decisions about the types of amounts of financial assets and liabilities both mix and volume with the complexities of the financial markets in which the institution operates. Firms manage their assets and liability to earn returns and also maintain a surplus of assets and liabilities. This is achieved by limiting the risk to acceptable levels, monitoring and anticipating possible pricing differences between a firm’s assets and liabilities.

The fundamental objective of ALM to a firm is to maintain a match in the terms of rate sensitive assets those assets that will move in search of the most competitive interest rates with their funding sources that is savings, deposits, equity, and
external credit in order to reduce interest rate risk while maximizing profitability. ALM is an integral part of the financial management process of any bank. It is concerned with strategic balance sheet management involving risks caused by changes in the interest rates, exchange rates and the liquidity position of the bank. While managing these three risks forms the crux of ALM, credit risk and contingency risk also form a part of the ALM (Zenios and Ziemba, 2007).

1.1.1 Asset Liability Management

According to Rosen and Zenios (2006) Asset Liability Management (ALM) is a comprehensive and dynamic framework of measuring, monitoring and managing the market risk of a bank. Asset liability management involves the management of structure of the balance sheet that is assets and liabilities in such a way that the net earnings from interest are maximized within the overall risk-preference (present and future) of the institutions. The ALM functions extend to liquidly risk management, management of market risk, trading risk management, funding and capital planning and profit planning and growth projection.

Asset Liability Management plays a critical role in weaving together the different business lines in a financial institution (Pasinetti, 1997). Managing liquidity and the balance sheet are crucial to the existence of a financial institution and sustenance of its operations. It is also essential for seamless growth of the balance sheet in a profitable way. This study will measure Asset liability management using asset quality and provisions which is computed using net non-performing loans divided by gross loans and advances.
1.1.2 Financial Performance

Zopounidis (2001) financial performance is measuring the results of a firm's policies and operations in monetary terms. These results are reflected in the firm's return on investment, return on assets, value added, Common examples of financial performance include operating income, earnings before interest and taxes, and net asset value. It is important to note that no one measure of financial performance should be taken on its own. Rather, a thorough assessment of a company's performance should take into account many different measures (Penman, 2007).

Ahmed and Khababa (1999) in their assessment of bank performance in Saudi Arabia employed three ratios as measures of performance that is return on equity (ROE), Return on Assets (ROA) and percentage change in earnings per share. Sinkey (1992) posits that return on asset is a comprehensive measure of overall bank performance from an accounting perspective being a primary indicator of managerial efficiency as it indicates how capable the management of a bank has been in converting the bank’s asset into net earnings. Rose and Hudgins (2006) however maintain that ROE is a good measure of accounting profitability from the shareholders perspective. It approximates the net benefit that the stockholders have received from investing their capital. Akintoye (2004) also identified three ratios that can be used as proxies for organizational performance namely: Net Profit Margin (NPMARG), Return on Capital Employed (ROCE), and Return on Assets (ROA).

1.1.3 The Relationship between Asset Liability Management and Financial Performance

Canner and Gregory (1997) managers must have effective liquidity management plans in place, this enables the firm to identify the core or stable deposit base in the institution and match that against longer-term assets to reduce the interest rate risk.
Stable deposits include: equity, certificates of deposit with penalties for early withdrawal, retirement savings, savings with a stated purpose, and regular savings accounts with small balances. Within each savings account type managers must determine the amount or percentage of funds that can be used to fund longer-term loans this provides a platform for increased financial performance of the bank (Eljelly, 2004).

Asset liability management aims to control assets, liability volumes, maturities, rates and yields in order to minimize interest rate risk and maintain an acceptable profitability level, is another key component of savings mobilization. This is line with a study conducted by Oguzsoy and Guven (1997) who found that asset liability management was positively related to financial performance of banks. The findings revealed that assets liability management provided a platform for minimized risks and increased savings which prompted investment in profitable ventures.

Darush (2013) puts forth that the asset liability management provides a match in terms of rate sensitive assets with their funding sources in order to reduce interest rate risk while maximizing profitability. Interest rate might impact on the financial performance of an institution because it is the risk that changes in the current market interest rates, for example, due to changes in the market a microfinance banks is forced to adjust the interest rate on deposits upward to remain competitive, but its earning assets are concentrated in long-term, fixed-rate loans, and investments. This might impact negatively on the financial performance because the institution cannot adjust its income earned on loans upward as fast as the cost of funds is increasing. Interest rate risk to some degree is unavoidable, but it’s manageable (Chakraborty, 2008).
1.1.4 Microfinance Banks in Kenya

According to (CBK, 2015), the Microfinance Act, 2006 and the Microfinance (Deposit Taking Institutions) Regulations 2008 issued thereunder sets out the legal, regulatory and supervisory framework for the microfinance industry in Kenya. The Microfinance Act became operational with effect from 2\textsuperscript{nd} of May 2008. The principal object of the Microfinance Act is to regulate the establishment, business and operations of microfinance institutions in Kenya through licensing and supervision.

The Act enables deposit taking microfinance institutions licensed by the Central Bank of Kenya to mobilize savings from the general public, thus promoting competition, efficiency and access. Through an Act of Parliament, Microfinance Act (2006) was amended by deleting the term institution and substituting it with microfinance bank licensed under this Act; microfinance bank means a company which is licensed to carry on microfinance bank business, and includes all branches, marketing units, outlets, offices and any other place of business that may be licensed by the Central Bank of Kenya (AMFI, 2014).

Asset liability management is a requirement by Central Banks of any country in order to ensure full compliance to the set risk management guidelines. These guidelines are meant to ensure that banks maintain an optimal level of assets and liability to effectively meet their financial obligations and mitigate various risks that could impact negatively on their financial performance (Gikonya, 2011).

1.2 Research Problem

Asset Liability Management (ALM) plays a critical role in weaving together the different business lines in financial institutions (Rosen and Zenios, 2006). Managing liquidity and the balance sheet are crucial to the existence of a financial institution and
sustenance of its operations. It is also essential for seamless growth of the balance sheet in a profitable way. Fabozzi and Konishi (1995) argue that banks and other financial institutions provide services which expose them to various kinds of risks like credit risk, interest risk, and liquidity risk. Asset liability management is an approach that provides institutions with protection that makes such risk acceptable. Asset-liability management models enable institutions to measure and monitor risk, and provide suitable strategies for their management.

Following the financial liberation of the finance sector in Kenya, there has been a tremendous growth of commercial banks that have intensified competition in the banking industry. This has triggered the need for risk management among banks to minimize risks of financial loss and thus boost financial performance. Asset liability management is seen as an essential tool for minimizing risks (Wambu, 2013).

Darush (2013) studied the relationship between asset liability and profitability of small firms in Amsterdam. The study found a positive relationship between the asset liability and profitability of manufacturing firms. Deloof (2003) investigated the effect of asset liability management and performance of service firms in Europe. The study found that asset liability management was positively related to profitability.

Belete (2013) examined the relationship between liability management and commercial banks profitability in Ethiopia. The results proved that bank assets were positively related to return on assets.

Gikonya (2011) investigated the effect of asset liability management on profitability of commercial banks in Kenya. The study found out that there is a positive relationship between profitability and asset liquidity management of commercial banks in Kenya. Kimondo (2014) investigated the relationship between liquidity and profitability of nonfinancial companies listed in the NSE. The findings established a
weak positive relationship between liquidity and profitability among the listed nonfinancial companies in Kenya. Anjichi (2014) studied effects of asset liability management on the financial performance of commercial banks in Kenya. The study concluded that there was a positive relationship between asset and liability management and financial performance of commercial banks in Kenya.

Previous studies that have tackled asset liability management and profitability like Gikonya (2011) and Kimondo (2014) limited themselves on commercial banks in Kenya and listed firms. The study focused on the effect of asset liability management on financial performance of microfinance banks in Kenya. To achieve this goal, the study sought to find an answer to the following research question: what is the effect of asset liability management on financial performance of microfinance banks in Kenya?

1.3 Research Objective

To determine the effect of asset liability management on financial performance of microfinance banks in Kenya.

1.4 Value of the Study

Policy makers might use the findings of this study to encourage microfinance banks to effectively manage their assets and liabilities to achieve surplus optimization. This will enable microfinance banks to meet increasingly complex liabilities. The empirical findings of this study could also be used to guide in policy setting to put emphasis on minimizing risks arising from assets and liabilities.

Microfinance banks will benefit from the findings of this study; they will learn the benefits of managing assets and liabilities and how it contributes to financial performance of the firm. Practitioners and managers will understand the risks that arise from the interaction of assets and liabilities from a strategic perspective. This
will provide more insights on the difference between the market value of assets and the present value of liabilities, their relationship.

The study will also be of benefit to students and researchers. The study will add to the already existing body of knowledge, students will learn about the theories that relate to asset liability management and financial performance and the studies that support this relationship. Researchers interested in this field of research might use this study as a base for further research.
CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction
This chapter covers the theoretical framework, the determinants of Profitability, empirical review and the summary of the literature review.

2.2 Theoretical Framework
This part contains the theories that anchor the study variable that is asset liability management and financial performance of firms. These theories are; commercial loan theory, agency cost based theory and tradeoff theory.

2.2.1 Commercial Loan Theory
Short-term loans are advanced to finance salable goods, this are the most liquid loans the bank can make. These are self-liquidating loans because the goods being financed will soon be sold. The loan finances a transaction and the transaction itself provides the borrower with the funds to repay the bank. Smith described these loans as liquid because their purpose and their collateral were liquid. The goods move quickly from the producers through the distributors to the retail outlet and then are purchased by the ultimate cash-paying consumer (Brusov and Filatova, 1991).

Brau and Woller (2004) argues that commercial loans can only be granted to firms that are liquidity of who credit worthiness is well defined since it is possible for such firms to repay the loans. For a firm to be able to repay the loan, the theory propounds that the assets of a bank should be short-term and self-liquidating. A liquid firm can easily pay loans since it can take advantage of available opportunities and invest in long-term projects that promise more returns in future.
The theory presupposes that each bank should stand alone instead of being one in a system. If a bank has safe assets it need not wait until maturity for their liquidation but can shift them to the central bank or to other banks. He shows that commercial loans are not as liquid either or for single banks or systems of banks as bonds and security loans (Brau and Woller, 2004). In actual practice, individual banks meet withdrawals of deposits largely by shifting some of their assets to other banks. An acceptance of this view, which he calls the shiftability theory, would provide a new criterion with which to judge the liquidity of a bank. This would sanction present banking practices; and would permit more diversity of assets with consequent greater safety to banks and depositors.

2.2.2 Agency Cost-Based Theory

Debt of a firm will generate agency costs because of conflicting interests between parties contracted by the firm. On the other side, by controlling the problem of free cash flow, debt can also generate benefits by motivating efficiency in the firm. Jensen (1986) argues that by trading off the benefits and costs of debt, the firm can get an optimal capital structure; the optimal debt-equity ratio is the point at which firm value is maximized, the point where the marginal costs of debt just offset the marginal benefits (Jensen, 2006).

Jensen and Meckling (1976) define two types of agency costs in the modern diffuse ownership corporation” (Jensen and Meckling, 1976, p. 309), agency costs of equity and those of debt. Agency costs of equity are derived from the conflicting interests between outside stockholders and managers. Along with the separation of ownership and control in the ownership of a corporation, managers will tend to make less effort in maximizing the firm's value because they do not have 100 per cent of the residual
claims on the firm; on the other hand, they also have incentive to pursue more non-pecuniary benefits because they do not bear the full cost of the non-pecuniary benefits they consume. In order to eliminate such activities by managers, the outside stockholders will cost “monitoring expenditure” to resort to methods such as “auditing, formal control systems, budget restrictions, and the establishment of incentive compensation systems.

Agency costs of debt derive from conflicts of interest between debtholders and equity holders, because “by promising to take the low variance project, selling bonds and then taking the high variance project he can transfer wealth from the (naive) bondholders to himself as an equity holder” (Jensen and Meckling, 1976, p. 335). Due to the property of debt contract, if an investment can yield high returns, equity holders will take most of the gain; however, if the investment fails, debtholders will bear the loss. As a result, equity holders have the incentive to sell bonds, and carry out high risky investments. To limit such activities by equity holders, debtholders will cost “monitoring expenditure” to write bond covenants as detailed as possible, and to carry them through out (Black, Jensen and Scholes, 1972).

Jensen (1986) discusses the benefits of debt, defined as “control hypothesis” (Jensen, 1986, p. 324). Because managers possess the control over free cash flows, they have the incentive to shrink pay outs to shareholders, and invest in low-return projects in order to enlarge the firm's size. Shrinking pay outs on stocks will lead to falling stock prices, and investing in low-return projects will waste a firm's resources. Because of stock being substituted by debt, managers are forced to pay for the compulsory future cash flows on bonds, instead of the optional dividends on stocks. Thus debt can reduce the agency costs along with free cash flow (Jose, Lancaster and Stevens, 1996).
2.2.3 Trade-off Theory

The trade-off theory is the idea that a company chooses how much debt finance and how much equity finance to use by balancing the costs and benefits. The classical version of the hypothesis goes back to Brusova and Filatova (1991) who considered a balance between the dead-weight costs of bankruptcy and the tax saving benefits of debt. Often agency costs are also included in the balance.

An important purpose of the theory is to explain the fact that corporations usually are financed partly with debt and partly with equity. It is therefore important for a firm to have balanced proportions on its asset and liabilities to mitigate financial risks and also meet its short-term financial obligations when they fall due (Modigliani and Miller, 1958).

There is an advantage to financing with debt, the tax benefits of debt and there is a cost of financing with debt, the costs of financial distress including bankruptcy costs of debt and non-bankruptcy costs. The marginal benefit of further increases in debt declines as debt increases, while the marginal cost increases, so that a firm that is optimizing its overall value will focus on this trade-off when choosing how much debt and equity to use for financing (Brau and Woller, 2004).

The relevance of this theory in relation to this study is that a firm should choose when to use debt or equity to achieve a proper balance between debt and equity. This is because the exact roles around ALM can vary significantly from one bank or other financial institutions to another depending on the business model adopted and can encompass a broad area of risks. However, maintaining a proper mix between assets and liabilities mitigates the risks arising from the interaction between assets and liabilities. The fundamental objective of this is to ensure a long-term perspective:
success in the process of maximizing assets to meet to counter complex liabilities. This contributes to increased profitability of firms (Canner, Gregory and David, 1997).

2.3 Determinants of Financial Performance

There are various determinants of financial performance; this study discusses the following determinants: firm size, liquidity and asset quality.

2.3.1 Firm Size

Ahmed and Khababa (1999) argue that there exists a positive relationship between financial performance and firm size due to operating costs efficiencies through increasing output and economizing on unit of cost. Bigger banks in terms of size enable insurers to effectively diversify their assumed risks and respond more quickly to various changes in market conditions. Large firms have the capacity to diversify their investment portfolios and this could reduce their business risks. Large companies generally outperform smaller ones because they manage to utilize economies of scale and have the resources to attract and retain managerial talent. Therefore, it is expected that performance is positively related with size of company.

2.3.2 Liquidity

According to Bourke (2001), companies with more liquid assets are likely to perform better as they are able to realize cash at any point of time to meet its obligation and are less exposed to liquidity risks. By not having sufficient cash or liquid assets, insurance companies may be forced to sell investment securities at a substantial loss in order to settle claims promptly. However, there are contrasting views with regard to performance and liquidity in relation to the agency theory. According to Rose and Hudgins (2006) high liquidity could increase agency costs for owners by providing
managers with incentives to misuse excess cash-flows by investing in projects with negative net present values and engaging in excessive perquisite consumption. According to Adam Bourke (2002), liquidity measures the ability of managers in insurance and reinsurance companies to fulfill their immediate commitments to policyholders and other creditors without having to increase profit from underwriting and investment activities and/or liquidate financial assets.

2.3.3 Asset Quality

Asset quality is another determinant that influences the financial performance of banks. Asset quality is an indicator for the liquidation of banks, before banks can be declared bankrupt a sizeable amount of non-performing loans must exists since bank asset quality is an indicator for the liquidation of banks. The bank asset quality and financial performance are positively related. This is because if a bank’s asset quality is insufficient it will have to increase its bad debt losses as well as expend more resources on the collection of non-performing loans (Bourke, 2001).

Non-performing loans (NPL) has an inverse relationship with banks profitability. Hence, it is important for commercial banks to practice prudent credit risk management and safeguard the assets of the banks and protect the investors’ interests. To effectively continue with their operations commercial banks must make enough money through lending and fiduciary activities or services to cover their operational and financing costs; plough back retained earnings to finance future operations. This will enhance not only the survival but also their growth and profitability (Akintonye, 2002).
2.4 Empirical Review

This part will cover the studies that relate to the variables under investigation that is asset liability management and financial performance of firms in different sectors. It provides both international and local studies as follows:

2.4.1 Local Studies

Gikonya (2011) studied the relationship between asset liability management and profitability of commercial banks in Kenya. A cross-sectional survey was used in a population of 43 licensed commercial banks in Kenya. Secondary data was obtained from financial statements and records of commercial banks. Analysis of data was done using a linear regression mode. The study found asset liability management was positively related to profitability. The limitation of this study is that it did not investigate the effect of financial leverage on profitability of commercial banks and the effect of financial risk and profitability of the firm.

Maina (2011) examined the relationship between liquidity management and profitability of the Oil companies in Kenya. The study covered the period 2007-2010. A regression model was developed to determine the relationship between the dependent variable (Profitability of the firms) and independent variables (liquidity position). The independent variable used in the model consisted of Current ration, quick ratio, cash conversion cycle, while leverage and the age of the firm were used as control variables. The results of the study showed a weak relationship between liquidity and profitability. The study concluded that liquidity management is not a significant contributor alone of the firm’s profitability and there exist other variables that will influence ROA.
Wambu (2013) sought to establish the relationship between the profitability and the liquidity of commercial banks in Kenya. The population of the study was comprised of all 44 commercial banks in Kenya operating in the years 2008 to 2012. For a bank to qualify it needed to have been in operation during the whole period of the study and therefore institutions that merged or were not in operation in the whole period of study were eliminated. The study used secondary data obtained from audited financial statements of the banks for five years and a regression model was used for data analysis. The study used secondary data collection of the return on assets, to measure profitability and CBK liquidity ratio and current ratio to measure liquidity in each year. The study found out that there was an inverse relationship between profitability and liquidity of commercial banks in Kenya.

In his study, Kimondo (2014) investigated the relationship between liquidity and profitability of nonfinancial companies listed in the NSE. The study used a descriptive survey. The study covered 39 listed nonfinancial companies in NSE Kenya. Secondary data sources for five years between (2009-2013) were used. Correlation and regression analysis were employed to establish the relationship between liquidity and profitability. The ROA was used as proxy for company’s profitability and the company’s liquidity was measured using the current ratio, quick ratio and the absolute liquid ratio. Findings established a significant weak positive relationship between liquidity and profitability with a Spearman correlation coefficient of 0.398 and R2 of 15.9% among the listed nonfinancial companies in Kenya.

Ombworo (2014) conducted a study on the effects of liquidity and profitability of SME’s in Kenya. He conducted a descriptive survey to establish the relationship between the variables. The study used secondary data from financial statements for a
period of five years. He did conduct a stratified sampling of 90 SME’s operating around Nairobi area. Data was analysed using a regression model to show the relationship between the independent and dependent variables. It was concluded that there was a negative relationship between liquidity and profitability of SME’s in Kenya.

2.4.2 International Studies

Rogers (2005) investigated the impact of asset and liability management on financial performance of commercial banks in Scotland. The pop sample size consisted of 100 commercial banks. An explorative survey was used to test the relationship between the variables, the results of the study found a positive correlation between asset liability management and financial performance of commercial banks.

Duncan (2008) conducted a study on the relationship between working capital management and profitability of small manufacturing firms in Europe. A survey of 100 manufacturing firms was conducted and secondary data sources from financial statements of these firms were used. The researcher did a cross-sectional study for these firms and the data was analysed using descriptive statistics. It was concluded that there was a positive relationship between working capital components and profitability of manufacturing firms in Kenya.

Stierwald (2010) studied the impact of asset and liability management on Profitability of large Australian firms. The study used panel data for a period of one decade. Both correlation and regression analysis were used for analysis to show the relationship between the variables. The results of the study found that there was a positive relationship between asset and liability management and profitability.
Harvey (2013) investigated the relationship between asset liability management and financial performance of commercial banks. The study used a cross-sectional research design. Panel data for 3 years was used. Data analysis of data was done using a regression model. The study concluded that there was a positive relationship between asset liability management and financial performance of service firms in United States.

Di-Maggio (2013) did a study on the impact of asset liability management and financial performance of Swedish firms. The study used a cross-sectional survey design whereby secondary sources of data were obtained from the financial statements of Swedish micro firms. The study used descriptive statistics for analysis; the results established that there was a positive correlation between asset liability management and financial performance of Swedish micro firms.

2.5 Summary of the Literature Review

The literature review shows that mismanagement of assets and liability may expose firm to huge financial losses. The fundamental objective of asset liability management is to protect the firm from any risk that might arise due to improper mix of assets and liability. It is worth noting that the firm needs both assets and liability to grow and expand. The above theories namely tradeoff and agency cost theory have emphasized importance of enhancing efficiency to achieve an optimal liquidity of the firm. Similarly, commercial loan theory insists that for a customer to qualify for a loan he or she must be is credit worthy, this enable the firm to maintain its liquidity position hence limit its exposure to financial losses. Firms should balance between assets and liquidity to meet their short-term financial obligations. This is realized by implementing strategic approaches to risk management for example asset liability
management. This is also emphasized by a number of studies that have demonstrated that asset liability management contributes to financial performance as follows. Gikonya (2011), Dancun (2008) and Rogers (2008) among others. These studies have laid more focus on profitability in commercial banks, manufacturing firms among other sectors. The current study focuses on microfinance banks in Kenya and it is however geared to bridge this gap by finding an answer to the question: what is the effect of asset liability management on financial performance of microfinance banks in Kenya?
CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides the research methodology that was used to achieve the objective of the study. This chapter constitutes the research design, population, data collection, analytical model, data analysis and the tests of significance.

3.2 Research Design

A descriptive research design was used. A descriptive research design is used to establish the relationship between variables. The study investigated the relationship between asset liability management and financial performance of microfinance banks in Kenya. According to Cooper and Schindler (2006) a descriptive study is one that explains a phenomenon, to estimate a proportion of a population with the same characteristics and to establish relationships that exist between different variables.

3.3 Population

Singh and Nath (2010) maintain that a population is the entire group of individuals, events or objects having similar and observable characteristics. There are 12 (twelve) microfinance banks that are licensed to work and operate in Kenya as at July, 2015. The study considered nine (9) microfinance banks (CBK, 2013) since they have been in operation for the last five years (2010-2014).

3.4 Data Collection

The study used secondary sources of data since the nature of data to be collected is quantitative. Secondary data was obtained from the association of microfinance banks in Kenya (AMFI) based on availability and accessibility. The data was extracted from
audited financial statements of microfinance banks for the period of five years (2010-2014). Data selection was done based on the measurements of the variables under investigation.

3.5 Data Analysis

Data was cleaned, sorted and then coded before being captured into the statistical package for social sciences. Data was analysed using descriptive statistics, correlation analysis and regression model. The variables under investigation included asset liability management which was an independent variable; it was measured using credit risk. The dependent variable is financial performance which was measured using net income divided by total assets. Control variables included the firm size, management competence and liquidity.

3.5.1 Analytical Model

The study adopted a regression model to establish the relationship between asset liability management of microfinance banks in Kenya. The study predicted a positive relationship between asset liability management and profitability of microfinance banks in Kenya. This model was adopted from the previous works of Rajan and Zingales (1995) and Gikonya (2011). The regression model is as follows:

\[ Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + e \]

b_1 to b_n = the regression coefficients

Y = profitability was measured using financial performance. This was measured using return on assets (ROA) which is net income divided by total assets.
$X_1 =$ Asset liability management was measured using asset quality and provisions which is computed using net non-performing loans divided by gross loans and advances.

$X_2$ is the size of the firm (control variable) was measured using natural logarithm of total assets.

$X_3$ is Liquidity (control variable) was measured using current assets divided by current liabilities.

$X_4$ is the operating efficiency ratio (control variable) which was measured using total expenses divided by total income.

$\beta_0 =$ gradient or slope of the regression measured the unit of change in $y$ associated with a unit change in $X$

$\epsilon$ is error term within a confidence interval of 5%

### 3.5.2 Tests of Significance

Model for coefficients was used to test the hypothesis of this study. The level of significance was determined using probability values. If the p-value(s) is more than 5% then the null hypothesis is true since this will mean that there is no statistically significant relationship between asset liability management and financial performance of microfinance banks in Kenya. Similarly, if the p-value is less than 5% then the alternative hypothesis was considered true since this meant that there was a positive relationship between variables. The coefficient of determination was used to determine if the model is a satisfactory predictor or not using the $R^2$. Correlation was done to find out whether there exists multi-colinearity between the variables. All the tests were performed at 95% degree of confidence.
CHAPTER FOUR
DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter covers data analysis and interpretation of findings; this is done in line with the objective of this study which is to determine the effect of asset liability management on financial performance of microfinance banks in Kenya. Below are the results of the findings.

4.2 Descriptive Statistics

Descriptive statistics shows the summary of the findings of all the variables under investigation. These variables are asset quality, liquidity, operating efficiency and firm size. It gives the minimum and maximum values, the mean and the standard deviation values. The descriptive results are presented in the table 4.1 below:

Table 4.1 Descriptive Statistics

<table>
<thead>
<tr>
<th>Descriptive Statistics</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>42</td>
<td>-.16</td>
<td>.05</td>
<td>-.0091</td>
<td>.04295</td>
</tr>
<tr>
<td>Asset Quality</td>
<td>42</td>
<td>-.11</td>
<td>7.86</td>
<td>.4211</td>
<td>1.11734</td>
</tr>
<tr>
<td>Liquidity</td>
<td>42</td>
<td>.00</td>
<td>2.98</td>
<td>.3094</td>
<td>.50812</td>
</tr>
<tr>
<td>Operating Efficiency</td>
<td>42</td>
<td>.00</td>
<td>3.71</td>
<td>.7142</td>
<td>.76238</td>
</tr>
<tr>
<td>Firm Size</td>
<td>42</td>
<td>.00</td>
<td>10.43</td>
<td>5.5040</td>
<td>4.48014</td>
</tr>
</tbody>
</table>

Source: Research findings

From the above results in table 4.1, financial performance of microfinance banks was found to be an estimated 1% which means that most microfinance banks attained an average performance. Asset quality was found to have a mean value of .4211 this was an indication that most microfinance banks gave out high amount of loans and advances which contributed to high levels of non-performing loans. The mean level of
liquidity of most microfinance banks was found to have an average of 0.3094 which implies that most microfinance banks did not meet their short-term financial obligations. It was also observed that the level of operating efficiency of microfinance banks had a mean value of .7142. The results further revealed that the average size of most microfinance banks was 5.5% which implies that most of them were unstable in terms of their asset base. The findings therefore concluded that most microfinance banks were unstable and thus they did not have the capacity to maintain a proper balance between assets and liabilities.

4.3 Pearson’s Product Moment Correlation Coefficient

The study used Pearson’s correlation to measure the strength and the direction of association that exists between asset liability management on financial performance of Microfinance banks in Kenya. Below are the results of the findings presented in table 4.2 below:

Table 4.2 Pearson’s Correlation Coefficient

<table>
<thead>
<tr>
<th></th>
<th>ROA</th>
<th>Asset Quality</th>
<th>Liquidity</th>
<th>Operating Efficiency</th>
<th>Firm Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asset Quality</td>
<td>.046</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liquidity</td>
<td>-.315*</td>
<td></td>
<td>.099</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Operating Efficiency</td>
<td>-.779**</td>
<td></td>
<td>.118</td>
<td>505**</td>
<td></td>
</tr>
<tr>
<td>Firm Size</td>
<td>-.208</td>
<td>.314*</td>
<td>.456**</td>
<td>696**</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Research Findings

From the above results in table 4.2, the findings revealed that there was no correlation between asset quality, liquidity and firm size with financial performance of microfinance banks in Kenya. Their correlation scores were as follows: .046, -.315, -.208. This means that there was no correlation between asset liability management
and financial performance of microfinance banks in Kenya. On the contrary, there was a strong correlation between operating efficiency and financial performance of microfinance banks in Kenya. The correlation score was .779. This implies that even though most microfinance banks failed to meet their short-term financial obligations they utilized less expenses compared to the income that they generated.

4.4 Regression Analysis and Hypothesis Testing

The study sought to determine the relationship that exists between asset liability management and profitability of microfinance banks in Kenya. Regression analysis was used to confirm the hypothesis of this study which had predicted a positive relationship between asset liability management and profitability of microfinance banks in Kenya. The results are presented in the table 4.4 below:

Table 4.3 Summary of Output

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.918^a</td>
<td>.843</td>
<td>.826</td>
<td>.01885</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Log of assets, Asset Quality, Liquidity, Operating Efficiency

From the above results in table 4.3, the multiple correlation (R) is .918 which means that there is a perfect correlation between the variables. The coefficient of determination (R^2) is 84.3%; it explains the variability in the dependent variable (profitability) that is explained by the independent variables.

4.4.1 Analysis of Variance (ANOVA)

The study did analysis of variance to determine whether the regression equation explained a statistically significant portion of the variability in the dependent variable
from variability in the independent variables. Below are the results presented in table 4.4 below:

**Table 4.4 Analysis of Variance**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>.071</td>
<td>4</td>
<td>.018</td>
<td>49.758</td>
<td>.000b</td>
</tr>
<tr>
<td>1 Residual</td>
<td>.013</td>
<td>37</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>.084</td>
<td>41</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: ROA  
b. Predictors: (Constant), Log of assets, Asset Quality, Liquidity, Operating Efficiency

From the above results in table 4.4 above, the results show that the level of significance is below 5% which means that the regression model is significant in predicting the relationship between asset liquidity management and profitability of microfinance banks in Kenya.

**4.4.2 Model Coefficients**

The model did a test of coefficients to establish the direction of the between the variables in the model to effectively define the relationship between asset liability management and profitability of microfinance banks in Kenya. The results are presented in the table 4.5 below.

**Table 4.5 Model Coefficients**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>.005</td>
<td>.005</td>
<td>1.014</td>
<td>.317</td>
</tr>
<tr>
<td>Asset Quality</td>
<td>-.001</td>
<td>.003</td>
<td>-.015</td>
<td>-.212</td>
</tr>
<tr>
<td>1 Liquidity</td>
<td>.001</td>
<td>.006</td>
<td>.014</td>
<td>.185</td>
</tr>
<tr>
<td>Operating Efficiency</td>
<td>-.070</td>
<td>.005</td>
<td>-1.173</td>
<td>-13.260</td>
</tr>
<tr>
<td>Log of assets</td>
<td>.006</td>
<td>.001</td>
<td>.586</td>
<td>6.582</td>
</tr>
</tbody>
</table>

a. Dependent Variable: ROA
From the above findings in table, the following regression equation was obtained:

$$\text{ROA} = 0.005 - 0.001 X_1 + 0.001 X_2 - 0.070 X_3 + 0.006 X_4$$

From the above linear equation, liquidity and logarithm of assets exhibit a positive relationship with financial performance of microfinance banks in Kenya. This means that holding all other factors constant a unit increase in these variables results into a corresponding increase in one unit of financial performance. It was further revealed that asset quality and operating efficiency exhibited a negative relationship with financial performance of microfinance banks.

The regression analysis was conducted at 5% significance level. The criteria for comparing whether the predictor variables were significant in the model was done by comparing the corresponding probability value obtained; $\alpha=0.05$. If the probability value was less than $\alpha$, then the predictor variable was significant.

From the model coefficients, logarithm of assets and operating efficiency were found to be statistically significant in the model. This is because their probability values were less than 5%. The results were as follows $p=0.000$ and $p=0.001$ respectively. On the contrary, asset quality and liquidity were found to be statistically insignificant because their probability values were above 5%. The results were as follows; $p=0.833$ and $p=0.854$ respectively. These findings are consistent with the hypothesis for this study which had predicted a negative relationship between asset liability management and profitability of microfinance banks in Kenya.

4.5 Chapter Summary and Discussions

The descriptive results found that financial performance of microfinance banks was estimated 1%, this mean that most microfinance banks attained an average performance. Asset quality had a mean value of .4211 which was an indication that most microfinance banks gave out high amount of loans and advances which
contributed to high levels of non-performing loans. The mean level of liquidity of most microfinance banks was found to have an average of 0.3094 which implied that most microfinance banks did not meet their short-term financial obligations. It was also observed that the level of operating efficiency of microfinance banks had a mean value of .7142. The results further revealed that the average size of most microfinance banks was 5.5% which implies that most of them were unstable in terms of their asset base. The findings therefore concluded that most microfinance banks were unstable and thus they did not have the capacity to maintain a proper balance between assets and liabilities. It was concluded that most microfinance banks were unstable and thus did not have the capacity to maintain a proper balance between assets and liabilities. The findings further observed that most microfinance banks failed to meet their short-term financial obligations they utilized less expenses compared to the income that they generated.

The correlation results observed that there was no correlation between asset quality, liquidity and firm size with financial performance of microfinance banks in Kenya. Their correlation scores were as follows: .046, -.315, -.208. This means that there was no correlation between asset liability management and financial performance of microfinance banks in Kenya. On the contrary, there was a strong correlation between operating efficiency and financial performance of microfinance banks in Kenya. The correlation score was .779. This implies that even though most microfinance banks failed to meet their short-term financial obligations they utilized less expenses compared to the income that they generated.

The regression results found that the coefficient of determination was 84.3% which indicated the variability in the dependent variable (profitability) as explained by the
independent variables. Further, analysis of variance concluded that the regression model was statistically significant in explaining the relationship between asset liability management and profitability of microfinance banks in Kenya. The regression results concluded that liquidity and logarithm of assets exhibit a positive relationship with financial performance of microfinance banks in Kenya. Logarithm of assets and operating efficiency were found to be statistically significant in the model. This is because their probability values were less than 5%. This finding conforms to conclusions made by Ombworo (2014) that there was a negative relationship between liquidity and profitability of SME’s in Kenya. Asset quality and liquidity were found to be statistically insignificant because their probability values were above 5%. This finding is similar to the findings made by Kimondo (2014) who indicated that there was a weak positive relationship between liquidity and profitability of listed nonfinancial firms in Kenya.
CHAPTER FIVE
SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter covers discussions drawn from data analysis, findings and interpretation. The chapter is organized into summary of findings, conclusions, recommendations and areas for further research.

5.2 Summary of Findings

From the descriptive results, microfinance banks were found to have an estimated financial performance (ROA) of 1% which is an average performance. It was also found that asset quality had a mean value of .4211 which signified that microfinance banks gave out huge amounts of loans and advances that led an increase of non-performing loans. The level of liquidity of most microfinance banks had a mean value of 0.3094; this means that microfinance banks did not meet their short-term financial obligations. The results further revealed that the level of operating efficiency of microfinance banks had a mean value of .7142 while the average size of most microfinance banks was 5.5% which implied that most of microfinance banks were unstable in terms of their asset base. The findings therefore concluded that most microfinance banks were unstable and thus did not have the capacity to maintain a proper balance between assets and liabilities.

The Pearson’s correlation results concluded that that even though most microfinance banks failed to meet their short-term financial obligations they utilized less expenses compared to the income that they generated. This was depicted by the correlation
results between operating efficiency and financial performance of microfinance banks in Kenya which was 0.779.

The regression results concluded that logarithm of assets and operating efficiency was statistically significant in the model. This is because their probability values were less than 5%. The results were as follows $p=0.000$ and $p=0.001$ respectively. These findings are consistent with a study conducted by Gikonya (2011) who found that there was a positive relationship between assets and profitability of commercial banks in Kenya. Asset quality and liquidity were found to be statistically insignificant because their probability values were above 5%. The results were as follows; $p=0.833$ and $p=0.854$ respectively. These findings are consistent with Wambu (2013) who argued that there was an inverse relationship between profitability and liquidity of commercial banks in Kenya. This is also consistent with the hypothesis for this study which had predicted a negative relationship between asset liability management and profitability of microfinance banks in Kenya.

5.3 Conclusion

From the findings, the study concludes that most microfinance banks were not able maintain optimal levels of assets and liability and thus were unable to meet their short-term financial obligations. The findings also revealed that asset quality increased rapidly over the years. Microfinance banks gave out huge loans and advances that contributed to increased non-performing loans, this impacted negatively on asset and liability management leading to poor financial performance of microfinance banks.

The correlation results concluded that there was a strong correlation between operating efficiency and financial performance of microfinance banks in Kenya. The
correlation score was .779. This implies that even though most microfinance banks failed to meet their short-term financial obligations they utilized less expenses compared to the income that they generated. These findings are in line with a study by Dancun (2008) who concluded that there was a positive correlation between operating efficiency and profitability of small manufacturing firms in Europe that maintained a proper balance between assets and liabilities.

The findings concluded that the there was a statistically significant relationship between asset liability management and profitability of microfinance banks in Kenya. This is because the level of significance was below 5%. These findings are consistent with a study by Gikonya (2011) who found that there was a statically significant relationship between assets liability management and profitability of commercial banks in Kenya.

5.5 Limitations of the Study

The study was limited by time and costs constraints, the study were limited to microfinance banks in Kenya that have been in operation for the last five years. The findings and conclusions drawn from this study cannot be used to make generalization in the banking industry this is because the banking sector in Kenya is relatively wide and diverse and therefore it is appropriate to consider incorporating commercial banks, Saccos among others to draw more conclusive findings.

The study utilized secondary sources of data that are prepared under the fundamental accounting and financial assumptions and concepts which are subjective and therefore not be uniformly applied especially in terms of provisions and estimates. This creates a need to investigate these variables and find out whether similar results will be obtained.
There was reluctance from bank staff in the provision of documents containing bank financial statements and other relevant information with regards to the study variables. Most employees feared being reprimanded by their superiors in the organizations who are responsible for matters related to the bank risk management. However, the researcher assured the respondents of the confidentiality of the documents that they provide and sought authority from management to undertake research in the bank.

Due to finance and time constraints, the research was limited to only microfinance banks in Kenya. Therefore, to generalize the results for a larger group, the study should have involved a wider scope to include commercial banks in Kenya. This would have resulted to more conclusive findings.

Lastly, there was the challenge of accessing past records due to poor record keeping. Little information was available from published financial statements; the researcher was forced to look for more information in order to accurately get the measurements for all the variables under investigation. This took a quite a while before the researcher got all the information that he was looking for.

5.4 Recommendations

Future researchers could be interested in examining other factors for example macroeconomic variables that affect profitability of microfinance banks in Kenya. A study can therefore be conducted to find out whether the results obtained in this study will hold and thus shed more light on the implication of these variables and how they impact on profitability and the liquidity position of microfinance banks in Kenya.

The study also recommends that other factors for example government regulations, policies or any other factors either as independent or moderating variables that can
influence a proper match between assets and liabilities should be investigated in order to obtain reliable results.

There is need for the bank management and staff to take cognizance of the fact that management of liquidity risks must not be left to the Asset liquidity management committee but is for all the participants in the organization. However, the management and board of directors must take the lead and continuously develop proactive policies and communicate the same consistently so as to ensure that every employee and manager buys into the process of asset liquidity management.

There is need for the bank to regularly train its employees on the various balance sheet risks and how they can be managed especially in the changing business environment in which the organization strives to be competitive in the marketplace and at the same ensure that its profitable from its business operations. Employee training must be laced with efficient planning and monitoring process so as to ensure that both the risk management objectives and those of the overall organization are met.

Management needs to continuously develop, implement proactive, efficient and effective liquidity management strategy that allows the institution to monitor and measure expected daily gross liquidity inflows and outflows, manage and mobilize collateral when necessary to obtain intraday credit, identify and prioritize time-specific and other critical obligations in order to meet them when expected; settle other less critical obligations as soon as possible and control credit to customers when necessary
5.6 Suggestions for Further Study

A comparative study should be conducted to determine the extent to which asset and liability management influences profitability in another sector other than banking industry. Manufacturing firms would be a viable industry due to the nature of their operations especially purchases of equipment which impacts highly on the way they manage their assets and liability and how this contributes to profitability of manufacturing firms. This will provide a basis for comparison upon which reliable and plausible conclusion can be drawn.

This research study was limited to microfinance banks in Kenya, the banking industry constitutes many financial institutions and providers who were relevant to the study such as commercial banks but were not covered. The study therefore recommends that future researchers should consider investigating these variables in the banking industry in order to determine whether these findings will hold, this will enable the researcher to draw more conclusive findings upon which reliable conclusion may be drawn.

The role of Asset liability committees has grown in its importance in the management of balance sheet, liquidity risks and in the implementation of liquidity risk management strategies. Hence, there is need for further research on the role of this important committee with a view to coming up with recommendation to strengthen the committees role in banking institutions.

Further research study can be conducted on the factors that influence the liquidity levels of microfinance banks in Kenya. This can be achieved by using the different categories of demographic characteristics such as bank ownership (public, private and foreign) and bank size among other factors.
REFERENCES


AMFI (2015). *Association of Microfinance banks in Kenya*


Kimondo, N. (2014). The relationship between liquidity and profitability of nonfinancial companies listed in Nairobi securities exchange, Unpublished MBA Project, University of Nairobi


Ombworo, E. (2014). The effect of liquidity on profitability of small and medium size enterprises in Kenya, Unpublished MBA Project, School of Business, University of Nairobi


## APPENDIX I: DATA COLLECTION SCHEDULE

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Company</th>
<th>Year</th>
<th>Year</th>
<th>Year</th>
<th>Year</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Microfinance</td>
<td>2010</td>
<td>2011</td>
<td>2012</td>
<td>2013</td>
<td>2014</td>
</tr>
<tr>
<td>$Y = $profitability was measured using financial performance. This was measured using return on assets (ROA) which is net income divided by total assets.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$X_1 = $Asset liability management was measured using asset quality and provisions which is computed using net non-performing loans divided by gross loans and advances</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$X_2$ is the size of the firm (control variable) which was measured using natural logarithm of total assets.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$X_3$ is Liquidity (control variable) was measured using current assets divided by current liabilities.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$X_4$ is the operating efficiency ratio (control variable) which was measured using total expenses divided by total income</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### APPENDIX II: AUDITED FINANCIAL STATEMENTS OF MICROFINANCE BANKS IN KENYA

<table>
<thead>
<tr>
<th>Bank</th>
<th>ROA</th>
<th>Asset Quality</th>
<th>Liquidity</th>
<th>Operating Efficiency</th>
<th>Log of Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2014</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FAULU</td>
<td>0.017565314</td>
<td>0.63</td>
<td>0.24</td>
<td>0.823</td>
<td>10.43112242</td>
</tr>
<tr>
<td>KWFT</td>
<td>0.014714567</td>
<td>0.567657</td>
<td>0.24</td>
<td>0.807</td>
<td>10.3079237</td>
</tr>
<tr>
<td>SMEP</td>
<td>0.003514644</td>
<td>0.752443</td>
<td>0.35</td>
<td>0.885</td>
<td>9.77633791</td>
</tr>
<tr>
<td>REMU</td>
<td>-0.04079058</td>
<td>-0.10757</td>
<td>0.29</td>
<td>1.1147</td>
<td>8.956597096</td>
</tr>
<tr>
<td>RAFIKI</td>
<td>0.007594237</td>
<td>0.608696</td>
<td>0.81</td>
<td>0.942</td>
<td>8.596597096</td>
</tr>
<tr>
<td>UWEZO</td>
<td>0.01025641</td>
<td>0.630435</td>
<td>0.2</td>
<td>2.219</td>
<td>8.36361198</td>
</tr>
<tr>
<td>CENTURY</td>
<td>-0.14718647</td>
<td>0.15</td>
<td>0.608696</td>
<td>0.81</td>
<td>8.591064607</td>
</tr>
<tr>
<td>SUMAC</td>
<td>0.00625</td>
<td>0.65625</td>
<td>0.15</td>
<td>0.9459</td>
<td>8.204119983</td>
</tr>
<tr>
<td>U&amp;I</td>
<td>0.01459854</td>
<td>0.285714</td>
<td>0.57</td>
<td>0.852</td>
<td>8.136720567</td>
</tr>
<tr>
<td><strong>2013</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FAULU</td>
<td>0.013270066</td>
<td>0.41</td>
<td>0.23</td>
<td>0.874</td>
<td>10.09461086</td>
</tr>
<tr>
<td>KWFT</td>
<td>0.017975359</td>
<td>0.5427</td>
<td>0.27</td>
<td>0.774</td>
<td>10.33742919</td>
</tr>
<tr>
<td>SMEP</td>
<td>0.002409639</td>
<td>0.219178</td>
<td>0.26</td>
<td>0.851</td>
<td>9.396199347</td>
</tr>
<tr>
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APPENDIX III: INTRODUCTION LETTER FROM THE UNIVERSITY OF NAIROBI

TO WHOM IT MAY CONCERN

The bearer of this letter, Joseph Muchai Thuku, registration No. D61/76222/2012, is a bona fide continuing student in the Master of Business Administration (MBA) degree program in this University. 

He/she is required to submit as part of his/her coursework assessment a research project report on a management problem. We would like the students to do their projects on real problems affecting firms in Kenya. We would, therefore, appreciate your assistance to enable him/her collect data in your organization.

The results of the report will be used solely for academic purposes and a copy of the same will be availed to the interviewed organizations on request.

Thank you.

Patrick Nyabuto
MBA Administrator
School of Business
# APPENDIX IV: LIST OF MICROFINANCE BANKS IN KENYA

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<tr>
<th>Bank Name</th>
<th>Postal Address</th>
<th>Telephone</th>
<th>Fax</th>
<th>Email</th>
<th>Website</th>
<th>Physical Address</th>
<th>Date Licensed</th>
<th>Branches</th>
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<tr>
<td>Choice Microfinance Bank Limited</td>
<td>P. O. Box 18263 – 00100, Nairobi</td>
<td>+254-20-3882206, 20-3882207, 0736662218</td>
<td></td>
<td><a href="mailto:info@choicemfb.com">info@choicemfb.com</a>, <a href="mailto:enquiries@choicemfb.com">enquiries@choicemfb.com</a></td>
<td><a href="http://www.choicemfb.com">www.choicemfb.com</a></td>
<td>Siron Place, Magadi Road, Ongata Rongai</td>
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<tr>
<td>Faulu Microfinance Bank Ltd</td>
<td>P. O. Box 60240 – 00200, Nairobi</td>
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<td>+254-20-3867504, 3874875</td>
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<td><a href="http://www.faulukenya.com">www.faulukenya.com</a></td>
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<td>Kenya Women Microfinance Bank Ltd</td>
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<td><a href="http://www.kwftdtm.com">www.kwftdtm.com</a></td>
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