FINANCIAL DETERMINANTS OF MICROFINANCE INSTITUTIONS SUSTAINABILITY IN NAIROBI COUNTY, KENYA

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A RESEARCH PROJECT SUBMITTED IN THE SCHOOL OF BUSINESS AND ECONOMICS IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION, IN THE UNIVERSITY OF EMBU

AUGUST, 2017
DECLARATION

This research project is my original work and has not been presented for a degree in any other University.

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DEDICATION

I dedicate this research project to my husband, children, Eunice and Davis for their psychological and moral support.
ACKNOWLEDGEMENT

I wish to acknowledge the almighty God for enabling me this far with this research project.

My sincere gratitude to my supervisors Dr. Kimani Maina and Dr. Samuel Kariuki for their time, continuous support and guidance in writing the project to the final report. I would like to thank my MBA colleagues and workmates for their motivation and moral support.

I am also grateful to the entire management of University of Embu for the assistance accorded to me during the period of study and staff of all Micro Finance Institutions which I visited for their cooperation and assistance where I accessed much information concerning the research study. Thank you all for your time; it was all through your endless support that I managed to complete this research project.

God bless you all.
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DEFINITION OF TERMS

Borrowers
An individual or entity who has obtained funds from a business or individual which is required to be paid back in a specified period of time in which he promises to repay.

Exchange rate
Price in which the currency of a country can be exchanged with another country’s currency.

Inflation
Inflation is the rise in the general level of prices of goods and services in an economy over a period of time.

Interest Rate
Interest rate is a penalty or fee paid for borrowed money.

Microfinance
This is a way of providing loans to the poor who are outside the conventional banking system.

Regulation
This is a rule or control made and maintained by an authority.

Sustainability
Microfinance institution is said to have reached sustainability when the operating income from the loan is sufficient to cover all the operating costs.
ABSTRACT

Microfinance Institutions services have continued to play an important role in Kenyan economy. It is viewed as the provision of financial services to the poor and low income group. Microfinance Institutions in Kenya have gained wide recognition since 1990’s for the role they play in providing financial services to the low-income households, and their contribution to poverty alleviation. While achieving this poverty reduction goal, MFIs should also be financially sustainable. The issue of sustainability of MFIs has attracted the attention of many researchers and academicians on how MFIs can fulfill their social obligations and remain sustainable. The research assessed the effects of financial determinants of microfinance institutions sustainability in Nairobi County, Kenya. The research was guided by liquidity preference theory, theory of inflation rate, and exchange rate parity theory. The study employed descriptive survey research design. This study adopted census where all the 49 MFIs operating in Nairobi County were considered. The study relied on primary and secondary data. Primary data was collected using semi – structured questionnaires with both open and closed ended. Secondary data was collected from published audited financial statements. Pretesting of research tools was used to test reliability and validity of the questionnaires. Data was cleaned, coded, edited, classified and analyzed using Statistical Package for Social Science. The descriptive statistics tools used were mean, standard deviation, mode and variance to analyze quantitative data. Multiple regression analysis was used to establish the relationship between independent and dependent variables. The results of the analysis were presented in form of figures and tables. The study revealed that increasing the lending interest rate reduces the return thus affecting the sustainability of MFIs. In addition, the study found that high inflation rate leads to low lending power of the MFIs. The study further revealed that poor economic conditions results into high rate of foreign exchange impacting on the general investment by the MFIs. The study concluded that changes in lending interest rate by the government affect sustainability of MFIs in Nairobi County. The study concluded that inflation on MFIs sustainability indicated that lending levels are usually weak and low in the presence of higher inflation rates. The study further concluded that the premium or discount in foreign exchange impacts on the foreign capital thus the sustainability of MFIs. The study recommends that lending interest rate be regulated for sustainable microfinance Institutions. The government to implement measures to bring the inflation rate to optimal level by reducing the prices of goods and services. It is recommended that the government to implement measures to enhance the appreciation of the shilling against the foreign currencies. The study will enable the government to develop the right policies to implement to the Microfinance institutions to promote their services to the citizens and remain sustainable. The study will enable the management of microfinance institutions to understand the effect of financial determinants in their industry. Professionals advising the investors can use the study findings to inform their investors on issues involving microfinance lending and how the financial determinants affect the microfinance sector in Kenya.
CHAPTER ONE
INTRODUCTION

1.0 Background of the Study

A microfinance Institution (MFIs) is an institution that offers financial services such as credit, savings, insurance, foreign exchange transactions and money transfer to the poor, low income households and Small and Micro Enterprises (CBK, 2014). Microfinance is said to be an effective instrument discovered in 21st century to mitigate rural poverty in the world (Ramanaiah & Mangala, 2011). Microfinance proliferated in countries with a paucity of bank infrastructures, such as most of Asia, Latin America and Eastern Europe. In some of these countries, less than 20% of the population has a bank account (Ames, 2009). In Sub-Saharan Africa microfinance institutions emerged in mid 1960s. Microfinance services have become a proven tool against poverty in mostly developing countries of the world including Bangladesh, India, Indonesia and South African sub-continents (Rahman & Mazlan, 2014). In these countries credit risk for microfinance institutes was very high, because customers needed to improve their livelihood and face many challenges during this time (Webster, 2006).

The Kenyan microfinance sector began in the late 1960s with a few NGOs that set up pilot programs providing donor funded credit services (Microfinance Bulletin, 2015). Some of these organizations have evolved over time to become commercialized, self-sustaining and hugely profitable institutions such as Kenya Women Microfinance Bank (formerly KWFT). Microfinance is also recently becoming Kenya’s most accessible and affordable financial service. Microfinance institutions play a significant role in alleviating poverty in a country where the society has no or limited access to financial service provisions (Melkamu, 2012). Therefore, because of these important missions, they have attracted the attentions of different institutions especially donors which have missions to end poverty in the world. Donors and institutions want to evaluate the performance of an MFI whether they reach the poor society and are working towards achieving the mission for which they are established for.
The MFIs need to be financially sustainable in order to continue serving the society. Among the available measures, financial self-sufficiency is the predominant sustainability measurement variable. This is mostly because some microfinance institutions rely on the funds which are obtained from donors (Melkamu, 2012). Sustainability refers to the ability to continue any given activity into the future within the likely existing resources of an organization, as part of its ongoing budgetary and management processes (Kimando et al., 2012). Accordingly, MFIs must maintain good financial performance so that they can play a major role in the poverty reduction while achieving their primary objectives. MFIs face an apparent tension between achieving sustainability and contribution to poverty reduction. Therefore, this study focuses on the financial determinants of MFIs sustainability in Nairobi County.

1.1.1 Financial determinants of MFIs

Financial determinants refer to the financial factors affecting the performance of MFIs. MFIs were founded with an aim of assisting the low income earners access credit facilities which they certainly do owing to their availability and vast network as compared to commercial banks. However, in the early days MFIs were financed by donor funds that have a poverty eradication goal. MFIs performance was measured on how much they reach to the poor and how far the lives of those who get financial services are changing as compared to those who don’t get these services (Melkamu, 2012). Financial determinants are used to measure the performance of MFI and mostly based on how it is using its resources to deliver its services in an efficient manner (Wolday & Anteneh 2013).

The financial determinants used in past studies are the profitability ratios such as Return on Asset (ROA) and Return on Equity (ROE). A cross-sectional difference in MFIs financial determinants are that these differences are caused by both micro and macroeconomic factors. The influence of micro and macroeconomic factors is very significant on the sustainability of MFIs (Gwas & Ngambi, 2014). These factors include; exchange rate, interest lending rates, and inflation rate. Currently in Kenya, lending rates, inflation and exchange rate have been affected by the adverse prevailing economic conditions (CBK, 2015).
For the MFIs to balance their main objectives of lending and sustainability, financial determinants must be handled effectively and the MFIs must behave in a way that there potential customers are attracted and retained (Kadri, 2012).

1.1.2 Sustainability of Microfinance Institutions

Sustainability is the ability of a microfinance institution to cover all of its costs through interest and other income paid by its clients (Ayay & Sene, 2010). In microfinance, sustainability can be considered at several levels of institutional, group, and individual and can relate to organizational, managerial, and financial aspects (Kimando et al., 2012). Financially sustainable MFIs can become a permanent part of the financial system, they can continue to operate even after grants or soft loans are no longer available. Donors have nowhere near enough funds to meet the global demand for microfinance. But when an MFI becomes sustainable, it is no longer limited to donor funding. It can draw on commercial funding sources to finance massive expansion of its outreach to poor people.

Moreover, some donors and practitioners are concerned that excessive subsidization will hamper the promise of sustainability of MFIs and possibly distort the market by favoring more inefficient institutions (Armendáriz, 2004). Experience proves that microfinance can be done sustainably, even with very poor clients. It is generally believed that small loans are too costly to provide, and the resulting income is insufficient to ensure profitable operations (Dondo, 2010). The argument is that unlike financial institutions in the formal sector; most MFIs are not sustainable (Kanga, 2008). They add that many MFIs could not function without the subsidies that they receive from governments and other funders. However with the high cost of providing microfinance products and services, most MFIs are not sustainable and are thus reliant on donor subsidies (Peil, 2005).

1.1.3 Financial determinant and MFI Sustainability

Financial sustainability refers to the ability of the MFI to cover its costs with earned revenue. The financial determinants are the macroeconomic variables that have an effect on MFIs sustainability.
Therefore, MFIs operating in high income per capita countries do incur higher costs per borrower because of the lower outreach (Nawaz, 2010). However, the poor tend to move to commercial banks after being lifted out of poverty causing MFIs to be left with lower demand of loans. High economic growth can help MFIs to benefit from improved repayment rate and can mobilize large volume of savings due to improved household income so that they can reduce the cost acquiring debts and meet the demands of larger loans which ultimately results in reduced cost per borrower.

The cost per borrower tends to increase with the increasing income of households, since the financial products and services of the MFIs may not be appropriate for their financial demands (Vingo, 2012). Financial sustainability is MFIs’ ability to cover all costs on adjusted bases and indicate its capability to operate without ongoing subsidies including soft and grants (Dunford, 2009). The adjustment goes to inflation, foreign currency and cost of capital. The financial determinants as macroeconomic factors are a high standard measure of sustainability and bring long term perspectives for MFI operations.

1.1.4 Microfinance Institutions in Kenya
Microfinance is not a recent phenomenon in Kenya. This is due to the fact that some of the current informal sector practices such as money lending, Rotating Savings and Credit Associations (ROSCAS), date back to ancient societies in Kenya and elsewhere (Aryeetey & Gockel, 2014). The Kenyan microfinance sector began in the late 1960s with a few NGOs that set up pilot programs providing donor funded credit services. Some of these organizations have evolved over time to become commercialized, self-sustaining and hugely profitable institutions. Microfinance is also recently becoming Kenya’s most accessible and affordable financial service. According to Association of Micro Finance Institutions (AMFI)s the general accepted categories of segmenting the sector is Formal banks and Deposit Taking MFIs, which are regulated and supervised by the Central bank of Kenya, Semi-formal MFIs, which are non-deposit taking supervised by the Ministry of Cooperative and Marketing and Credit Only which are supervised by Ministry of Finance.
By December 2015, AMFIs had 49 registered institutions in Nairobi County namely; commercial banks under taking micro finance services, microfinance banks, wholesale MFIs, retail MFIs, SACCOs and development institutions. Most of these micro finance institutions operate in Nairobi and have over 750 outlets and a loan portfolio of US$ 63.64 billion, 1.1 million institution savers and 350,000 borrowers (Microfinance Bulletin, 2015). Association of microfinance institutions (AMFIs) is a member based institution registered under the Societies Act by the leading MFIs in Kenya. It is serving more than 6.5m poor and middle class families with financial services (Microfinance Bulletin, 2015). A wide range of financial services are provided by the micro finances institutions ranging from savings and credit facilities, money transfer and micro insurance to the economically active poor low income households and small scale enterprises in both rural and urban areas.

1.2 Statement of the Problem

Micro Finance Institution’s in Kenya have gained wide recognition since 1990’s for the role they play in providing financial services to the low-income households and their contribution to poverty alleviation. Microfinance institutions target the poor through innovative approaches which include group lending, progressive lending, regular repayment schedules, and collateral substitutes. While achieving on this poverty reduction goal, MFIs should also be financially sustainable. MFI management should promote financial resources to be able to cover all administrative costs, loan losses, and financing costs from operating income. The policy makers and analysts believe that the microfinance programs in various countries are playing significant role in changing the lives of the very poor people by smoothing their consumption. Limited access to credit by the poor has been identified as one of the factors contributing to poverty. Microfinance institutions help in reducing poverty by providing the poor with sustainable credit facility.

Development practitioners, policy makers, and multilateral and bilateral lenders, recognize that providing efficient microfinance services is important for a variety of reasons.
Improved access to microfinance services can enable the poor to smoothen out their consumption, manage their risks better, build their assets, develop their microenterprises, enhance their income-earning capacity, and enjoy an improved quality life. Today many key players in the industry use sustainability as one core criteria to evaluate the financial performance of MFIs. The issue of sustainability of MFIs has attracted the attention of many researchers and academicians to put their eyes towards finding the financial determinants of MFIs sustainability. One of the principal challenges of MFIs is serving the poor and low income earners and still remains sustainable. Since MFIs are important tools in the world for global poverty reduction and by enabling poor households to access loans. It is therefore important to do this study to shed more light on the effect of financial determinants on sustainability of MFIs in Nairobi County, Kenya.

1.3 General Objective
The overall objective of this study was to assess the effect of financial determinants on MFIs sustainability in Nairobi County, Kenya.

1.3.1 Specific Objectives
i. To assess the effect of lending rates on sustainability of Microfinance Institutions in Nairobi County.
ii. To determine the effect of inflation rate on sustainability of Microfinance Institutions in Nairobi County.
iii. To assess the effect of exchange rate on sustainability of Microfinance Institutions in Nairobi County.

1.4 Research Questions
i. To what extent do lending rates influence sustainability of Microfinance Institutions in Nairobi County?
ii. What effect does inflation rate have on sustainability of Microfinance Institutions in Nairobi County?
iii. How does exchange rate affect sustainability of Microfinance Institutions in Nairobi County?
1.5 Scope of the Study
The scope of the study was limited to MFI’s operating in Nairobi County by the end of December 2015. The study targeted forty nine (49) MFI’s. The study focused on the lending rates, inflation rate and exchange rate. This ensured that all the study findings contributed towards the achievement of the main objective of the study.

1.6 Significance of the Study
By focusing on achieving financial sustainability by the regulators and practitioners of microfinance in Kenya, the study will contribute towards domestic institution building for financial capacity widening and deepening in locally constituted organizations and funds. The owners of the enterprises will be able to know their contributions towards the success and sustainability of the microfinance institutions which are important to their operations. Eventually, they will take up their ultimate role in supporting the performance of the institutions.

Majority of Kenya population are poor and hence depend on MFIs as source of capital and general finance. Since the study seeks to establish financial determinants of MFIs sustainability, the study would prove invaluable information to them indirectly, though, for it would eventually help further MFI sustainability which is a source for finance to them. The study will provide a source of reference for future studies on microfinance institutions. It will also act a source of literature for academics in the field of finance.
CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction
This chapter discusses the theoretical literature, conceptual framework, empirical review, summary of literature and research gaps.

2.2 Theoretical Review
This study was based on the liquidity preference theory, theory of interest and Exchange rate parity theory.

2.2.1 Liquidity Preference Theory
The concept was first developed by Keynes in 1936. Keynes stated that the demand for money is expressed as a function of level of income and interest rate. \( MD=(Y, r) \) where: 
MD = money demanded; \( Y \) =Level of income \( r \) = interest rate. This framework holds that the interest rate is determined by the interaction of supply and demand of money stock. The liquidity preference approach views interest rates from the supply and demand of the stock of money in the financial system. According to Keynes (1936) money is demanded mainly for the following motives; transaction, precautionary and speculative motive. Keynes further stated that investors will always prefer short term securities to long term securities.

To encourage the investors hold long term bonds, long term securities should yield higher interests than short term bonds. Therefore, the yield curve will always be upward sloping. It is based on the observation that, all else being equal, people prefer to hold on to cash (liquidity) and that they will demand a premium for investing in non-liquid assets such as bonds, stocks, and real estate. The theory suggests that the premium demanded for parting with cash increases as the term for getting the cash back increases. The study seeks to identify the rationale of the liquidity preference theory on the relationship between the money supply in form of loans by MFIs in times of rising and or falling lending rate and the sustainability of the lender.
However, the borrowers will only invest where the returns on their investment profile exceed the borrowing rates

2.2.2 The Theory of Inflation Rate
The theory was developed by Fisher in 1930. The theory states that an increase in the growth rate of the money supply will result in an increase in inflation and an increase in the nominal interest rate, which will match the increase in the inflation rate. The Theory of Interest explains the relationship between inflation and the real and nominal interest rates. Fisher (1930) first put forward that the relationship between interest rates and inflation is termed as the Fisher Effect. It states that the nominal interest rate in any period is equal to the sum of the real interest rate and the expected rate of inflation. Fisher (1930) studied that the nominal interest rate could be decomposed into two components, a real rate plus an expected inflation rate. Fisher indicated that there exist a one to one relationship between the inflation and interest rates in a perfect world, with real interest rates being unrelated to the expected rate of inflation and determined entirely by the real factors in an economy, such as the productivity of capital and investor time preference.

The fisher effect theory has the same conclusions with the International Fischer Effect (IFE). IFE theory suggests that foreign currencies with relatively high interest rates will tend to depreciate because the high nominal interest rates reflect expected rate of inflation (Flannery, 2011). This theory also proposed that changes in the inflation rate between countries will also tend to equate the differences in their nominal interest rates (Moore & Craigwell, 2010). Fisher’s rate of interest is important because it provides a basis for the idea that monetary policy should be concerned mainly with managing inflation expectations in order to keep real interest rates at a stable level that promotes saving and investment in the economy. However, an increase in inflation rate discourages saving and investment.

2.2.3 Exchange Rate Parity Theory
The IPR theory was first developed by Stephen Ross in 1976. The theory states that exchange rate differentials between two different countries will be reflected in the premium or discount for the forward rate on the foreign currency.
The theory of exchange rate parity, relates to the difference between foreign and domestic exchange rates with the difference in spot and future rates. This parity condition states that the domestic exchange rate should equal the foreign exchange rate plus the expected change of the rates.

The exchange rate differential between domestic country and world is equal to the expected change in the domestic rate (Bhole & Dash, 2012). The theory further states that the size of the forward premium or discount on a foreign currency should be equal to the exchange rate differentials between the countries in comparison (Fielding, 2015). However an increase in exchange rate implies a decrease in general investment. If investors are risk-neutral and have rational expectations, the future exchange rate should perfectly adjust given the present rate differential.

2.3 Conceptual Framework

In this study, the independent variables were financial determinants on the MFIs namely Lending rates, inflation rate, and exchange rate. Dependent variable was sustainability of MFIs in Kenya.

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**Figure 2.1** Conceptual Framework of effect of financial determinants of MFIs sustainability in Nairobi County, Kenya.
2.4 Empirical Review

This section discusses the literature concerning the financial determinant of MFIs sustainability in Nairobi County, Kenya.

2.4.1 Lending Rates

Banking interest rate controls are generally codified into banking and central bank laws, which grant the central bank of a country the legal authority to fix the maximum lending interest rate for financial institutions (Koch & Macdonald, 2015). This type of control does not necessarily protect poor customers and can, in fact, hurt them by reducing their access to financial services. When faced with an interest rate ceiling, MFIs will often retreat from the market, grow more slowly and reduce their work because they cannot cover their operating costs (Mwirigi, 2006). This largely affects the MFI’s sustainability. Usually central bank interest rates are lower than commercial banks interest rates since MFIs borrow money from the central bank then lend the money at a higher rate to generate most of their income.

By altering interest rates, the government institution is able to affect the interest rates faced by everyone who wants to borrow money for economic investment. Investment can change rapidly in response to changes in interest rates and the total output (King, 2009). The interest rates charged on microcredit is one of the most discussed issues in microfinance, capturing the attention of both the media and industry analysts alike. At the heart of this discussion is the question of how MFIs can fulfill their social missions by charging their clients’ interest rates that are adequately low and still remain sustainable.

Rasheed (2010) carried a study using error correction model (ECM) to assess the financial determining factor in Nigeria. The study found that as the Nigeria financial sector integrates more with global markets, returns on foreign assets will play a significant role in the determination of domestic income. Okoye (2013) studied on the relationship between Interest rates and financial performance of MFIs in Nigeria. The result confirmed that the lending rate and monetary policy rate has significant and positive effects on the performance of Nigerian deposit money banks.
The implication of these is that lending rate and monetary policy rate are true parameter of measuring bank performance. The study utilized secondary data econometrics in a regression, where time-series and quantitative design were combined and estimated.

2.4.2 Inflation rate
Inflation is the rise in the general level of prices of goods and services in an economy over a period of time. When the general price level rises, each unit of currency buys fewer goods and services. Consequently, inflation reflects a reduction in the purchasing power per unit of money which is a loss of real value in the medium of exchange and unit of account within the economy (Chirwa & Mlachila, 2004). As for microfinance industry, borrowers may find it is attractive to borrow now but less attractive for lender. This is because the value of money now as fallen as compared to the time when they lent their money. Further, high inflationary levels generally discourages saving and investment.

Bergen (2010) carried a study on the countries with higher inflation rate in USA. The study observed that there is depreciation in their currency in relation to the currencies of their trading partners. This is also usually accompanied by higher interest rates resulting into a positive relationship between inflation and performance of banks. Lardic and Mignon (2013) studied the relationship between interest rate and inflation rate in G-7 countries using Engel-Granger co integration method. The study concluded that there is a long run relationship between lending interest rate and inflation rate.

2.4.3 Exchange rate
Higher interest rates attract foreign capital and cause the exchange rate to rise. The impact of higher interest rate is mitigated if inflation in the country is much higher than in others or additional factors serve to drive the currency down (Bergen, 2010). All other factors being equal, high interest rates in a country, increases the value of that country’s currency relative to nations offering lower rates and vice versa. Interest rates are a major factor influencing currency value thus the exchange rate. The interest rate determines the foreign investments to the economy (Moore & Craigwell, 2010). The foreign capital is affected by the economic conditions in a country.
Therefore, the microfinance industry is affected by the expectation and speculation of foreign currency. Elbadawi (2014) carried a study on exchange rates and the performance of small and medium size enterprises in Australia. The study found that high exchange rates in the economy greatly affected the financial performance as well as investment levels in SMEs forcing investors and potential investors to depend on own savings and funds from friends and relatives. It further established that long term borrowings was expensive as it was perceived to be riskier than short term borrowings and the issue of held funds. The study employed a cross sectional research and descriptive but analytical research design. Mwanza (2007) studied on the effect of derivative activities on exchange rate exposure on banks listed at Nairobi Exchange Nairobi, Kenya. The study found a positive relationship between bank stock return and long term and short-term exchange rates. The level of derivative activities was negatively associated with short term exchange rate exposure.

2.4.5 Sustainability of MFIs

The key dimensional factor in microfinance sustainability is financial sustainability. Financial sustainability is the ability to continue with the microfinance objectives without sustained donor aid (Dunford, 2009). Financial sustainability can also be explained by the ability of an MFI in covering operational as well growth expenses from income derived from its own activities (Nyamsogoro, 2010). To assess the sustainability of MFIs the researcher considered the operating income, current ratio, and return on asset. Woller and Schreiner (2002) studied on the relationship between depth of outreach and financial self-sustainability in USA. In their study they found that depth of outreach has a positive relationship with financial self-sustainability. The study finding put evidence against a wide spread belief that small loans are highly risky and associated with lower financial sustainability.

Ganka (2010) conducted a study to find out the impact of determinants of financial sustainability of MFIs at their startup and take off stage in Nigeria. The study reports that microfinance institutions have negative and significant relationship between breadth of outreach and financial sustainability.
The study concluded that increase in number of borrowers itself does not improve financial sustainability of microfinance institutions. Yenesew (2014) studied on determinants of financial performance on selected micro finance institutions in Ethiopia and tried to incorporate different variables from different perspective which is wider analysis of the MFIs performance. The research mainly focused on profitability rather than sustainability by taking ROA as a dependent variable which is contrary to proxies used by many researchers.

Kimando et al., (2012) carried a study on the factors influencing the sustainability of micro finance institutions in Murang’a Municipality. The study found that financial regulations, number of clients served, financial coverage and volume of credit transacted were the factors that highly affected the sustainability of microfinance institutions. The study looked at financial regulation as regulatory bodies such as banking act, building act, and Association of microfinance institutions act. The study concluded that the geographical coverage and regulatory bodies influence sustainability of Micro-finance institutions.

2.5 Summary and Research Gaps
Yenesew (2014) studied on determinants of financial performance on selected micro finance institutions in Ethiopia. Kimando et al., (2012) carried a study on the factors influencing the sustainability of micro finance institutions in Murang’a Municipality. From the review of relevant literature, most studies have not addressed financial determinants on sustainability of MFIs. This leaves some major gaps that need to be filled by further research undertakings. This study will therefore, be conducted in order to fill pertinent gaps in literature by studying the variables of financial determinants of MFIs sustainability in Nairobi County. The study will cover the following variables; lending rate, inflation and exchange rate.
CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction
This chapter covers the research design, target population, study population, data collection instruments, data collection procedures, pretesting of research tools, data processing and analysis.

3.2 Research Design
The study used a cross-sectional descriptive research design, aimed at establishing the effect of financial determinants on sustainability of MFIs. This research design described a subject often by creating a profile of a group of problems, people or events through the collection of data and tabulation of the frequencies on research variables or their interaction as indicated. This design is considered appropriate for the type of objective of this study as it enabled the researcher to describe the state of affairs as they exist without manipulation of variables which is the aim of the study.

3.3 Target Population
Target populations for the study were all the 49 registered MFIs in Nairobi County. The study considered Nairobi County because most of MFIs are located within Nairobi County which makes it more accessible for collection of data.

3.4 Study Population
The study used a census where all the 49 MFIs operating in Nairobi County as registered by AMFIs were considered. The study used census because it considers all the population which is ample and accurate information for data analysis.

3.5 Data Collection Instruments
The study used both primary and secondary data. The data collection instrument used in this study was semi-structured questionnaire. Secondary data was collected from the published audited financial statements of the MFIs for a period of four years using a record survey sheet.
3.6 Data Collection Procedures
The study used semi-structured questionnaires as data collection instrument. The types of questions used included both open and closed ended. In open ended questions, space was provided for relevant explanation by the respondents, thus giving them freedom to express their opinions. This method is considered effective to the study in that it creates confidentiality. Closed ended questions were used to ensure that the given answers are relevant. The researcher involved research assistants to help in distribution of the questionnaires to the targeted respondents.

3.7 Pretesting of Research Instruments
To ascertain the validity and reliability of questionnaire, pilot study was conducted. The pretest sample was 10% of the study population. Prior to the main study, the researcher carried out a pretest study among 5 respondents who were excluded from the main study. The pretest study respondents were selected randomly from the targeted population.

3.7.1 Reliability Test
The reliability of the questionnaire was evaluated through Cronbach’s Alpha coefficient which measures the internal consistency. Reliability was established for every objective in order to determine if research instrument would produce consistent result for the research. Cronbach’s alpha reliability coefficient ranges between 0 and 1. Reliability coefficient of 0 implies that there is no internal reliability while 1 indicated perfect internal reliability. The study used 0.7 as the cut-off value of reliability as recommended by Sekaran (2009).

3.7.2 Validity Test
Validity of research instrument is the quality of a data gathering instrument, which enables it to measure what it is supposed to measure. The study used content validity to review the researcher’s concept. The content validity yielded a logical judgment as to whether the instrument covers what it is expected. Content validity ensured that all respondents understand the items on the questionnaire.
3.8 Data Processing and Analysis

The data was analyzed according to variables and objectives of the study. Data was cleaned, coded, edited, classified and analyzed using Statistical Package for Social Science (SPSS, Version 21.0). Descriptive statistics tools namely mean, standard deviation, and variance were used to analyze quantitative data. Multiple regression analysis was used to establish the strength of the relationship between the dependent and independent variables. This analysis allowed the researcher to test several variables in relation to dependent variable. Analyzed data was presented by use of frequency distribution tables, pie charts and bar graphs. The regression model was used in this study is as shown in equation 3.1.

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon \]  

Where \( Y \) is the Sustainability of microfinance; \( \beta_0 \) is the constant/Y-intercept, \( X_1 \) is the lending rate, \( X_2 \) is the inflation rate, \( X_3 \) is the exchange rate, \( \varepsilon \) is an error term, \( \beta_1 \ldots \beta_4 \) are the regression coefficients of respective independent variable.

The overall significance of the model was tested using analysis of variance (ANOVA) by use of F statistics at 95% confidence level while the coefficient of determination \( R^2 \) was used to show the contribution of independent variable on the dependent variable. The study used both F-test and t-test. F-test was used to test the overall significance and t-test tested the statistical significance of regression model.
CHAPTER FOUR

FINDINGS AND DISCUSSIONS

4.1 Introduction
This chapter presents analysis of the findings of the study as set out in the research objective and research methodology. The study findings are presented on the financial determinants on sustainability exhibited by MFIs in Nairobi County.

4.2 Response Rate
The study targeted a total of 49 Microfinance institutions in Nairobi County. Out of this number, 33 respondents filled and returned the questionnaires. This translates to 67.35% response rate. This is in line with Mugenda (2003) assertion that a response rate of 50% is adequate, 60% good, and 70% rated very good for data analysis.

4.3 Pretesting of Research Instruments
The study sought to establish reliability of the research instruments for consistency of the results.

Table 4.1: Pretest of Research Instruments

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cronbach’s Alpha Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lending rate</td>
<td>0.74</td>
</tr>
<tr>
<td>Inflation rate</td>
<td>0.79</td>
</tr>
<tr>
<td>Exchange rate</td>
<td>0.76</td>
</tr>
</tbody>
</table>

4.4 Background Information
The study sought the background information of respondents in respect to their gender, education level, working experience, existence of organization, services offered and the determinant of interest rates in the MFIs.

4.4.1 Gender of the Respondents
The study sought how respondents were distributed according to the gender. Figure 4.1 shows the results. The majority (55%) of the respondents were male while 45% of the respondents were female.
The findings imply that the views expressed in the study are equally distributed and can be taken as representative of the opinions of both genders as regards to the impact of financial determinants and sustainability of MFIs in Nairobi County. This indicated that both genders had knowledge on the impact of financial determinants and sustainability of MFIs.

Figure 4.1: Gender of the Respondents

4.4.2 Level of education
The study sought to establish the education level of the respondents. The distribution of the level of education of the respondents is presented in Table 4.2. It is evident from the study that 68% of the respondents had attained undergraduate and 32% attained postgraduate degrees. The study was carried out in different classes of microfinance institutions who hire staff dependent on each recruitment policies. It was therefore expected that the employees could have different qualification depending on the policies adopted by different Institutions. The level of education could also influence the understanding of financial determinants in these Institutions. These results show that the respondents had a variety of knowledge and thus knowledgeable to contribute positively in this study.
Table 4.2: Level of Education

<table>
<thead>
<tr>
<th>Level of Education</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate</td>
<td>22</td>
<td>68</td>
</tr>
<tr>
<td>Post graduate</td>
<td>11</td>
<td>32</td>
</tr>
<tr>
<td>Total</td>
<td>33</td>
<td>100</td>
</tr>
</tbody>
</table>

4.4.3 Work Experience

The study sought to establish the period which the respondents had worked in the organization. The results are presented in Figure 4.2. The study found that 31% had 3 to 6 years work experience, respondents 27% had worked from 6 years and above, while 15% of the respondents had work experience in the organization of up to 3 years. The study findings indicate that majority of the respondents had work experience below 10 years. This implies that the respondents had adequate experience and knowledge on MFIs operations.

Figure 4.2: Respondents by Work Experience

4.4.4 Number of Years MFIs has Operated

The period of time the MFIs have been in operation indicates the performance and the level of experience. The study sought to establish the number of years the MFIs had been in operation. The results presented in Figure 4.3 reveal that a significant majority (43%) of the respondents indicated that their MFI had operated up to 5 years, 6-10 years (42%), 11-15 years (12%), while 16-20 years (3%). This shows that most of the MFIs had been in operation for 10 years and therefore the MFIs had sufficient information on the impact of financial determinants and sustainability.
4.4 Core Services Offered by MFI

The study further sought to establish the core services that are offered by different MFIs. The results are as shown in Table 4.3. The majority of respondents (82%) indicated credit provision, (13%) deposit and (5%) consultation/advisory. This shows that most of the MFIs are basically engaged in credit provision. This is because of the need to avail affordable credit to the poor to promote their growth.

<table>
<thead>
<tr>
<th>Services Rendered by MFIs</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit</td>
<td>27</td>
<td>82</td>
</tr>
<tr>
<td>Deposit</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>Consultancy/Advisory</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>33</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

4.4.6 Interest Rate charged by MFIs

The study sought to establish who determine the interest rate charged by the MFIs. The response is shown in Table 4.4. The majority of respondents (92%) indicated that the interest rates charged by MFI’s were determined by prevailing market rates, 3% indicated that they were determined by members, while 3% were determined by the CBK. This shows that the interest rates charged by the MFIs are determined by the prevailing market rates through the regulation of relevant authorities.
Table 4.4: Interest Rate charged by MFIs

<table>
<thead>
<tr>
<th>Determinant of Interest Rate</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Members</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Prevailing market rate</td>
<td>31</td>
<td>92</td>
</tr>
<tr>
<td>CBK</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>33</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

4.5 Descriptive Findings and Discussions

The study sought the opinion of the respondents in regard to lending rate, inflation rate, exchange rate and sustainability of MFIs. The responses were on a five points Likert scale where 5, 4, 3, 2, and 1 represented strongly agree, agree, neutral, disagree, and strongly disagree respectively. Their responses were assessed and analyzed. In this section, the findings in respect to the aforementioned opinion are presented in form of means and standard deviations.

4.5.1 Lending Rates

The study sought to find out whether there is any policy in place against interest rate ceiling. Respondents totaling to 82% indicated that there is a policy in place against interest rate ceiling. The results are presented in Figure 4.4. The respondents further expounded on how the policy on interest rate ceiling affects the sustainability of MFIs. The study revealed that policy has boosted credit provision as customers are assured of loan cost hence good for planning purposes. The study further found that the policy has generated a gap between the banks and MFIs rates.

Hence banks have increased the requirements for advancing loans creating a market for MFIs to grow and expand. In addition the study revealed that the policy affects the financial performance of MFIs thus affecting their sustainability. This view is consistent with a study by Mwangi (2012) which concluded that high interest rates charged on borrowings negatively affected the financial performance as well as investment levels.

Similarly, Esipisu (2012) argues that interest rate ceilings can lead to less transparency about the costs of credit, as lenders cope with interest rate caps by adding other fees to their services.
Figure 4.4: Effects of policy on interest rate ceiling and sustainability of MFIs

4.5.1.1 Aspects of Lending rate as affecting the Sustainability of MFIs
The results on respondents’ opinions on lending rate on sustainability of MFIs are presented in Table 4.5

Table 4.5: Aspects of Lending rate as affecting the Sustainability of MFIs

<table>
<thead>
<tr>
<th>Lending Rate Statement</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest rate controlled by CBK adversely affect profitability of MFIs</td>
<td>33</td>
<td>2</td>
<td>5</td>
<td>4.39</td>
<td>.659</td>
</tr>
<tr>
<td>Liquidity position of an organization adversely affects its sustainability</td>
<td>33</td>
<td>2</td>
<td>5</td>
<td>3.73</td>
<td>.876</td>
</tr>
<tr>
<td>Interest rate determine supply and demand for credit</td>
<td>33</td>
<td>1</td>
<td>5</td>
<td>4.24</td>
<td>.867</td>
</tr>
</tbody>
</table>

The results in Table 4.5 revealed that interest rate controlled by CBK adversely affect profitability of MFIs (mean = 4.39; std. dev 0.659). Similarly, interest rate determines supply and demand for credit (mean = 4.24; std. dev 0.867). In addition liquidity position of organization adversely affects sustainability (mean = 3.73; std. dev 0.876).
The study findings imply that controls implemented by the Central Bank of Kenya impact on the profitability which affects the sustainability. These controls are the ceilings fixed by the Central Bank on the lending rate. When the lending rate is brought to minimum the MFIs are able to generate enough income to meet their operating expenses. Hence high lending rate result to low demand for credit. Likewise low lending rate results to high credit supply. The lending rate determines whether the organization is liquid enough to sustain its daily operations. Therefore the government should come up with optimal policies on lending rate to benefit the lender and the borrower. The study concurs with Keynes (1936) that interest rate is determined by the interaction of supply and demand of money. The study findings also agree with King (2009) that by altering interest rates, the government Institution is able to affect the interest rates faced by everyone who wants to lend and borrow for economic investment.

4.5.2 Inflation rate
The study sought to find out whether inflation rate affects sustainability of MFIs. The results are presented in Figure 4.5. Majority of the respondents (85%) indicated that inflation rate affects sustainability of MFIs. The respondents further added that high inflation rate lowers the borrowing power of the borrowers which in turn leads to low lending by the MFIs hence less interest income. The study further found that during high inflation period debt recovery by the MFIs becomes a major problem because high prices of goods and services drain the pockets hence affecting repayment abilities of the borrowers. In addition, as the rate of inflation increases, there is reduction in the real value of money thus leading most people to depend on loan facilities to sustain their standard of living which boost interest income of MFIs. The study further found that during inflation, supply of money is high and as a result Central Bank of Kenya enforces regulations to the financial institutions which make credit difficult to give reducing the income received for MFIs. Moreover, high inflation rate is unfavorable to the entire economy as well as MFIs because it attribute to less value of money.

The study is in line with Chirwa and Mlachila (2004) who concluded that inflation reflects a reduction in the purchasing power per unit of money which is a loss of real value in the medium of exchange and unit of account within the economy.
4.5.2.1 Aspect of Inflation rate as affecting the Sustainability of MFIs

The study sought to ascertain the extent to which the respondents agree with a given aspects of inflation rate as affecting the sustainability of MFIs. The findings are presented in Table 4.6.

Table 4.6: Aspect of Inflation rate as affecting the Sustainability of MFIs

<table>
<thead>
<tr>
<th>Inflation Rate Statement</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply and demand of money impact on inflation levels affecting the economy</td>
<td>33</td>
<td>2</td>
<td>5</td>
<td>4.21</td>
<td>.650</td>
</tr>
<tr>
<td>Demand and supply of commodities in the economy determines inflation rate</td>
<td>33</td>
<td>2</td>
<td>5</td>
<td>3.73</td>
<td>.944</td>
</tr>
<tr>
<td>Inflation rate affects MFIs borrowing and lending</td>
<td>33</td>
<td>1</td>
<td>5</td>
<td>3.85</td>
<td>.939</td>
</tr>
</tbody>
</table>

Table 4.6 shows that majority of respondents agreed that supply and demand of money impact on inflation levels affecting the economy (mean = 4.21; std. dev 0.650). Further, inflation rate affects MFIs borrowing and lending (mean = 3.85; std. dev 0.939).
In addition the study found that demand and supply of commodities in the economy determines inflation rate (mean = 3.73; std. dev 0.944). This shows that when the inflation rate is high, lending levels are usually weak and low. However, borrowers may not find it attractive to borrow at high inflation rate but attractive for the lenders. The study finding indicate that the flow of money in the economy impact on inflation rate which affects the sustainability of MFIs. This is because the level of inflation in the economy impact on the lending power of the MFIs. The finding is consistent with a study by Corb (2012) which concluded that inflation rate is controlled by the government to boost economic activities.

**4.5.3 Exchange Rate**

The study sought to ascertain whether exchange rate affects sustainability of MFIs in Nairobi County. The results are presented in Figure 4.6. Respondents totaling to 64% are of the opinion that exchange rate affects sustainability of MFIs and reflects the state of a country’s economy. The respondents further expounded that poor economic conditions result into high rate of exchange which affects the purchasing power of Kenya Shilling. This kind of economic condition reduces the income of borrowers affecting the ability to save and borrow from MFIs. The study found that a strong currency allows sustainable lending interest rate allowing for ease of businesses operations. This is in line with Mwanza (2007) who concluded that the level of derivative activities is associated with the market perception of banks interest rates and exchange rate risk. Conclusively high levels of exchange rates lead to low performance in MFIs.

![Figure 4.6 Effect of Exchange rate and Sustainability of MFIs](image-url)
4.5.3.1 Aspect of Exchange rate as affecting the Sustainability of MFIs

The study further sought to determine the extent to which the respondents agreed or disagreed with the statements provided in respect to exchange rate on sustainability of MFIs. The findings are displayed in Table 4.7

**Table 4.7: Aspect of Exchange rate as affecting the Sustainability of MFIs**

<table>
<thead>
<tr>
<th>Exchange Rate Statement</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>High external debt finance increases MFI liquidity risk</td>
<td>33</td>
<td>2</td>
<td>5</td>
<td>3.64</td>
<td>.994</td>
</tr>
<tr>
<td>Variations in exchange rate adversely affects MFI lending</td>
<td>33</td>
<td>2</td>
<td>5</td>
<td>3.64</td>
<td>.742</td>
</tr>
<tr>
<td>power</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expectation and speculation of exchange rate affects MFI</td>
<td>33</td>
<td>2</td>
<td>5</td>
<td>3.45</td>
<td>.938</td>
</tr>
<tr>
<td>operations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results in Table 4.7 shows that respondents agreed that high external debt finance increases the MFIs liquidity (mean = 3.64; std. dev 0.994). In addition, whether variations in exchange rate adversely affects the MFIs lending power (mean = 3.64; std. dev 0.742). It is also evident that expectation and speculation of exchange rate affects MFIs operations (mean = 3.45; std.dev 0.938). The study revealed that high external debt finance increases interest rate which results to the liquidity risk of MFIs. This implies that an increase in government debt increases interest rate. The study found that variations in exchange rate affect the MFIs lending ability in that the expected income cannot be predicted easily. The study is in agreement with Sargent and Wallace (2001) who established that high interest rate leads to a reduction in demand for money, increase in price level and an increase in the currency value. The study concludes that high rate of exchange impact on the general economy reducing the investment for the MFIs which makes them unsustainable.

4.5.4 Sustainability of MFIs

The study sought the opinions of the managers regarding sustainability of MFIs in Nairobi County. The results are analysis as shown in Table 4.8.
The study revealed that sustainable organization has the ability to pay off debts (mean = 4.24; std. dev 0.708). Similarly high operating income sustains an organization (mean = 4.18; std. dev 0.769). The study found that funds from donors do not guarantee the performance of an organization (mean = 3.76; std. dev 0.830). The study findings show that for an organization to remain sustainable it should be able to meet all the operating expenses and pay off debts. In addition it should have enough cash flow from its current assets to avoid relying on donor funding. The study found that sustainability in MFIs is hindered by high operating cost, challenging regulations, lack of support from the government, competition from other institutions lending to customers among others. The study agrees with Nyamsogoro (2010) that financial sustainability can be explained by the ability of a Microfinance Institution in covering operational as well growth expenses from income derived from its own activities. This is in line with Dunford (2009) asserted that financial sustainability is the ability to continue with the microfinance objectives without sustained donor aid.

### 4.5.4.1 Factors which hinder sustainability of MFIs

The study sought to establish factors hindering sustainability of MFIs. The findings were summarized and presented in figure 4.7. The figure indicates that majority (86%) of the respondents concurred that inadequate capital to finance operations contributed negatively to the sustainability of MFIs.

### Table 4.8: Descriptive statistics for MFIs sustainability

<table>
<thead>
<tr>
<th>Sustainability Statement</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>High operating income</td>
<td>33</td>
<td>2</td>
<td>5</td>
<td>4.18</td>
<td>.769</td>
</tr>
<tr>
<td>Sustainable organization</td>
<td>33</td>
<td>2</td>
<td>5</td>
<td>4.24</td>
<td>.708</td>
</tr>
<tr>
<td>Funds from donors do not</td>
<td>33</td>
<td>2</td>
<td>5</td>
<td>3.76</td>
<td>.830</td>
</tr>
</tbody>
</table>

The study agreed with Nyamsogoro (2010) that financial sustainability can be explained by the ability of a Microfinance Institution in covering operational as well growth expenses from income derived from its own activities. This is in line with Dunford (2009) asserted that financial sustainability is the ability to continue with the microfinance objectives without sustained donor aid.
This implies that if a MFI does not have sufficient capital, it will be forced to rely on loans in order to facilitate its operations. The MFI will also not be able to offer credit facilities or have surplus funds to invest in order to generate income.

Most (74\%) of the respondents also indicated that political, economic, legal and environmental factors affected the MFIs sustainability. Each factor has its own significance and affects the MFIs in different ways. The legal factors are the regulations implemented by the government to benefit the borrower and the MFIs. The government come up with optimal policies on lending rate to enable the MFIs fulfill their social goals as well as being sustainable.

Majority (68\%) of the respondents also indicated that rapid change in technology hindered the MFIs sustainability. When the employees do not have sufficient knowledge and skills to handle changes a rising in technology the daily operations may fail resulting to loss of business. Likewise, if the management does not have adequate skills it can lead to poor management which affects the MFIs sustainability. The respondents (52\%) also indicated that competition from other financial institutions lending to customers hindered the sustainability if MFIs. This implies that an MFI need to engage ways to achieve marketable sustainability.

The findings are consistent with other studies which found that internal and external factors affected the sustainability of MFIs (Wolday & Anteneh 2013). The studies also revealed that each factor has its own significance and can be controlled in different ways to achieve the sustainability of the MFIs.

| Table 4.9 Factors hindering sustainability of MFIs |
|---------------------------------------------|---------|---------|
| Inadequate capital                        | Yes (%) | No (%)  |
|                                          | 86      | 14      |
| Rapid change in Technology                | 68      | 32      |
| Competition                               | 52      | 48      |
| Political, Economic, Legal and Environmental factors | 74      | 26      |
4.6 Inferential Findings and Discussions

This section presents the relationship between the independent variables and the dependent variable and also the influence of the independent variable on the dependent variable. Therefore, the section outlines the results of both correlation and multiple regression analysis.

4.6.1 Relationship between Lending rate and sustainability of MFIs

The study sought to determine the relationship between lending rate and sustainability of MFIs in Nairobi County. The results of correlation analysis are shown in Table 4.10.

Table 4.10 Correlation between Lending rate and sustainability

<table>
<thead>
<tr>
<th>Lending rate</th>
<th>Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainability</td>
<td>-.570**</td>
<td>.001</td>
<td>33</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.05 level (2-tailed).

Results in Table 4.10 reveal there is a negative but significant relationship between lending rates and sustainability of MFIs (r = -.570, P < 0.05). This implies that a change in lending rates by the government affects sustainability of MFIs. The study findings agree with Kadri (2012) which found that for MFIs to balance their main objectives of lending and sustainability, lending interest rates must be handled effectively and the MFIs must behave in a way that their potential customers are attracted and retained.

4.6.2 Relationship between Inflation rate and Sustainability

The study sought to establish the relationship between inflation rate and sustainability in Nairobi County. The results of correlation analysis are as shown in Table 4.11.

Table 4.11 Correlation between Inflation rate and sustainability

<table>
<thead>
<tr>
<th>Inflation rate</th>
<th>Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainability</td>
<td>-.504*</td>
<td>.003</td>
<td>33</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.05 level (2-tailed).

The results in Table 4.11 indicate that the relationship is negative and significant (r = -.504; p < 0.05).
This shows that inflation affects the purchasing power of the borrowers leading to an effect on the lending ability of MFIs. Therefore, the result implies that a change in inflation rate impact on MFIs sustainability. The study agrees with Khan and Satter (2014) which concluded that as inflation rate increases return on assets and net interest margin decreases. The results show a negative relationship meaning that as inflation rate increases the returns decreases. The study noted that the negative impact of inflation on sustainability indicated that lending levels are usually weak and low in the presence of higher inflation rates.

4.6.3 Relationship between Exchange rate and sustainability

The study sought to establish the relationship between exchange rate and sustainability. The correlation results are as shown in Table 4.12.

<table>
<thead>
<tr>
<th>Exchange rate</th>
<th>Pearson Correlation</th>
<th>Sustainability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sig. (2 - tailed)</td>
<td>-.709**</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>33</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.05 level (2-tailed).

As shown in Table 4.12 the correlation results between exchange rate and sustainability is negative and significant ($r = -0.709; p < 0.05$). The relationship imply that an increase in exchange rate result into a decrease in return. The study validates previous study done by Bergen (2010) which found that increased value of a countries currency increases the interest rate lowering income received.

4.7 Regression Analysis

Regression analysis usually enables confirmation of relationships between the independent and dependent variables. $R^2$ was used to measure the strength of the relationship between independent and dependent variable. The results in Table 4.13 show that the adjusted coefficient of determination ($R^2$) is 52.9% of MFIs in Nairobi County. This implies that sustainability of MFIs can be explained by 52.9% of the independent variables score.
Table 4.13 Model Summary

<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></td>
<td>.757a</td>
<td>.573</td>
<td>.529</td>
<td>.68685</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Exchange rate, Lending rate, Inflation rate

4.7.1 Analysis of Variance

Analysis of Variance was used to test the significance of the relation of the study variables. The results of the ANOVA indicated in Table 4.14 show that the relationship between the independent variables and dependent variable is significant (F = 12.986, P value<.05). This reveals that the independent variables significantly affect the sustainability of MFIs. The independent variables (lending rate, inflation rate and exchange rate) are therefore statistically acceptable as useful in predicting the sustainability of MFIs in Nairobi County.

Table 4.14 ANOVA

<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>1 Regression</td>
<td>18.379</td>
<td>3</td>
<td>6.126</td>
<td>12.986</td>
<td>.000b</td>
</tr>
<tr>
<td>Residual</td>
<td>13.681</td>
<td>29</td>
<td>.472</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>32.061</td>
<td>32</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Return on assets
b. Predictors: (Constant), Exchange rate, Lending rate, Inflation rate

4.7.2 The Regression Coefficients of the Overall Model

Table 4.15 shows the overall significant test results for the hypothesized research model. The results provided the coefficients of the variables used in the study which were lending rate, inflation rate and exchange rate.
### Table 4.15 Coefficients of Overall Model

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>18.040</td>
<td>2.195</td>
</tr>
<tr>
<td>Lending rate</td>
<td>-.339</td>
<td>.217</td>
</tr>
<tr>
<td>Inflation rate</td>
<td>-.149</td>
<td>.197</td>
</tr>
<tr>
<td>Exchange rate</td>
<td>-.828</td>
<td>.227</td>
</tr>
</tbody>
</table>

The regression model in this study is as shown in equation 4.1.

\[ Y = 18.040 - 0.339X_1 - 0.149X_2 - 0.828X_3 \]  

Equation 4.1

The findings indicates that the constant term is 18.040 and significant, implying that holding the variables under consideration to zero, could result to 18.040 units of returns to MFIs. This could be due to other factors not considered in this study. The regression coefficient for the lending rate was -.339 and significant \( p<.05 \). This indicates that an increase in lending rate by 1 unit results to a decrease of 0.339 units on sustainability. This implies that high interest rate charged to borrowers reduces the interest income received by MFIs which affect their sustainability. This view is consistent with a study by Mwangi (2012) which concluded that high interest rates charged on borrowings negatively affected the financial performance as well as investment levels.

The coefficient for inflation rate was -.149 and significant \( p<.05 \). This indicates that an increase in inflation rate by 1 unit results to a decrease of 0.149 units of sustainability. It implies that high inflation rate increases interest rate which lowers the borrowing powers of borrowers hence reducing the interest income of MFIs. The study is in line with Chirwa and Mlachila (2004) who concluded that inflation reflects a reduction in the purchasing power per unit of money which is a loss of real value in the medium of exchange and unit of account within the economy.
The coefficient for exchange rate was -.828 and significant (p<.05). This indicates that an increase in exchange rate by 1 unit results to a decrease of 0.828 units of sustainability. This implies that an increase in foreign exchange rate lowers the earnings of MFIs rendering them unsustainable. The study is in agreement with Elbadawi (2012) which established that high exchange rates in the economy greatly affected the financial performance as well as investment levels.
CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction
In this chapter the summary of the research findings are outlined. The conclusions drawn from the findings are also covered. The recommendations relative to the findings of the study are also provided. In addition, further areas of research are suggested.

5.2 Summary
The study finding are summarized and presented in this section. The summary captures both the descriptive and inferential findings.

5.2.1 Lending Rate and Sustainability
The study established that interest rate controlled by Central Bank of Kenya highly affected the profitability and also determined the demand and supply for credit in the MFIs. Liquidity position slightly impact of the sustainability. This is because interest rate is the main source of income to the MFIs. The correlation results indicated that relationship of lending rate and sustainability of MFIs is negative and statistically significant.

5.2.2 Inflation Rate and Sustainability
It was agreed that supply and demand of money impact on inflation levels affected the economy. Further, it was noted that inflation rate affected borrowing and lending by the MFIs. However, some respondents agreed that inflation rate is also affected by demand and supply of commodities. The findings indicated that the relationship between inflation rate and sustainability of MFIs was negative and significant.

5.2.3 Exchange Rate and Sustainability
The findings indicated that high external debt finance increases MFIs liquidity risk. In addition, some respondents agreed that variations in exchange rate affected the lending power in MFIs. It was further noted that expectation and speculation of exchange rate affected the operation of MFIs. The relationship between exchange rate and sustainability of MFIs was negative and significant.
5.2.4 Financial determinants and Sustainability
The study ascertained that high operating income sustains an organization. In addition, it was agreed that sustainable organizations pay off their debts. Further to that, respondents also agreed that funds from donors do not guarantee an organization’s performance. The multiple regression analysis revealed that sustainability of MFIs in Nairobi County was as a result of lending rate, inflation rate and exchange rate. The analysis of variance indicated that the influence of Lending rate, inflation rate, and exchange rate on sustainability of MFIs was negative and significant. Further, multiple regression results indicated that the aforementioned economic factors applied significantly influenced sustainability of MFIs. However, all the three financial determinants are equally important economic factors that influence sustainability of MFIs in Nairobi County.

5.3 Conclusions

5.3.1 Lending Rate and Sustainability
The study concluded that changes in lending rate by the government affects sustainability of MFIs, thus interest rates regulation impact on the level of sustainability among MFIs in Nairobi County. In addition, the study found that increasing the interest rate reduces the return thus the sustainability. This is because the borrowers shy away from high interest rate offered by the MFIs and run to other formal and informal institutions. Hence, the lower the lending interest rates the more the returns because it attracts more borrowers. Altering interest rates, the government institution is able to affect the interest rates faced by everyone who wants to borrow money for economic investment. MFIs can change rapidly in response to changes in interest rates regulation and the total output. The study concluded that it is important for interest rate to be regulated for sustainable microfinance institutions.

5.3.2 Inflation Rate and Sustainability
The study concluded that high inflation rate lowers the borrowing power of the borrowers. This leads to low lending by the MFIs hence less interest income received. As a result the MFIs charge a number of fees to the loan applicants which end up exaggerating the final interest rate which lowers the expected earnings.
However, inflation rate is affected by the economic factors which reversely impact on the sustainability of MFIs. The study concluded that inflation on MFIs sustainability indicated that lending levels are usually weak and low in the presence of higher inflation rates.

5.3.3 Exchange Rate and Sustainability
It was further inferred that poor economic conditions results into high rate of foreign exchange which reduces the borrowing powers by the MFIs. This reduces the investment levels in the economy and results to limited funds to borrow by the MFIs. The study further concluded that the premium or discount in foreign exchange impacts on the foreign capital thus the sustainability of MFIs. Exchange rate is detrimental in determining the MFIs sustainability and as such noted that the better the foreign currency value the more the investment. Therefore, exchange rate should be considered as one of the financial determinant for the purpose of MFIs sustainability.

5.4 Limitations of the Study
The study was dealing with confidential financial information of MFIs, cooperation to give the required information had been anticipated as one of the limitation. To counter this, the researcher assured the respondents that the information provided would be treated with strict confidence and was to be used for the academic purpose only. The secondary data was from audited statement of financial positions of microfinance institutions (AMFI), CBK and World Bank websites. The data may be management tailored to suit their objectives and not reflect the true position.

5.5 Recommendations
5.5.1 Recommendations to the findings from Lending Rate
The government and other policymakers should come up with interest rates policies that will make MFIs more sustainable. Interest rates policies that are detrimental towards MFIs sustainability should be abolished. Interest rates policies in place should make the cost of borrowing loans from MFIs more affordable to most borrowers. This means the government should moderate the regulation of lending interest rate by introducing the ceilings.
5.5.2 Recommendations to the findings from Inflation Rate

The government should implement measures to bring the inflation rate to optimal level. This implies that the government should control the price of goods and services to curb a rise in inflation which drain the savings of the masses. The authorities ought to make provisions to counteract the unexpected economic drifts which may arise and affect the market price of commodities.

5.5.3 Recommendations to the findings from Exchange Rate

Microfinance is an effective methodology for alleviation of poverty among the disadvantaged sections. In order to ensure MFIs sustainability is enhanced, the government should strengthen the shilling against the foreign currency in order to lower the rate of exchange and boost the investment level. Microfinance institutions should be able to invest from equity capital and avoid unnecessary borrowing in order to remain sustainable.

5.6 Suggestion for Further Research

Research should be conducted further on financial determinants of MFIs sustainability to identify more factors such as political, social that determine the sustainability of MFIs. Further research should be conducted on policy framework that continues to affect sustainability of MFIs, the study should recommend how the government can change policies which should make MFIs more sustainable. The study narrowed on financial determinant of MFIs sustainability, further research should be conducted to incorporate other financial institutions.
REFERENCES


Moore, W. & Craigwell, R. (2010). *Market Power and Interest Rate Spreads in the*


APPENDICES

Appendices I: QUESTIONNAIRE

QUESTIONNAIRE FOR: INTEREST RATE REGULATION AND SUSTAINABILITY OF MICROFINANCE INSTITUTIONS IN NAIROBI COUNTY, KENYA

QUESTIONNAIRE No... Date...../...../2016

Kindly answer the following questions by ticking in the appropriate box or filling the spaces provided. Information obtained will be used for academic purposes only and will therefore be handled with the highest level of confidentiality. Your corporation will be highly appreciated.

SECTION A: BACKGROUND INFORMATION

1) What is your gender?
   i) Female ( )
   ii) Male ( )

2) What is the education level?
   i) Undergraduate ( )
   ii) Post graduate ( )
   iii) Others; Specify................................................................

3) How long have you worked in the organization?
   i) Up to 3 years ( )
   ii) 3-6 years ( )
   iii) 6-10 years ( )
   iv) Above 10 years ( )
5) How long has the organization been in existence?
   i) Up to 5 Years  
   ii) 6 - 10 Years  
   iii) 11 - 15 Years  
   iv) 16 - 20 Years  

6) What are the core services offered by your MFI?
   i) Credit provision  
   ii) Deposit taking  
   iii) Consultancy  
   iv) Others; Specify................................................................

8) Who determine the interest rates charged by MFIs?
   i) Members  
   ii) Prevailing market rate  
   ii) Level of Subsidy from donors  

SECTION B: LENDING RATE

6) a). Is there any policy in place against interest rate ceiling?

   Yes (  )
   No (  )
   Don’t know (  )

If yes, comment on how it affects MFIs sustainability ........................................
..........................................................................................................
..........................................................................................................

b). To what extent do you agree with the following aspects of lending rate as affecting
the sustainability of MFIs in Nairobi County?

<table>
<thead>
<tr>
<th>Statement</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lending Interest rate controlled by CBK adversely affect the profitability of MFIs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liquidity position of an organization adversely affect its sustainability</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest rate determine supply and demand for credit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION C: INFLATION RATE

7). a) Does inflation rate affects sustainability of MFIs?

Yes ( )

No ( )

Don’t know ( )

If yes, explain ………………………………………………………………………………………………
……………………………………………………………………………………………
……………………………………………………………………………………………

b). To what extent do you agree with the following aspects of Inflation rate as affecting
the sustainability of MFIs in Nairobi County?

<table>
<thead>
<tr>
<th>Statement</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Not sure</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>1</td>
<td>Supply and demand of money impact on inflation levels affecting the economy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Demand and supply of commodities determine the level of inflation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Inflation rate affects the power of borrowing by the borrowers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION D: EXCHANGE RATE

8). a) Does exchange rate influence sustainability of MFIs?

Yes ( )

No ( )

Don’t know ( )

If yes, briefly explain……………………………………………………………………..
……………………………………………………………………………………………
…………………………………………………………………………………………..

b). To what extent do you agree with the following aspects of Exchange rate as affecting the sustainability of MFIs in Nairobi County?

<table>
<thead>
<tr>
<th>Statement</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>High external debt finance increases MFI liquidity risk</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MFIs Lending power is affected by variations in exchange rate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expectation and speculation of exchange rate adversely affects the MFIs operations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**SECTION E: SUSTAINABILITY OF MFIs**

9) a). To what extent do you agree with the following aspects of financial determinants as affecting the sustainability of MFIs in Nairobi County?

<table>
<thead>
<tr>
<th>Statement</th>
<th>5</th>
<th>4</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not sure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High operating income sustains an organization</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustainable organizations have ability to pay off debts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Funds from donors do not guarantee the organization’s performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

b). From your experience, what hinders sustainability of MFIs?

.................................................................................................................................................................
.................................................................................................................................................................
.................................................................................................................................................................
.................................................................................................................................................................

Thank you for your responses
Appendix II: List of Microfinance Institutions in Nairobi County 2015

BANKS (Commercial banks under taking micro finance services)

1. SidianBank (former K-Rep bank)
2. Equity Bank
3. Co-operative Bank
4. Kenya Post Office Savings Bank
5. Jamii Bora Bank

WHOLESALE MFIs

1. Jitegemee Trust
2. MESPT
3. Stromme Microfinance East Africa Ltd

MICROFINANCE BANK

1. Kenya Women Microfinance Bank Ltd
2. Rafiki Microfinance Bank Ltd
3. Faulu Kenya Microfinance Bank Ltd
4. SMEP Microfinance Bank Ltd
5. Remu Microfinance Bank Ltd
6. Uwezo Microfinance Bank Ltd
7. Century Microfinance Bank Ltd
8. Sumac Microfinance Bank Ltd
9. U&I Microfinance Bank Ltd
10. Choice Microfinance Bank Ltd
11. Caritas Microfinance Bank Ltd
12. Daraja Microfinance Bank Ltd

RETAIL MFIs

1. Eclof Kenya
2. Vision Fund Kenya Ltd
3. SISDO
4. Micro Africa Ltd (Letshego)
5. Opportunity Kenya
6. Fusion Capital Ltd
7. Jitegemea Credit Scheme
8. AAR Credit Services
9. Pamoja Women Development Programme
10. Juhudi Kilimo Co. Ltd
11. Musoni Kenya Ltd
12. Select Management Services Ltd
13. Molyn Credit Ltd
14. Greenland Fedha Ltd
15. Youth Initiatives – Kenya (YIKE)
16. Platinum Credit Limited
17. Springboard Capital
18. Focus Capital Limited
19. Samchi Credit Limited
20. Habitat for Humanity Kenya
21. Real People
22. Speed Capital Ltd
23. Micro Mobile Ltd
24. Ushindi Bora Ltd
25. Sevenstar Capital Services Ltd
26. Hand in Hand Eastern Africa
SACCOS

1. Unaitas Sacco Society Ltd
2. Stima Sacco Society Ltd

DEVELOPMENT INSTITUTIONS

1. Swiss Contact