EFFECTS OF MACROECONOMIC FACTORS ON THE FINANCIAL PERFORMANCE OF DEPOSIT TAKING MICRO-FINANCE INSTITUTIONS IN KENYA

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DECLARATION

I hereby declare that this research project is presentation of my original research work. Wherever contributions of others are involved, every effort is made to indicate this clearly, with due reference to the literature, and acknowledgement of collaborative research and discussions and that it has not been submitted anywhere for any award.

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In my capacity as supervisor of the candidate’s research project, I certify that the above statements are true to the best of my knowledge

Supervisor
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DEDICATION

Special dedication goes to my lovely wife Ruth Jackline Njeri, whose hard work and prayers has seen me through the educational cycles and to our son Levi Njuguna whose presence brought joy and motivation to carry on with studies.
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ABSTRACT

Kenya, like any other developing country is being faced by numerous challenges among them high poverty levels, illiteracy and lack of proper policies to curb these many challenges. In fact, majority of the household in Kenya live below poverty line and dwell in slums where they face serious challenges. One of the key industries in the Kenyan economy and all other economies in developing countries is the microfinance sector which has recently attracted a lot of attention.

The world today is also becoming a global village with the advancement in technology and liberalization. As a result, macroeconomic variables in the country have been so flexible as compared to some years back. These unpredictable changes in the macroeconomic variables and the reducing returns being earned by the micro finance institutions (MFI) were the main driver for this study whereby it sought to find out the effect of these macro-economic variables on micro finance returns.

To achieve the objective of the study, the deposit taking micro finances in Kenya were used. It was found that MFI financial performance could be determined to a very large extent by three macro-economic variables, namely economic growth (measured by GDP), interest rates and inflation. It was found that increase in GDP led to increased MFI performance as measured by return on assets (ROA), increase in interest and rates led to reduce ROA. The numbers of years the MFIs have been operating were also found to positively affect MFIs ROA where MFIs in operation for long were having consistently high ROA.

This revelation gives regulators vital information and if they want to boost micro finance industry, they should check on the three macro-economic variables which will instead lead to high employment levels and lead to increased living standards.
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DTM- Deposit Taking Microfinance
GDP- Gross Domestic Product
MFI- Micro Finance Institutions
MIX- Microfinance Information Exchange
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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study
Micro-finance institutions (MFIs) – refers to the financial institutions formed with sole aim of giving small scale businessmen and women loans for the capital to start businesses. The MFIs have stepped in for the purposes of provision of financial services to low-income clients or solidarity lending groups including consumers and the self-employed, who traditionally lack access to banking and related services (Gatome & Thankom, 2003).

Microcredit and microfinance has been used for more than five decades in the field of development, from the 1950s through to the 1970s, the provision of financial services by governments or donors was mainly in the form of subsidised rural credit programmes but according to Robinson (2001) and Otero (1999) microfinance came into prominence starting 1970s. However they could not reach poor rural households and reported high loan defaults (Robinson, 2001). Robinson states that the 1980s represented a turning point in the history of microfinance in that Microfinance Institutions (MFIs) such as Grameen Bank began to show that they could provide small loans and savings services profitably on a large scale in Bangladesh. Thereafter subsidies were discontinued, and hence were commercially funded and fully sustainable, and could also attain wide outreach to clients (Robinson, 2001).

It was also at this time that the term “microcredit” came to prominence in development (MIX3, 2005). The major difference between microcredit and the subsidised rural credit programmes of the 1950s and 1960s was that microcredit insisted on repayment, charged interest rates that covered the cost of credit delivery. They also focused on clients who were dependent on the informal sector for credit (ibid.). By that time, it was clear for the first time that microcredit could provide large-scale outreach profitably.

In the 1990s in line with Robinson (2001), accelerated growth was knowledgeable about within the variety of microfinance establishments and redoubled stress on the reach. Robinson (2001) and Ditcher (1999) named the Nineteen Nineties as “the microfinance decade” and within the same decade Microfinance had grown into an industry to Robinson (2001) aboard with the expansion in microcredit establishments, attention modified from
simply the supply of credit to the poor (microcredit), to the supply of alternative money services like savings and pensions (microfinance) once it became clear that the poor had a requirement for these alternative services (MIX, 2005).

1.1.1 Microeconomics Factors

Macroeconomic according to (Wikipedia) can be defined as “branch of economics dealing with the performance, structure, behaviour, and decision-making of an economy as a whole, rather than individual markets. This includes national, regional, and global economies. Macroeconomists study aggregated indicators such as GDP, Interest rates, unemployment rates, and price indices to understand how the whole economy functions”. For the purpose of this study, three main indicators will be discussed. These will include Interest rates; According to (Investopedia, 2008). Interest rates are can be defined as “The amount charged, expressed as a percentage of principal, by a lender to a borrower for the use of assets. Interest rates are typically noted on an annual basis, known as the annual percentage rate (APR). The assets borrowed could include, cash, consumer goods, large assets” When the borrower is a low-risk party, they will usually be charged a low interest rate; if the borrower is considered high risk, the interest rate charged is also high. Interest rate charges are one of two main revenue sources of financial revenue for MFIs and in 2007 interest rate charges accounted for a reported 89% of all revenue from loan portfolio (Micro Banking Bulletin, Issue No. 17)

Inflation is persistent increase in the level of consumer prices or a persistent decline in the purchasing power of money, caused by an increase in available currency and credit beyond the proportion of available goods and services. (McMahon, 2010). Inflation affects different segments of the population very differently, a fact often forgotten by most people and often exaggerated or misrepresented in the media. In general, inflation affects the rich far less than the poor, where the rich hold greater assets and have higher incomes which let them adjust to rising prices.

Domestic Gross Product (GDP) according to Wikipedia “is the market value of all officially recognized final goods and services produced within a country in a given period of time. GDP per capita is often considered an indicator of a country’s”. Bhusnurmath (2012) looked at the effect of microfinance on key macroeconomic measures of development such as output, capital, total factor productivity (TFP), wage and interest rates and its distributional consequences. They argued that since the wealthy already have access to financing beyond
the microfinance limit and that only the poor have their choice set expanded by microfinance, and the small entrepreneurs who would have chosen not to run their own business in the absence of microcredit are affected in the most direct and significant way.

1.1.2 Financial Performance

Financial performance as defined by (Investopedia, 2010) “is subjective measure of how well a firm can use assets from its primary mode of business and generate revenues”. This term is also used as a general measure of a firm's overall financial health over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation (Investopedia, 2010). MFIs earn financial revenue from loans and other financial services in the form of interest fees, penalties, and commissions. Financial revenue also includes income from other financial assets, such as investment income. An MFI’s financial activities also generate various expenses, from general operating expenses and the cost of borrowing to provisioning for the potential loss from defaulted loans. Profitable institutions earn a positive net income (i.e., operating income exceeds total expenses). For the purpose of this review and to account for the institutional scale of operations, financial revenue and expense indicators as well as returns are compared against the institution’s assets.

Return on Asset

The return on assets (ROA) percentage measures how profitable a company's assets are in generating revenue (Wikipedia).

ROA can be computed as:

$$ROA = \frac{\text{Net Income}}{\text{Average Total Assets}}$$

1.1.3 Effect of Macroeconomics factors on Financial Performance

Rijn(2008) in his study suggested that all of the macro-economic variables i.e. employment rates, inflation, per-capita GDP and interest rates would fairly impact on repayment rates or MFI profitability under his study. However argued that it was certainly possible that an international development organization may choose to establish an MFI in a country because
of that country’s macro-economic environment but it’s a fact the majority of MFIs are currently managed by non-profit organizations in the business of helping people, not earning profits. Therefore, they go to developing countries where unemployment rates are low, inflation and interest rates are likely to be unstable and per-capita GDP is low. The result of his study showed that per-capita GDP increases MFI profitability meaning that there was a relationship between them and that higher MFI profits cause GDP per-capita to rise, or that international development organizations specifically target countries where per-capita GDP is high or increasing. The close link between macroeconomics and microfinance industry become a very important area of interest in the economic development of a particular country

MFIs operate to be profitable at best and sustainable at the least. Its main purpose has been to alleviate poverty levels and in this process they operate on two main premises – a social mission and a financial mission. The type of institution, whether it be a nonprofit outfit or a for-profit outfit, would determine which mission aspect is stressed. The interest rate level is therefore just one manifestation / factor revealing the mission that the MFI is trying to achieve. Inflation is also an element that factors into the interest rate function, as it would directly cut into the returns on equity and cut into profit

1.1.4 Microfinance Institutions in Kenya

In Kenya, the activities of micro finance date back to 1980’s with activities of NGOs. In the 2000’s also the mainstream banks have also entered the fight and created micro finance products (Ochanda, 2012).

Institute of Economic Affairs (2002) found that the micro-finance and micro-credit institutions in Kenya had followed different development paths but with the main focus of providing varying degrees of credit facilities for Kenyan borrowers in both the rural and urban areas. MFIs had developed in response to the widespread poverty in Kenya and the need to provide financing and funds for investment to people who were unable to secure loans through the conventional banking system. According to Institute of Economic Affairs (2002), the rapid growth of institutions providing micro-credit services was illustrated by the finding that less than 10% of Kenya’s enterprises had access to financing from the conventional banking channels by then. The constraint arose primarily from the fact that most of these enterprises had neither sufficient assets nor other property to enable them to post collateral. In spite of the constraint, there was immense demand for direct lending by small
and medium sized enterprises. From the demand, various institutions have developed and tested specific methodologies towards their satisfaction (ibid).

The earliest cases of micro-finance and microcredit development were church-based lending programs that arose in the 1980s. Most were confined to specific church parishes that started with local financing for members before they developed into institutions that could cover a wider number of people in rural and suburban areas of Kenya. While these church-based lending programs served the primary function of providing the credit to the members of their congregations, they were often very small and operations limited to specific geographic locations hence with limited reach and financial resources. However, they still served the function of providing limited credit facilities for their members for use in specific purposes. In many cases, these organizations were overwhelmed by the demand for credit by their membership. From the beginning, nongovernmental organizations (NGOs) began to fill the gap by extending the credit services more widely.

Due to this, in the 1990s, the NGOs developed functioning systems to facilitate the administration of the credit delivery. The programmes were funded and were not necessarily considered as outright business ventures in spite of the success that most of the schemes achieved. As the successes of the microcredit institutions grew, they received considerable funding and began to turn into full commercial entities. This development was also aided by the increased competence in administration, credit assessment and the organization of individuals into groups to facilitate the collective guarantee of loans by individual members. As the micro-finance industry in Kenya grew, the institutions assumed various formal structures and were registered under different statutes. Towards the end of the 1990s, many micro-finance institutions have moved away from serving closed groups and into more formalized institutions (ibid).

According to Institute of Economic Affairs (2002), the institutionalization necessarily required that the micro-finance and micro-credit institutions also moved away from subsidized institutions into more commercial entities. Evidence of the growth and increasingly significant role played by the micro-credit and micro-finance institutions was seen in the development of the notably Equity Bank, K-Rep Bank, Faulu Kenya and Kenya Women Finance Trust (KWFT) among others. The Microfinance Act was the established and became operational from 2nd May 2008.
According to (Central Bank of Kenya, 2012), The Microfinance Act, 2006 and the Microfinance laws issued there underneath establishes legal, regulatory and supervisory framework for the microfinance institutions in Kenya. The principal object of the Microfinance Act is to regulate the establishment, business and operations of MFIs in Kenya through licensing and supervision. The Act also enables Deposit Taking Microfinance establishments authorized by the central bank of Kenya to mobilise savings from the final public, so promoting competition, efficiency and access. It is, therefore, expected that the microfinance industry will play a pivotal role in deepening financial markets and enhancing access to financial services and products by majority of the Kenyans. As at June 2013 according to Central Bank of Kenya; Kenya had 10 deposit taking Microfinance institutions (See appendix I).

1.2 Research Problem
The microfinance sector is very important for the economic development in Kenya. Generally, the MFIs are the main assistance to various micro enterprises. These micro enterprises have a great potential for decreasing unemployment rate, not to mention that the contribution of small and micro business to the GDP (Gross Domestic Product) is relatively large. MFIs need to be sustainable to continuously help the micro enterprises. Recent trends are for MFIs to become more and more like commercial banks, attempting to leave behind the subsidies that once supported them and to seek capital at competitive rates on world markets, Equity Bank an example of a financial institution that largely operated as a microfinance-commercial bank in Kenya. However, as the institutions become more and more like commercial banking, burden of competitive returns make many to ask whether institutions that commercialize are also forgoing their outreach to the “poorest of the poor” (Morduch 1999).

It is necessary therefore to evaluate the MFIs’ Performance, especially financial performance. Several studies about the MFIs’ Performance have been conducted in different parts of the world. The most notable studies by Ahlin and Lin (2006), Gonzalez (2007), Woolley (2008), Krauss and Walter (2006), Loncar, Novak & Cicmil (2009), Ahlin, Lin. & Maio (2011) and Muriu (2011) focused on explaining the impact of macroeconomic on the MFIs’ Performance. Gutierrez Nieto, Serrano Cinca & Mar Molinero(2007) examined the efficiency of MFI’s. Mersland and Strom (2009) explain the relationship between the MFIs’ Performance and corporate governance while Tchakoute-Tchuigoua (2010) examined the
Performance of MFIs in geographical and legal status context. The findings of the these studies also varied; Ahlin and Lin (2006), Krauss and Walter (2006), Loncar et al. (2009), Ahlin et al. (2011) found that macroeconomic condition had an impact on the MFIs’ performance. While Gonzalez (2007), Woolley (2009), and Muriu (2011) found that the macroeconomic condition has no impact on the MFIs’ Performance.

Similarly some studies have attempted to link the economic growth and performance of the microfinance institutions. These studies, however, are not fully complete, since they only look at one aspect of microfinance success. MFIs do not only seek to maximize financial returns, but also try to maximize poverty assistance, or outreach to poor. Indeed, goal of poverty relief may be what defines microfinance as separate from commercial banking.

In Kenya several studies have been carried focusing different areas in micro financing. Nyabwala (2010) studied on how microfinancing impacted on performance on SMEs while Nzomo (2012) looked at factors affecting sustainability of Micro credit in Kenya. Maina 2011 looked at factors influencing the growth of MFIs in Nyeri County where she pointed out various factors ranging from, technology, management, staff motivation, and infrastructure greatly influences growth of MFIs in the area focused by her study. Muganga 2010 studied about role of regulation and supervision of MFIs in South Africa and its implication or the development of Non-Deposit taking microfinance in Kenya. In other words Micro financing area has been widely researched in Kenya but there are no published studies that ever tried to connect performance of MFIs and domestic economy; this fact together with findings of previous studies carried elsewhere in the world become a good motive for this study to analyse the macroeconomic impact on the MFIs’ financial performance in Kenya. The financial performance is measured by return on investment, while macroeconomic indicators are measured by GDP growth, interest rates and inflation rates.

1.3 Objective of the study
To determine the impact of macroeconomic factors on the financial performance of the MFIs in Kenya.

1.4 Value of the Study
The finding of the study will be important to various stakeholders of the country’s economy. Some these stakeholders include Micro-finance institutions in Kenya because it would enable the institutions to assess what influences economic growth has on their financial performance. Kenyan Government will benefit from the study because it will be able to
understand operational efficiency and sustainability of MFIs, these may be act as guidance in legislation such during reviewing Microfinance Act and even licensing of MFIs and policies formulations. Potential Investor will also be interested with performance of MFIs and the study finding will shed light on the future of MFIs thus enabling investors make sound investments decisions. Last but not least, Academicians who may be interested in conducting further research on this area will undoubtedly find this study to be significant point of reference for literature and research gaps.
CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction
This chapter summarizes the existing literature surrounding financial performance of microfinance institutions in light of changes in domestic economies. The specific theory guiding the study and various empirical studies relating to role of MFI and impact of economic factors to their performance are covered and summary and conclusion drawn.

2.2 Theoretical Review

2.2.1 Micro-credit theory
Muhammad Yunus (1998) explains the psychological component of the micro credit theory called as social consciousness-driven capitalism which he says has been advanced by most of enthusiastic promoter of micro finance; His theory argues that kinds of profit making private ventures that’s cares about welfare of its customer can be considered. In other words, it is possible to develop capitalist enterprises that maximises private profits subject to the fair interests of their customers. (Elahi, 2004)

The rationale of the theory is straightforward, although philanthropy is totally absent; capitalism is founded mainly on the basis that beings are selfish by nature. Thus, individuals interested in businesses are generally motivated by principle of profit maximization, with little for interest of their clients. This proposition is too limited to be a general model for capitalism however because it excludes individuals who are concerned about the welfare their fellow human beings. A more generalized principle would assume that all entrepreneurs will maximise both financial return or profit and social return. These assumptions created the groups of entrepreneurs (Elahi 2002). The first group consist of traditional capitalist who mainly maximise profits or financial returns. The second group consist of philanthropic organisations (like traditional micro credit NGOs and public credit agencies that mainly maximise social returns. The third group consist of entrepreneurs who combine both rates in making their investment decisions under the additional constraint that financial return cannot be negative. This group include microfinance enterprises that are treated as socially concern people and are microfinance which are to be treated as social consciousness driven capitalist enterprises. Microfinance theoreticians have advanced two theories their aims- an economic
and psychological. Economic theory treats MFI as infant industries while Psychological theory differentiates micro finance entrepreneurs from traditional money lenders by portraying them as “social consciousness driven people”. The essence of the economic argument is that success of any business venture, including MFIs is determined by entrepreneurs’ ability to determine appropriate services and profitability (Remenyi, 2000).

In Kenya like many other countries approaches to the regulation of MFIs are complicated by the facts that are involved in providing MF services under legal structures. As indicated in the website (Central Bank of Kenya, 2012), “the Microfinance Act, 2006 and the Microfinance Regulations issued there under sets out the legal, regulatory and supervisory framework for the microfinance industry in Kenya”; Commercial bank are also offering MFIs’ services hence offering and competition to MFIs. As a result MFI are seen focusing more on financial than social return

2.2.2 Theoretical motivation For Micro credit

Neo-liberalism Theory

Neo-liberalism became a central theory of development in the 1980s, and still continues to be the theoretical motivation for influential organizations such as the International Monetary Fund (IMF) and the World Bank. Neo-liberal ideologies depend on individuals to make rational decisions that are in their best interests, and such decisions are assumed that will lead to the improvement of society through the Market growth. This market should be as isolated from the government as possible, with the government regulating rather than originating economic activity. Economic growth and prosperity is the main goal of any development project, and “is considered of greater value than tradition, individual welfare or even local culture and the environment in development agendas. At the beginning Micro-credit does not appear as an area in which neo-liberals will have interest in but micro-credit for micro-enterprise becomes a neo-liberal concept when one views it as the formalizing an informal economy. The author argues that through exposing pre-existing informal economic networks and providing the opportunity for the creation of additional formal businesses, neo-liberalism theorizes that the macroeconomic situation of the state will improve.(Shepard, 2000)
Participatory development Theory

Participatory development (PD) is concentrated on power and community. In PD, economic power forms a part of a complete conception of power, which includes structures of political influences knowledge and social situations. PD values local variety and agendas, seeking to implement projects using local knowledge, local labour, and local capital. The community is the agent that requires development, rather than the individual or the country. As such, PD is largely delivered by NGOs and community organizations rather than national or international bodies.

The influential pressure of participatory development best explains the link between PD and micro-credit. The Author argues that “The goals of development are valid although the many institutions are failing, but can be improved by involving the all stakeholders.” Micro-credit becomes a way of developing local communities according to a mainstream definition of development in an alternative way. By challenging the bureaucratic government, micro-credit allows the true needs of individual communities to be addressed hence (Shepard, 2000)

2.3 Empirical Literature

2.3.1 Social Mission of the MFIs

One of the key roles MFIs play in development is in bringing access to financial services to the poor and those neglected by the formal banking sector. This is their social mission. Mainstream banks target clients that have collateral. The poor do not have valuable assets they can presents as collateral, this make them often ignored by the formal financial sector. These commercial banks tend to be found in urban centres while the majority of the poor in the developing world like Kenya live in rural areas and for those living in urban areas leave in slums, where financial services are not provided. Therefore, if MFIs are to be relevant and able to fill this void they must reach the rural poor. However, according to most studies on microfinance role of reaching the poor shows those MFIs reach a small fraction of the estimated demand of the poor for financial services (Littlefield and Rosenberg, 2004). MFIs do not have the depth of outreach that is needed to meet the demands of the rural poor. Serving the rural poor in the developing world involves a major financial commitment and investment, because it is costly expensive to run microfinance projects in rural areas. According to Claessens (2005) high transaction costs, small volumes and the high costs of expanding outreach and running the projects, make it not profitable to serve the rural poor. It is for this reason that commercial banks are positioned in areas of high population density.
However, if MFIs are to meet their social mission of serving the poor then financial services need to reach the rural poor. Another common criticism of the current operational procedures of MFIs, for instance, the drive for self-sustainability, make MFI prefer working with the moderately poor, and hence end up marginalising the poorest of the poor. Markowski (2002) and Rogaly (1996) argue that MFIs in their project designs are failing to meet the needs of the very poor, who do have a demand for microfinance services and who cannot even afford savings (Littlefield & Rosenberg, 2004 and Dichter, 1999). They are ignored, although an objective set out in the Microcredit Summit 2006 was is to reach 175 million poor people by 2015 but MFIs do not seem to be on target for meeting this objective.

In relation to reaching those living in extreme poverty, (Morduch, Hashemi & Littlefield, 2003) refer to a study of 62 MFIs that have reached full financial self-sufficiency with 18 MFIs that targeted what they defined as “the poorest clients” averaging better profitability than the others. This shows that, if well managed, programmes that target the very poor can also become financially sustainable. The burden is therefore on other MFIs to develop products and services that will meet the needs of the very poorest if the social mission of microfinance is to be achieved. MFIs therefore need to improve their depth and breadth of outreach. Simanowitz & Walter (2002) suggested that MFIs must design appropriate products based on the needs of the poorest and they must ensure such products are delivered in a cost-effective manner.

**2.3.2 Economy and Financial Sustainability**

MFIs have more than just a social mission. Markowski (2002), explains twofold mission of MFIs; A social mission that is “to provide financial services to large numbers of low-income persons to improve their welfare”, and a commercial mission which is “to provide those financial services in a financially viable manner”.

From previous topic of “reaching out the poor”, we saw that MFIs are not fulfilling their social mission by not meeting substantially the demands of the poor for financial services. Simanowitz & Walter (2002) argue that microfinance is a compromise between this social mission and commercial mission. As there is more emphasis on better financial performance, opportunities for maximising poverty impact and depth of outreach have been compromised. There is need to strike out balance between social and financial/commercial objectives since the current focus on financial objectives means fewer of those most in need of microfinance services are being targeted. To achieve this Simanowitz & Walter (2002) suggested that was
not only high time for MFIs to innovate and design services that maintain high standards of financial performance, but also set new standards that have impact on poverty. Markowski (2002) states that CGAP estimates that only about 5% of MFIs worldwide are financially sustainable while the IMF (2005) puts the figure at only 1%, so this is a huge issue for the microfinance sector.

To achieve financial sustainability according to Havers (1996), an MFI must cover the cost of funds, operating costs, loan write-offs and inflation with the income it receives from fees and interest. According to the Littlefield & Rosenberg (2004) the MFIs that have become self-sustainable tend to be larger and more efficient. They also tend not to target the very poor, because by targeting moderately poor will lead to increases in loan size and improved efficiency. MFIs focusing on the poorest tend to remain dependent on donor funds (IMF, 2005). This is how the compromise arises. Havers(1996) suggest how MFIs can to achieve sustainability and at the same time reach those most in need, through the programmes managed in a rigorous and professional manner, where subsidies must be removed, and tight credit control procedures and follow-up on defaulters needs to be in place. According to Von Pischke (1999), there is no doubt that sustainability is also very important from clients’ perspectives, as they place a value on continuous access to credit, and whenever they feel that the MFI will not survive they tend to it reduce their motivation to repay loans. According to Havers(1996) sustainability can be achieved through appropriate loan sizes for clients matching their needs, realistic interest rates, savings as a precondition, regular, short and immediate repayment periods.

If these measures to achieve sustainability are put in place, while still focusing on the needs of the poorest, the will be no doubt that both the social and financial objectives can be achieved. Morduch (2004), states that the trade-off between financial and social objectives can be balanced if the MFIs are properly managed and understands the market and its clients. Pawlak & Matul (2004) also suggest that combining both objectives, financial returns can potentially be increased in the long run. The current challenges facing MFIs are can be summarised as not only in achieving financial sustainability, but also extending the services to greater numbers of poor, and depth of outreach - trying to reach the poorest members of society.
In Kenya, a dissertation study conducted at University of Nairobi by Nzomo 2010 focused on the factors affecting sustainability of micro-credit in Kenya. The research sought to establish the importance for microcredit groups to be self-sustaining in for them to enable their members achieve revenue generation, asset building, self-esteem, enhance livelihood and empowerment. In the end the researcher denied factors affected sustainability of rural based microfinance programs which included that availability of lending funds and client exit/retention, capacity building, and participation as well as competition among service providers

2.3.3 Effects of Domestic Economy on the Financial Performance

Several studies used three methods to analyse the effect of the domestic economy on the financial performance of MFIs. McGuire and Conroy (1998) looked at microfinance financial performance and the domestic economy by looking at percentage changes or simply levels of financial indicators during periods of economic crisis. They used survey data to observe the effects of the Asian financial crisis on MFI in nine countries by looking at percentage changes in loans, savings, total assets, and capital stocks of microfinance institutions over six-month periods from 1996 to 1998. Interestingly, they found that MFIs were able to maintain relatively better financial performance, especially among those institutions that serviced poor clients. Their survey found that the economic crisis had the least impact on MFIs operating in the poorest countries and that institutions with poorer borrowers were better off, and three, while commercial banks had to substantially raise interest rates, village MFIs were able to maintain relatively lower interest rates. Rather than looking at the changes in financial indicators, other studies have observed the levels of these indicators and compared them to commercial banks in the same countries.

Jansson (2001) observed the financial performance of fourteen MFIs against that of commercial banks in three South Americans countries (Peru, Bolivia and Columbia) for each year from 1997 to 2000 when these countries were affected by the Asian financial crisis. He measured growth as increase in total loan portfolios and profitability by return on assets.He also measured portfolio quality as by percentage loan delinquency greater than 30 days. His study found that MFIs were extremely strong in all three aspects when compared with commercial banks.

Marconi and Moseley (2005) also look at levels of yearly financial indicators and compare them to commercial banks in Bolivia from 1998 to 2004, observing the total portfolio value
and the percentage amount of the portfolio in arrears. They also look at the different MFIs individually to determine what characterized institutions that were heavily impacted financially by the economic downturn versus those that fared relatively well. They found that institutions primarily serving poor women and using village, or group, lending styles faced heavy losses on bad debt, forcing many of them to close while those that provided additional services such as savings, training, and quasi-insurance schemes, maintained high repayment rates.

Krauss and Walter (2006) used regression analysis to see how MFIs compare in financial indicators to commercial banks in response to world and domestic economic systemic risk. They did several analyses, looking at both world and domestic economic movements. To measure domestic systemic risk they used domestic GDP as the independent variable while several financial indicators namely, profit margin level, change in gross loan portfolio, change in net operating income, return on equity, change in total assets, change in gross loan portfolio, and the level portfolio at risk were used as dependent variables: They found that only two of the six variables is the financial performance of MFI correlated, and only weakly, with domestic GDP, while for commercial banks all six indicators are strongly correlated. They furthermore tested the effect of domestic GDP on net operating income in during macroeconomic distress i.e. where GDP growth was less than 1%. And found that MFIs fared much better than commercial banks.

Hermanto and Astuti (2013 used five variables to measure institution performance; three variables for financial performance and two for outreach to measure MFIs performance where the results showed that the macroeconomic condition has no impact on the profitability of MFIs in Java Island. The study supported Woolley (2008) and Muriu (2011). In contrast, the inflation rate had a negative effect on the NPL ratio of MFIs in Java. The empirical result also showed that there was a significant difference on the financial performance of the MFIs in the East Java.

The above studies explaining the financial resilience of MFIs and the lack of correlation of their financial indicators with domestic GDP suggest that microfinance, as opposed to commercial banking, has several unique characteristics. These characteristics can be grouped into three categories: the atypical ways they are funded, the unique ways in which they
operate, and the unusual client profile they serve. First, microfinance financial success may not be connected to domestic GDP because of the unique way institutions are funded.

McGuire and Conroy (1998) found that, the less the institutions were linked with the formal financial system, the better they weathered the Asian financial crisis. While as explained by Armendáriz de Aghion & Morduch (2005) recent trends have shown institutions more and more seeking financing from world markets, Most of these institutions still receive subsidies in the form of low interest government loans or NGOs, or direct donations from various sources. These subsidized funds make MFI competitive and perform well financially while commercial firms must face rising interest rates caused by a financial crisis or poor economic conditions. Another explanation is that village banks with little contact with the outside world were better protected from exchange rate risk than the commercial banks (Reille and Gallmann 1998). Jansson (2001) additionally suggests that owners or financiers of MFIs as opposed to commercial banks, are keen to provide extra financial assistance if necessary.

Krauss and Walter (2006) suggested that MFIs have access to both international funds and investors that are interested in the long run and won’t react negatively to a short-term downturn in the domestic economy. Moreover, they add, microfinance institutions tend to operate with less leverage than normal financial institutions, making their returns less volatile. The second category of explanations proposed by scholars for why microfinance institutions’ financial performance is less affected by the domestic economy has to do with a variety of operational methods unique to microfinance. Jansson (2001) argues that MFIs, unlike commercial banks, operate very close to the community and thus are able to have better information about and close links to their borrowers. Additionally, they use screening mechanisms such as group lending and dynamic incentives to ensure clients will repay. Observing the case in Bolivia, Marconi and Moseley (2005) found that the institutions that maintained small loans characteristic of microfinance actually had an advantage in the wake of demanded debt forgiveness because it decreased the amount of leverage each client had. Many other institutions that were more like commercial banks and gave larger loan amounts were pressured into writing off debts, eventually making them insolvent. Marconi and Moseley (2005) also found that Bolivian institutions that followed a more traditional microfinance pattern by establishing an internal emergency account to help deal with difficult economic times were able to maintain their good financial performance, but for those firms who operated like commercial banks struggled to be in operation. Krauss and Walter (2006)
suggest that because of smaller loan sizes and shorter maturities, MFIs can be more flexible in adapting to economic conditions. All of these distinctive methods of operating may explain why financial returns of MFIS are not linked with the domestic economy.

The last category for explaining why institutions’ financial success is not connected with the domestic economy is that microfinance serves a unique clientele. Krauss and Walter (2006) suggested that clients of microfinance are less integrated into financial markets and hence they are less affected by changes in the domestic economy than other borrowers in the country. Robinson (2001) noted that the goods that micro entrepreneurs sell generally see an increased demand when domestic economic conditions deteriorate, as consumers shift away from more expensive imported goods. She also notes that, fundamentally, micro entrepreneurs have stronger repayment ethics because of a desire to prove themselves or because they do not have access to other sources of credit. In addition to micro entrepreneur characteristics, Marconi and Moseley (2005) found that institutions who lend primarily to women offered loans with high rates and higher repayment amounts. They suggested that was because women are believed to be less risk averse. Hence, MFIs, which traditionally have focused on lending to women, may be seen to reap financial benefits from their clients’ risk profiles.

While all three of these categories may contribute to the financial resilience of MFIs, there are two interesting points about them. First, for any of these reasons, as microfinance institutions become more like commercial banks, they would lose financial resiliency to the domestic economy. Second, while McGuire and Conroy (1998) found subjective evidence of institutions reducing outreach to deal with the effects of the Asian financial crisis, none of the explanation was given suggested that institutions may be for going outreach in order to maintain high financial success. On the contrary, they suggest that the institutions with the most outreach are best able weather economic downturns.

2.3.4 Effects of Domestic Economy on the Outreach

Outreach to the poor has been defined in several ways in empirical literature; though no much research had been performed measuring the effect of the domestic economy on it. There are several methods of measuring outreach that have been proposed. Yaron (1992) suggested measuring outreach using loan portfolio value, amount of savings in an institution average loan size, variety of financial services offered, growth rate, number of branches, percentage
of target population served and number of women served. In their study of the effects of sustainability on outreach, Christen, Rhyne, and Vogel (1995) categorized measures of outreach in three ways: scale of outreach, quality of service and depth of outreach to the poor. Quality of service was measured qualitatively by the number of services offered, the type of lending and the quality of the available savings options. Moreover, the authors measure quality through evidence of client acceptance such as low delinquency and willingness to pay high interest rates. Scale was measured by number of borrowers and branches institutions had and percentage of the target population serviced. They measured outreach through number of women reached, average loan size, qualitative descriptions of clients and average loan size as a percentage of GNP per capita of the host country. They argued that average loan size provided a good quantitative measure because poorer borrowers can only service smaller loans and hence tend to take out smaller loans. Variables for measuring outreach of MFIs have not been measured directly in relationship to the domestic economy, but McGuire and Conroy (1998) provide some subjective evidence. They found that in the wake of the Asian financial crisis, many microfinance institutions were more cautious in offering new loans, and also had to raise average loan sizes, giving larger new loans, to preserve their financial situations. Some institutions reported that they were only giving loans to already established customers with good records to prevent defaults.

In Kenya the study carried by Nyabwala (2010) found that most SME’s in Kenya financed by MFIs in Kisumu area were owned by individuals who were experiencing financial difficulties in getting capital to run their business. Author further found that the poor from area studied were willing to pay for higher interest rates than those of commercial banks that provided access to them offered. He suggested that MFI should provide services other than giving loan such as allowing saving for them to achieve financial success and remain profitable.

2.4 Summary

In recent years, microfinance has received increasing attention in discussions about reducing poverty and stimulating economic development. Huge numbers of poor people face a difficult problem accessing Financial Market. They have little collateral reducing their credit worthiness and small loans made to poor people often resulted to high fixed costs, leading to lending to the poor become unprofitable business (Ray 1998). Microfinance seeks to solve this problem. An impressive fact about the microfinance institutions is that they have shown high resilience financially in the face of stressful or slow economic conditions. Past research
indicates that microfinance unlike commercial banks, have been able to contain economic downturns with little or no negative effects (Krauss and Walter, 2006; Jansson 2001). They further pointed out that financial indicators of a large number of microfinance institutions actually show little or no correlation with domestic GDP changes. MFIs are also seen offering other than serving the poor, some of them same role as commercial bank and hence their financial performance is closely linked to number of factors. Various studies discussed above have attempted to establish various links between financial performance with domestic economy, outreach with economy and financial sustainability with serving the poor in addition to theories argued.
CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction
This Chapter discusses the methodology that was used in gathering data, processing the data and translating the collected data into meaningful information. The process of research for the study was primarily exploratory as it sought to find out if the Macroeconomics factors have on MFIs financial performance. It also encompasses the research design that took into consideration aspects like the size of sample in relation to the target population, the variables under the study, the approaches to the research, and the methods employed in data collection.

3.2 Research Design
The study employed the descriptive survey in Kenya putting the evidence on how Micro economics factors impacts on MFI performance. Descriptive survey design was chosen because the sampled elements and the variables that were being studied were simply being observed as they were without making any attempt to control or manipulate them. Correlation method will be used to determine the relationship between macroeconomics factors (the dependent variable) and microfinance institutions performances.

3.3 Population and Sample of the Study
The target population in the study involved the all micro finance institutions in Kenya with a purposive sampling of all deposit taking Microfinance institutions in Kenya. As at June 2013 according to Central Bank of Kenya; Kenya had 9 deposit taking Microfinance institutions (See appendix I).All 9 licensed deposit taking Microfinance institutions as at June 2013 were targeted for the census in the research study. The deposit taking MFIs were chosen because first, they have the widest geographical coverage in the Kenya through their branch network and secondly they offer both saving and credit services. These two facts make the two MFIs ultimately represent other MFIs.

3.4 Data Collection
In the study, the data collection exercise was carried out to come up with concrete data that was invaluably used to draw conclusions. The study used the data collection instruments from
two main sources which were the primary and secondary sources of data collection. The primary data collection instruments were self-administered drop and pick questionnaires so as to extract valuable first-hand data from the MFI’s financial reporting staff. The set of questions will be simple and straight-forward thus requiring straight-forward answers. In designing the questionnaire for research of primary data, the study used both open and closed type questions. Secondary sources of data collection will involve the documentary reviews of data available in the relevant web sites such as financial statements, annual reports and information available in the Microfinance Information Exchange (MIX) and this will be important for making informed conclusions and recommendations concerning the case study as well as supplementing data received from questionnaires.

3.5 Data Analysis

The study used quantitative and qualitative methods to realize the relationship from the data and to strengthen the analysis emerging from the data. This model of analysis examined the simultaneous effects of the independent variables on a dependent variable. In the study, the yearly data will be collected from MFIs, Central Bank of Kenya and National Bureau of Statistics.

In order to measure effects of domestic economic growth, interest rates and Inflation on the financial performance of microfinance institutions, variable measuring financial performance as dependent variable will be used. Domestic GDP growth (GDP), interest rates (IR) and inflation (INF) were used as independent variables. Single variable for financial performance was used to measure performance of the sampled MFI’s. To measure financial performance financial ratio- Return on Asset (ROA) over past five years 2008 to 2012 was used. This variable is relevant for two main reasons. First, it represents the financial performance of an institution and second, it’s coordinated chronologically with GDP growth, interest rates and inflation. For the independent variables yearly percentage of domestic GDP growth (GDP), interest rates (IR) and inflation (INF) for the past five years was used.

The statistical Package for social sciences (SPSS version 7) was employed to analyse the above data.
3.6 Model Specification

Because of limitation of data, the study used macroeconomics indicators for independent variables. Like Hermanto and Astute (2013) an OLS model to measure the effect of changes in the domestic economy on the performance of MFIs was used with only one dependent variable as opposed to the three used by Hermanto and Astute (2013). Similar model was used by Krauss and Walter (2006) to measure effect of GDP on performance of MFIs

The model used for this study is:

\[
\text{ROA}_{it} = \beta_0 + \beta_1 \text{GDP}_{it1} + \beta_2 \text{INF}_{it1} + \beta_3 \text{IR}_{it1} + \alpha
\]

Where \( \text{ROA}_{it} \) is the dependent variable of MFI \( i \) at time \( t \), the intercept \( \beta_0 \), \( \beta_1 \), \( \beta_2 \), and \( \beta_3 \) are parameters for each independent variables, the GDP growth (GDP), the inflation rate (INF) and the interest rate (IR) respectively. \( \beta_0 \) is the regression coefficient while \( \alpha \) is an error term normally distributed about a mean of 0. For the purpose of computation \( \alpha \) is assumed to be zero.
CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction
This chapter contains detailed research findings and an in depth discussion on the research findings. The research findings are presented using tables, figures and percentages. As discussed in chapter three, data was collected using closed and open-ended questionnaires and from secondary sources. The data collected was checked thoroughly to ensure accuracy, completeness, consistency and uniformity. These was then arranged to enable tabulation. The results were then presented in cross-analysis tables, graphs and charts to facilitate comparisons and interpretation where relevant.

The data collected was analysed and interpreted in line with the objective of the study mentioned in chapter one which is, “to determine the effect of micro economic factors on the performance of MFIs in Kenya”. The chapter has been divided into section 4.2 covering summary of statistics, section 4.3 covering the empirical model develop to achieve the study objective, section 4.4 on key discussions from the study and section 4.5 which contains the summary of the key findings.

4.2 Summary of Statistics
This area shows in details the data collected its importance and has been presented in tables, charts, figures and graphs.

4.2.1 Position of the Respondent
The objective of this part was to determine the position held by the respondent so as to be able to evaluate the accuracy and reliability of the data provided. Since the information sought was sensitive financial information, persons in high ranking positions in the company were in a position to provide more accurate and reliable information. The positions of the respondents are shown in chart 1 below.
The chart shows that 56% (5) of the respondents were the MFIs Managing Director, 33% (3) MFIs Finance Managers and 11% (1) were Chief Accountants. This implies that the data used by this study was more reliable since majority of respondents were Managing Directors and Finance Managers.

4.2.2 MFIs Years of Operation

The purpose of this question was to determine the number of years the MFIs have been operating. This was important since the MFIs profitability, efficiency and stability is usually affected by the number of years the institution has been in operation. Also, the analysis data for MFI that has long been in operation will show consistent results as opposed to an MFI that has been in operation for few years. For the purpose of accomplishing the research objective, the MFIs which have been in operating for more than two years will be the ones considered. The data obtained is shown on the graph 1 below.
4.2.3 MFIs End of Financial Year

The question sought to determine the month and date when financial year for MFIs run. This was important for analysis and comparative purpose since for data analysis to be accurate; the MFIs data need to be for the same time frames like that of microeconomic factors and if not so, the adjustment had to be done.

For all the MFIs studied, it was found that their financial year ends at December 31st which is in line with the microeconomic data released by the central bank of Kenya and Kenya National Bureau of Statistics. Therefore, the analysis will not be affected by failure of correspondence in timings.

4.2.4 Reasons for MFI

The objective of this question was to determine the main reason why the MFIs were formed. The understanding of these reasons and their rankings was important in that it would assist in data interpretation since as observed from secondary data obtained, some MFIs had considerably low or even negative ROAs over the years and hence anybody would be concerned why they remain in operation without making profits. The data obtained is summarized in table 1 below.
Table 1: Reasons for MFIs Formation

<table>
<thead>
<tr>
<th>Rankings</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>To improve peoples’ lives</td>
<td>44%</td>
<td>56%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>To make profit</td>
<td>56%</td>
<td>33%</td>
<td>11%</td>
<td>0%</td>
</tr>
<tr>
<td>Create Employment</td>
<td>0%</td>
<td>11%</td>
<td>78%</td>
<td>11%</td>
</tr>
<tr>
<td>Others</td>
<td>0%</td>
<td>0%</td>
<td>11%</td>
<td>89%</td>
</tr>
</tbody>
</table>

Overall ranking | Ranking | Percentage |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>To make profit</td>
<td>1</td>
<td>56%</td>
</tr>
<tr>
<td>To improve peoples’ lives</td>
<td>2</td>
<td>56%</td>
</tr>
<tr>
<td>Create employment</td>
<td>3</td>
<td>78%</td>
</tr>
<tr>
<td>Others</td>
<td>4</td>
<td>89%</td>
</tr>
</tbody>
</table>

As seen in the table above, 56% of the respondent quoted making of profits to be the main motivation why their MFIs were established while 56% of the respondents ranked improving peoples livelihood to be second factor. Employment was ranked number three by 78% of the respondents and others reasons were ranked fourth.

From the analysis, it is clear that while many MFIs quote other reasons in public domain about reasons why they were formed while as found profit motive is also a key reason.

Other minor reasons quoted for the formation of MFIs are offering financial services not offered by commercial banks, exploiting unexploited markets, expanding existing lines of business and countering increasing competition.

4.2.4 MFIs Performance in the Last Five Years

The question on this area sought to find out how the MFIs have been performing for the last five years. This information was very important since it was the one to be used in analysis so as to achieve study objectives. While some of this data would have been obtained from secondary sources, it was important to confirm the same from the respondents as to determine the accuracy of the information given. Some of this information also could not be attained from secondary sources and hence the only way to obtain the information was from the respondents.
For the purpose of the analysis, ROA was our key concern and the data obtained is shown in table 2 below.

**Table 2: MFIs Five years performance as measured by ROA**

<table>
<thead>
<tr>
<th>Year</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAULU</td>
<td>-1.08%</td>
<td>-0.10%</td>
<td>-3.43%</td>
<td>-0.20%</td>
<td>0.77%</td>
</tr>
<tr>
<td>KWFT</td>
<td>6.55%</td>
<td>4.30%</td>
<td>1.60%</td>
<td>1.50%</td>
<td>0.92%</td>
</tr>
<tr>
<td>SMEP</td>
<td>4.30%</td>
<td>5.00%</td>
<td>0.30%</td>
<td>0.90%</td>
<td>2.10%</td>
</tr>
<tr>
<td>REMU</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-11.60%</td>
<td>-4.90%</td>
</tr>
<tr>
<td>RAFIKI</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-3.50%</td>
<td>1.40%</td>
</tr>
<tr>
<td>UWEZO</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-15.70%</td>
<td>9.50%</td>
</tr>
<tr>
<td>CENTURY</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SUMAC</td>
<td>2.60%</td>
<td>3.30%</td>
<td>5.30%</td>
<td>6.00%</td>
<td>8.30%</td>
</tr>
<tr>
<td>U &amp; I</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

The MFIs century and U&I were started at the end of 2012 and therefore the data relating to their performance could not be obtained. From the table, it is seen that some MFIs have very low and or even negative ROA for the last five years, however, there those which have consistent positive ROAs. Notably, for most MFIs, higher ROA are observed in 2008 and 2009 but the same reducing substantially in 2010 and 2011. It also worth noting that only 33% of MFIs have positive ROA while all the others have negative ROA.

**4.2.6 Economic Factors Affecting MFIs**

The question sought to determine the key economic factors that affect the performance of MFIs according to the respondents. The respondents were required to state the extent to which the stated economic factors affected their MFIs performances.

The data obtained and its standard deviation is shown in table 3 below.
Table 3: Economic factors affecting MFIs

<table>
<thead>
<tr>
<th>Economic factors affecting performance</th>
<th>Average</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest rates</td>
<td>2.0000</td>
<td>0.0198</td>
</tr>
<tr>
<td>Inflation</td>
<td>2.8889</td>
<td>0.4550</td>
</tr>
<tr>
<td>Economic growth</td>
<td>1.5556</td>
<td>0.5166</td>
</tr>
<tr>
<td>Exchange rates</td>
<td>3.0000</td>
<td>1.8446</td>
</tr>
</tbody>
</table>

From the table, it can be seen that economic growth as measured by GDP was ranked as the main factor affecting MFIs performance with a mean of 1.5556 and standard deviation of 0.5166. Interest rates were ranked second factor with a mean of 2 and a standard deviation of 0.0198 while inflation and exchange rates were ranked with three and four with means of 2.8889 and 3 respectively.

From the table, economic growth was found to affect MFIs performance to a very large extent, interest rates to a large extent, inflation and exchange rates to a small extent.

The results can be explained by the fact the respondents take economic growth as the main factor driving all the other economic variables; it influences interest rates which in return affects inflation rates and exchange rates.

4.2.7 Other factors affecting MFIs performance

The question sought to find out the other factors likely to be affecting MFIs performance other than macro-economic factors. This was important in that it would shed more light on operation of MFIs and would be of high importance when interpreting the findings results. The key factors quoted by the respondents as affecting MFIs performance were the number of years the MFIs have been in operation, the level of regulation in the industry, high levels of unemployment among the target clients, high poverty levels in the areas operated by MFIs and high illiteracy levels among the target groups. The factors were highlighted as the key issues that the authorities need to address so as to stimulate growth of microfinance industry. However, these challenges can be adequately addressed if macroeconomic issues are addressed. For example, unemployment can be reduced through increased economic growth.

4.2.8 Response to Factors Affecting MFIs performance

The purpose of this section was to determine how the MFIs were responding to the challenges facing them. This was important for attainment of study objectives since
macroeconomic factors pose challenges to MFIs and it would be important to determine how the MFIs responded to these challenges.

Some of the key responses brought forward by the respondents were more application of information technology as to improve efficiency in operations and reduce costs which was meant to address competition issue, offering financial education so as to address illiteracy challenges, offering more products and services so as to remain competitive and reach more clients, staff training to be able to better handle issues and making of submissions to central bank of Kenya concerning regulations.

These responses were highlighted by all the MFIs with positive ROAs and hence explaining the reasons why they have remained profitable since how organizations deals with challenges highly determines its overall success.

4.2.9 MFIs Sources of Income

The aim of this question was to determine main sources of incomes for the MFIs. This was important in that the effect of macroeconomic factors on MFIs incomes is much dependent on what is the MFIs main source of income. The data obtained is summarized in the graph 2 below.

Graph 2: MFIs sources of incomes

From the graph above, it can be seen that over 78% of MFIs have interest on loans and advances accounting to over 80% of their incomes, while 56% of MFIs had fees and
commission accounting for 21%-40% of their total income. Dividends and foreign exchange gains account for less than 20% of the total income for all MFIs.

MFIs source of income therefore is interest on advances and fees and commissions. This implies that interest rates are likely to be affecting MFIs performance greatly, but this study will find out.

4.2.10 Challenges facing MFIs

The question sought to find out the specific challenges facing MFIs operating in Kenya. The question was important in trying to relate MFIs performance to macroeconomic factors and the challenges facing MFIs.

Some of the specific challenges highlighted include high competition for loanable funds between MFIs and commercial banks, high regulation, reduced number of customers and financial illiteracy among the clients.

4.3 Estimated Empirical Models

The study objective was to determine the effect of macroeconomic factors on financial performance of MFIs in Kenya. To accomplish this objective, data relating to MFIs performance as measured by Return on Assets (ROA) was used. During the study, two likely models were developed where the first one tried to obtain the relationship between MFIs performance and the number of years the MFIs had been in operation. The need for the model was necessitated by the fact that MFIs which had been in operation for long showed positive higher returns as opposed to those that had been in operation for lesser time.

The second model is in line with the study objective and developed by use of empirical data and it shows the relationship between MFIs performance and the various macroeconomic variables. The both models are discussed in sections 4.3.1 and 4.3.2 respectively.

4.3.1 Relationship between MFIs Performance and Number of Years in Operation

In developing the model, assumptions that more years of operation would lead to high positive ROA and that the relationship between performance and years of operation is linear were made. The summarized data used to develop the model is shown in table 4 below.
Table 4: Relationship between MFIs Years of operation and Performance

<table>
<thead>
<tr>
<th>Years of Operation</th>
<th>22</th>
<th>32</th>
<th>14</th>
<th>2</th>
<th>2</th>
<th>3</th>
<th>9.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average ROA</td>
<td>-0.81%</td>
<td>2.97%</td>
<td>2.52%</td>
<td>-0.25%</td>
<td>-1.05%</td>
<td>-3.1%</td>
<td>5.10%</td>
</tr>
</tbody>
</table>

For analysis purposes number of years was used as the independent variable and average ROA as the dependent variable.

The results of the analysis are shown below in table 5 below.

Table 5: Relationship between MFI performance and Number of Years in Operation

<table>
<thead>
<tr>
<th>Coefficients</th>
<th>Regression Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>-2.84976</td>
<td>Coefficient of Correlation</td>
</tr>
<tr>
<td>0.24659</td>
<td>Coefficient of determination</td>
</tr>
<tr>
<td>-</td>
<td>Standard Error</td>
</tr>
</tbody>
</table>

Therefore \( \text{ROA} = -2.84976 + 0.2466Y \), Where ROA refers to Return on Assets and Y is the Years the MFI has been operating.

The model has a standard error of 4.4222 with a coefficient of correlation of 0.5873. As it can be seen from the model above, the changes in ROA are accounted for by the years the MFI has been in operation up to 34.49%.

4.3.2 Relationship between MFIs Performance and the Macroeconomic Variables

For this study, the macroeconomic variables used for analysis include Economic growth measured by GDP, interest rates and inflation. The macroeconomic variables over five years are shown in the Graph 3 below.
As seen from the Graph above, GDP was rising in years 2008 to 2010 after which it declined in 2011 and partially increased in 2012. When GDP was lowest in 2008, inflation was very high as seen in the graph while interest rates remained stable over the four years just to rise drastically in 2012.

The relationship between GDP, Inflation, Interest rates and their effects on MFIs performance as measured by ROA is shown in the figure 1 below.

**Figure 1: Relationship between ROA and Macroeconomic Variables**
From the figure above, it is definite that macroeconomic factors have an effect on MFIs average ROA. Notably, GDP has the highest relationship with ROA since it can be clearly observed that as GDP is rising, ROA is also rising and hence the two variables have positive relationship. GDP is also seen to have a very close relationship between inflation and interest rates.

It can also be seen that when interest rates are increasing, ROA is reducing and vice versa. However, there are some inconsistencies observed since the change is average macroeconomic variables are quite different from the change in ROA. This is probably out of other variables other than macroeconomic. This relationship is what this study sought to find.

The model to show this relationship was developed using the data shown in table 6 below.

**Table 6: Average ROA and macroeconomic environment.**

<table>
<thead>
<tr>
<th>Year</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP (%)</td>
<td>1.5</td>
<td>2.7</td>
<td>5.8</td>
<td>4.4</td>
<td>4.6</td>
</tr>
<tr>
<td>Inflation (%)</td>
<td>16.2</td>
<td>10.5</td>
<td>4.1</td>
<td>14.0</td>
<td>9.4</td>
</tr>
<tr>
<td>Interest rate (%)</td>
<td>8.85</td>
<td>7.88</td>
<td>6.46</td>
<td>8.42</td>
<td>15.75</td>
</tr>
<tr>
<td>Average ROA (%)</td>
<td>3.09</td>
<td>3.13</td>
<td>0.943</td>
<td>-3.23</td>
<td>2.58</td>
</tr>
</tbody>
</table>

During the analysis, average ROA was taken to be the dependent variable while GDP, inflation and interest rates were the independent variables. The results obtained are shown in table 7 below.

**Table 7: Regression model on Relationship between ROA and Macro economic variables**

<table>
<thead>
<tr>
<th>Regression Statistics</th>
<th>Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple coefficient of correlation</td>
<td>1</td>
</tr>
<tr>
<td>Multiple coefficient of determination</td>
<td>1</td>
</tr>
<tr>
<td>Adjusted coefficient of determination</td>
<td>0.6554</td>
</tr>
<tr>
<td>Standard Error</td>
<td>0</td>
</tr>
</tbody>
</table>
The model developed from the data is:

\[ ROA_{it} = 14.7401 + 2.2011GDP_{it} + 0.802INF_{it} + 0.3494IR_{it} \]

Where \( ROA_{it} \) is the MFIs Return on Assets at time of MFI \( i \) at time \( t \), GDP represents economic growth at time \( t \), INF is the inflation rate at time \( t \) and IR is the interest rate at time \( t \) respectively.

The model determined as it can be seen from the table above is 100% accurate since it has a standard error of 0 and multiple coefficient of determination of 1. This implies that MFIs ROA is determined to a very big extent by level of economic growth, inflation and interest rates.

### 4.4 Discussions

From the two models developed, MFIs performance as determined by Return on Assets (ROA) can be said to be a function of time in which the MFI has been operating, macroeconomic factors and other very minor factors. To a huge extent, MFIs ROA is determined by the three macroeconomic factors.

To determine the extent to which these macroeconomic factors affect ROA, we examined the relationship between ROA and each of the macroeconomic variables. The results are summarized in table 8 below.

<table>
<thead>
<tr>
<th>Statistics</th>
<th>GDP</th>
<th>Inflation</th>
<th>Interest Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coefficient of Correlation</td>
<td>0.3085</td>
<td>0.4734</td>
<td>0.3126</td>
</tr>
<tr>
<td>Coefficient of determination</td>
<td>0.0952</td>
<td>0.2241</td>
<td>0.0977</td>
</tr>
<tr>
<td>Standard error</td>
<td>3.3528</td>
<td>3.1047</td>
<td>3.3480</td>
</tr>
<tr>
<td>Coefficient</td>
<td>3.8985</td>
<td>4.0127</td>
<td>-1.22401</td>
</tr>
</tbody>
</table>
The table shows that change in ROA is determined up to 9.5%, 22.4% and 9.8% by GDP, Inflation and interest rates respectively. It is interesting to realize that inflation is the single factor with the highest effect on MFIs ROA. This can be explained by the fact that both GDP and Interests are affected by the rate of inflation. Increase in inflation leads to decrease in economic growth (GDP) and increase in interest rates. It is definitely a point of discussion on the fact of this statement but empirical findings shows so.

4.5 Summary of Key Findings

The study found the main reasons for formation making of profit, improving peoples living standards and creation of employment. It was also found that most MFIs have negative ROA and only 33% have positive ROA, this is despite the fact that most of these MFIs have been in existence for over 10 years.

It was also found that macroeconomic factors were highly affecting MFIs performance and they could be used to accurately predict MFIs ROA. Other factors affecting MFIs were found to be the number of years the MFI has been in operation (where it accounts up to 34% of MFIs ROA), unemployment and high regulation. It was also found that MFIs respond to challenges facing them by use of IT, financial education, offering more products and submissions to central bank concerning regulations.

The study found out that MFIs sources main sources of income are interest on loans and advances accounting to over 80% and fees and commission accounting for 21%-40% of their total income.

It was also found that macroeconomic factors have an effect on MFIs average ROA. GDP was found to have the highest relationship with ROA and when GDP is rising, ROA is also rising and hence the two variables have positive relationship. GDP was also found to have a very close relationship between inflation and interest rates. Increasing interest rates leads to reducing ROA and vice versa. The study also found out that the number of years the MFI had been in operation related with ROA up to 34.9%.

The study also devised a model of determining the relationship between ROA and macroeconomic variables which was found to be 100% accurate with a standard error of 0 and multiple coefficient of determination of 1. Individually, change in ROA was determined up to 9.5%, 22.4% and 9.8% by GDP, Inflation and interest rates respectively.
CHAPTER FIVE

SUMMARY AND CONCLUSION

5.1 Introduction
This chapter presents a summary of the important elements of the study, discussion of major findings and interpretation of the results. This chapter further presents the conclusions drawn from the research findings as well as recommendations for improvement and suggestions for further research.

The chapter is subdivided into section 5.2 on summary of the study, section 5.3 on conclusion of the study and section 5.4 on limitations of the study and section 5.5 which offers recommendations for further research.

5.2 Summary of the Study
The study sought to find out the effect of macroeconomic factors on the performance of MFIs in Kenya. To achieve this objective, the data obtained from deposit taking Microfinance institutions were to be used in the study. The study sought to shed more light on microfinance sectors so as to provide the much needed by the interested parties including investors, the government donors among others. The information by this study is much relevant in formulation policies aimed at promoting the microfinance sector and stimulate economic development.

The study found that the main reasons why most MFIs were formed was making of profit (ranked number one), improving peoples living standards (ranking number two) and creation of employment. It was also found that most MFIs had negative ROA and only 33% had positive ROA, this is despite the fact that most of these MFIs have been in existence for over 10 years.

On the effect of macroeconomic factors and MFIs performance, it was also found that macroeconomic factors were highly affecting MFIs performance and they could be used to accurately predict MFIs ROA. It was also found that macroeconomic factors had an effect on MFIs average ROA. GDP was found to have the highest relationship with ROA and when
GDP is rising, ROA is also rising and hence the two variables have positive relationship. GDP was also found to have a very close relationship between inflation and interest rates. Increasing interest rates leads to reducing ROA and vice versa. The study also found out that the number of years the MFI had been in operation related with ROA up to 34.9%.

Other factors affecting MFIs were found to be the number of years the MFI has been in operation (where it accounts up to 34% of MFIs ROA), unemployment and high regulation. It was also found that MFIs respond to challenges facing them by use of IT, financial education, offering more products and submissions to central bank concerning regulations. The study found out that MFIs sources main sources of income are interest on loans and advances accounting to over 80% and fees and commission accounting for 21%-40% of their total income.

The study also devised a model of determining the relationship between ROA and macroeconomic variables which was found to be 100% accurate with a standard error of 0 and multiple coefficient of determination of 1. Individually, change in ROA was determined up to 9.5%, 22.4% and 9.8% by GDP, Inflation and interest rates respectively. However, the model is a part of discussion and more research should be done.

5.3 Conclusion

The microfinance sector in Kenya has received a lot of attention in the past and the need to protect the public has made the sector to be much regulated. Its tremendous growth in the latest past and increasing competition in the banking sector has led to commercial banks joining the sector, for example, chase bank in 2011 started Rafiki DTM ltd so as to be able to serve the lower market. All these factors and the need to understand the effect macroeconomic factors have been having on MFIs performance, led to this study.

The study specifically targeted the deposit taking MFIs whose list was given by the Central Bank of Kenya. The data was collected from primary sources using questionnaires and interviews as well as secondary sources including data from Kenya National Bureau of Statistics and Central bank.

The study found out that MFIs performance measured by Return on Assets (ROA) was highly affected by macroeconomic factors. In fact, the model developed by this study from the data obtained showed that MFIs ROA is wholly a function of GPD, interest rates and inflation. The model was 100% accurate with a standard error of zero. However, the accuracy of the
model should be a matter to be researched further; but what is definite is that the model is accurate to a large extent even if not 100%.

This implies that MFIs ROA is highly a function of macroeconomic factors and more specifically GDP, Interest rates and Inflation and the three variables can be credibly used to predict MFIs expected ROA. This revelation offers regulators and those responsible over macroeconomic variables, vital information that if MFIs are to operate profitably and encourage growth in the sector, then; they have to offer favourable economic variables. That is, they should ensure high economic growth (GDP) and have low inflation and interest rates in the economy which will instead boost MFIs performance and therefore creating room for higher economic growth.

5.4 Limitations of the Study
The study was faced by numerous challenges but which did not hinder the achievement of the study objectives but only called for approaches to counter then. First, the study was only targeting the deposit taking MFIs in Kenya. However, there are more than 20 other MFIs which only give credit to public but they are not authorized to receive deposits from the public.

Secondly, collecting the filled questionnaires from the respondents took a lot of time. This was due to the fact that the targeted respondents were high ranking staff of MFIs who did not have time to answer the questions. We had to make numerous calls in following up. In addition, some respondents did not want to give us the information since it was highly sensitive information and they treated some of the information as their business secrets. We had to give the respondents verbal assurance in addition to the request for information letter.

5.5 Recommendations for Further Research
Microfinance industry has huge potential in Kenya and is highly affected by macroeconomic factors. This research found out that macroeconomic factors and specifically GDP, Interest rates and Inflation were the main factors affecting MFIs performance as measured by ROA. In addition, we developed a model which could be used to project MFIs ROA with 100% accuracy with standard error of zero. This looks interesting but calls for further research to determine the accuracy of the model, the situations in which it can be applied and to which form of organizations it can be used; can it only be used for MFIs or even commercial banks? Further research will offer more light on this and answers this questions.
Further, this study only used the deposit taking MFIs in Kenya. However in Kenya, there are more than 20 MFIs which are not authorized to take deposits but only gives credit. Further research should be undertaken in this area to determine whether the non-deposit taking MFIs are affected by the macroeconomic factors in the same way as deposit taking MFIs. Also further research should be undertaken to determine on how macroeconomic factors would affect MFIs ROA when using the deposit taking and non-deposit taking MFIs. Lastly, the model used did not include other variables that affect ROA of the MFIs other than macroeconomic factors. Further studies should be carried to include firm specific variables that also affect ROA
REFERENCES


## APPENDIX I

List of Licensed of Deposit taking Microfinance Institutions as at June 2013

<table>
<thead>
<tr>
<th>Institution</th>
<th>Date Licensed</th>
<th>Branches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faulu Kenya DTM Limited</td>
<td>21st May 2009</td>
<td>27</td>
</tr>
<tr>
<td>Kenya Women Finance Trust DTM Limited</td>
<td>31st March 2010</td>
<td>24</td>
</tr>
<tr>
<td>SMEP Deposit Taking Microfinance Limited</td>
<td>14th December 2010</td>
<td>6</td>
</tr>
<tr>
<td>Remu DTM Limited</td>
<td>31st December 2010</td>
<td>3</td>
</tr>
<tr>
<td>Rafiki Deposit Taking Microfinance</td>
<td>14th June 2011</td>
<td>3</td>
</tr>
<tr>
<td>UWEZO Deposit Taking Microfinance Limited</td>
<td>08 November 2010</td>
<td>2</td>
</tr>
<tr>
<td>Century Deposit Taking Microfinance Limited</td>
<td>17th September 2012</td>
<td>1</td>
</tr>
<tr>
<td>SUMAC DTM Limited</td>
<td>29th October 2012</td>
<td>1</td>
</tr>
<tr>
<td>U&amp;I Deposit Taking Microfinance Limited</td>
<td>8th April 2013</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX II

TRANSMITTAL LETTER

Dear Participant

My name is Patrick Nduati Njuguna and I am a graduate student at University of Nairobi. For my MBA project, I am examining impact of macroeconomic factors on the MFIs financial performance. I have selected your institution to represent other MFIs and I am inviting you to participate in this research study by completing the attached survey.

Thank you for taking the time to assist me in my educational endeavors. The data collected will provide useful information regarding MFI financial performance. If you would like a summary copy of this study please complete and detach the Request for Information Form

Sincerely,

Patrick Nduati Njuguna

0722-256-418

Nduati.njuguna@gmail.com

************************************************************************

Request for Information

Please send a copy of the study results to the address listed below.

Name:

Address:
This questionnaire is purely for academic research purpose at University of Nairobi and the information provided herein will be therefore exclusively used for the same purpose and will be kept confidential. This questionnaire is intended to achieve the following objectives.

1. To assess the financial performance for last five financial years
2. To determine the factors affecting the performance

SECTION A

1. Name (Optional)..............................................................................................................
2. Organization and Department........................................................................................
3. Position...........................................................................................................................

SECTION B

4. How long have this Institution been operating in Kenya?
   - Less than 2 years
   - Between 2- 7 years
   - Over 7 years

5. When does your financial year end?
6. Please rank the following reasons to show why your organization was formed/established using numbers 1-4 where 1 represents the main reason.

To improve people lives by offering cheap credit

To make profit

To create employment

Others

If others, kindly specify:

…………………………………………………………………………………………………

…………………………………………………………………………………………………

…………………………………………………………………………………………………

7. How was your financial performance for the last five financial years (Please indicate the specific years starting with most current)

<table>
<thead>
<tr>
<th>Year</th>
<th>Yr.</th>
<th>Yr.</th>
<th>Yr.</th>
<th>Yr.</th>
<th>Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Figures in Millions Kshs.</td>
<td>Total Assets</td>
<td>Return on Assets</td>
<td>Return on Equity</td>
<td></td>
</tr>
</tbody>
</table>
8. Please indicate to what extent the performance of your institution was affected by the following economic factors using a scale of 1-4 where 1 is to very large extent, 2-large extent, 3-small extent and 4 to very small extent.

- Interest rates
- Inflation
- Economic growth (GDP)
- Exchange rates

9. Which other key factors other than ones in 4 above that has affected your institution performance?

   i. ...........................................................

   ii. ..........................................................

   iii. ..........................................................

10. How have you responded to the above factors to ensure that the organization continues to survive?

   i. ................................................................

   ii. ................................................................

   iii. ................................................................

11. To what proportion do the following sources contribute to your total income? Please tick appropriately.

<table>
<thead>
<tr>
<th>Source of Income</th>
<th>Below 20%</th>
<th>21%-40%</th>
<th>41%-60%</th>
<th>61%-80%</th>
<th>Over 80%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest on loans and advances</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign exchange trade</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fees and commission</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dividends</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
12. What are the key challenges facing your Microfinance?
   
   i. ........................................................................................................
   
   ii. .........................................................................................................
   
   iii. .........................................................................................................

   The End

   Thank You