ISSN: 2602-3385

JOURNAL OF BUSINESS MANAGEMENT AND ECONOMIC RESEARCH

Volume : 2
Issue : 6
Year : 2018

Journal of Business Management and Economic Research

ISSN:2602-3385

SEGUMPAN Reynaldo Gacho (Ph.D.), segumpan@gmail.com
Department of International Business Administration, College of Applied Sciences – Rustaq Ministry of Higher Education, Rustaq, Sultanate of Oman

SINGH V.K. (Ph.D.), **drvksingh1969@gmail.com**, **drvksingh@gkv.ac.in**
Faculty Of Management Studıes [Fms], Gurukula Kangrı Vıshwavıdyalaya Harıdwar, Uttarakhand, India

YÜCEL Recai M. (Ph.D.), recaiyucel@mac.com
Albany New York University / USA,

YÜKSEL Sedat (Ph.D.), sedatyuksel@gmail.com
Department of International Business Administration, College of Applied Sciences – Rustaq Ministry of Higher Education, Rustaq, Sultanate of Oman

Journal of Business Management and Economic Research

Contents

2018, Vol.2, Issue.6

ISSN: 2602-3385

The Contribution of Micro Finance Institutions to Households Welfare: A Case of Finca And Pride in Iringa Tanzania

Hadija Matimbwa
Ruaha Catholic University- Tanzania hadija.matimbwa@gmail.com

Theobald Kipilimba
Ruaha Catholic University- Tanzania

Abstract
This study assessed the contribution of microfinance institutions to household welfare in Iringa Municipality. More specifically, the conditions set by MFIs in the entire process of granting credits to borrowers were analysed. The study further assessed the capacity of loan repayment among borrowers, examined the contribution of microfinance institutions to household businesses, and examined the household welfare situation prior to and upon accessing microfinance support. A cross-sectional research design with a mixed method approach was adopted. Questionnaires (constituting both open and closed ended questions), interview, and FGDs methods of data collection were used to obtain data from a sample size of 91 respondents. Quantitative data were analyzed using descriptive statistics, while the content analysis technique was employed in the analysis of qualitative data.
Controversial findings revealed that while some households' welfare improved upon loan investment into businesses, the welfare of others only worsened upon loan repayment. Furthermore, some conditions placed by MFIs such as interest rates and the requirement of collateral were some of the leading hurdles experienced in the process of securing MFIs loans. It was further revealed that the loan repayment capacity of beneficiaries is greatly challenged by the monthly and weekly instalment duration. The duration seems to be too short for them to comply. It was concluded as per findings that MFIs contributions were adequate in improving their loan beneficiaries' household welfare. It was also conclusive that some MFIs conditions are a significant barrier to the loan acquisition process thus; it is recommended that MFIs should consider revising some of the conditions observed as the most limiting to clients. MFIs should also provide credit according to their clients' demand in order to invest in LGAs that are more productive.

Keywords: Household welfare, Microfinance Institutions

Journal of Business Management and Economic Research
Vol.2, Issue.6, 2018
pp.1-10

Doi: 10.29226/TR1001.2018.37

1.1 Background to the study

Microfinance is defined as a set of innovative and alternative financial services to the poor who lack access to formal financial institutions (UNDP, 2003). Microfinance provide services like micro credit, micro serving, and micro insurance to individuals, groups, and institutions, NGO's for the purpose of development (Doocy*et al.,* 2003). Historically, micro financing can be traced back to the mid 1800s, when theorist Lysander Spooner authored the benefits of small credits to entrepreneurs and farmers as a means to combat poverty (Roodman, 2011). The original intension of Microfinance institutions was financing poor communities towards sustaining their living, constructing better housing facilities, acquiring basic education, and fighting against poverty. The institutions were introduced to serve the financial needs of the un-served or underserved groups of people in the community as a means of realising development (Chijoriga and Cassimon, 2000).

Over the years, East African countries including Tanzania have witnessed the mushrooming of organizations providing financial services to clients to include; loans, saving plans, insurance, and payment transfers (Littlefield *et al.,* 2003). Micro finance institutions provide innovative and effective channels of economic activities by investing in various fields aimed at improving health, education, and borrowers' living standards. The institutions play a pivotal role in increasing consumption capacity and income levels, the race for quality education, better quality of life, and health, all of which require a raise in income levels and expenditure (Kane, 2011).

The government of Tanzania has been implementing financial sector reforms since 1991. The aim was to put in place competitive, efficient, and effective financial systems (Rubambey, 2002). The principal elements of the financial sector reforms were liberalization of interest rates, the restructuring of state owned financial institutions, the establishment of private banks, strengthening the Bank of Tanzania's role in regulating and supervising financial institutions and strengthening of Savings and Credit Cooperative Societies (SACCOS) as grass root providers of financial services (Microned, 2006). The reforms commenced with the enactment of the Banking and Financial Institutions Act of 1991. This permitted the establishment of private sector-owned banks. It further provided a structure for regulation and supervision of the financial sector (World Bank, 2003). Along with banking de-regulation, the Cooperative's Act of 1991, authorized the structuring of the Cooperative movement and permitted the establishment of the Savings and Credit Cooperatives (SACCOs). The aim was to provide services, credit to low income earners, and consequently improve their welfare (URT, 2000).

The government of Tanzania established the National Microfinance Policy as a means of reducing poverty and spur economic growth in 2000 (MoF, 2000) and was implemented in 2001 (BOT, 2001). The focus of the policy was the provision of financial services to low-income households and their enterprises both in rural and urban areas (Rubambey, 2002). The policy facilitated Non-Governmental Organizations (NGOs) in commencing micro-finance operations in Tanzania (Msambichaka *et al.,*2000). For instance, the government in an effort to provide micro-finance services to people (REPOA, 2006) established the National Micro-finance Bank (NMB).

Microfinance institutions play a critical role in eradicating extreme poverty as envisaged in the Millennium Development Goals (goal number one). The goal was to ensure that the proportion of people living in extreme poverty globally declined by half by the turn of 2015(UN, 2009). MFIs enhance development effectiveness by contributing to poverty reduction, increased social and economic development, social empowerment, and community participation, school attendance of children, Economic prosperity, and household welfare (Ibid). Welfare is mostly

thought of as a dynamic process that avails people a sense of how their lives are going, through the interaction between their circumstances, activities and psychological resources or mental satisfactory conditions of existence, such as access to better health and education, food security, household consumption, and expenditure (ADB, 2007).

Household Welfare refers to the socio-economic indicators of a given group of people living in the same compound with a common source of income (Estes, 2004). Increasing people's income through micro credit, which leads to household welfare improvement, has been the target of financial institutions. Such effort has been undertaken institutionally although they have proved both futile and successful in the improvement of household welfare at various extents. It is upon such a background that this study was undertaken to investigate the contribution of micro finance institutions to household welfare in Iringa Municipal.

2.0 Literature Review

2.1.1 Theory guiding the study

The Welfarist theory

Adam Smith (Aidukaite, 2009) developed the welfare theory. The theorist created the invisible hand idea that became one of the most fundamental equilibrating relations in economic theory; the equalization of rates of returns as enforced by a tendency of factors to move from low to high returns through the allocation of capital to individual industries by self-interested investors. The self-interest will result in an optimal allocation of capital for society. Directly quoted, Adam asserts that: "Every individual is continually exerting himself to find out the most advantageous employment for whatever capital he can command. But the study of his own advantage naturally, or rather necessarily leads him to prefer that employment which is most advantageous to society". Adam further postulated that what is true for investment is true for economic activity in general. "Every individual necessarily labours to access basic necessities in life (well-being). The theory advocates that the lack of well-being translate to poverty. Both government and non-government organizations are therefore agued to develop strategies and instruments such as landing institutions in order to improve the poor people's well- being.

The Welfarist theory views microfinance as one of the most effective tools for combating poverty and realizing a sustainable life; the theory supports the idea of subsidizing microcredit programs in order to lower the cost of operating microfinance institutions to in turn lower loan interest rates (Morduch, 2000). The performance of MFI's is measured through household studies which focus on individuals living standards; number of saving accounts, number of loans, productivity improvement, incomes, capital accumulation, social services such as education and health as well as food expenditures (Brouwer *et al.,* 2005). Welfarist is of the assumption that MFIs can achieve sustainability without the institutionalist definition of self-sufficiency (Tsuchiya *et al.,* 2005).

They further argue that gifts for instance subsidies from donors serve as a form of equity, and as such, donors can be viewed as investors. Unlike investors who purchase equity in a publicly traded firm, MFI donors do not expect to earn monetary returns. Instead, these donor-investors realize an intrinsic return. These donors can be likened to equity investors who invest in socially responsible funds, even if the expected risk-adjusted return of the socially responsible fund is below that of an index fund. These socially responsible fund investors are willing to accept a lower expected return because they also receive the intrinsic return of not investing in firms that they find offensive (Robinson, 2001). Moreover, the theory argues that credit is provided to poor borrowers below market interest rates in order to reach the extremely poor to

help overcome poverty and empower them. Welfarist theory focuses on credit as a poverty reduction tool. The performance of Commercial banks is rated using assets base, number of performing loans and size of the loan book, income, and corporate social responsibility such as education, health, and humanitarian activities undertaken by financial institutions in improving household welfare (Ibid). This theory is helpful in assessing the borrowers` capacity in meeting MFIs conditions and furthermore, the theory is helpful in assessing the use of credit in improving borrowers' household welfare.

2.2 Empirical Literature Review

2.2.1 Conditions set by MFIs in the entire process of granting credits to borrowers

Financial institutions impose several conditions during the process of granting loans, conditions such as collateral, which refers to a borrower's pledge of specific property to a lender to secure repayment of a loan (Yunus, 2001) is perhaps the most common condition. Operation of a legal business is another condition normally checked in the early stages of loan processing. Legality of the business is important for the contract and also to ensure that microfinance are keen to social responsibility requirements, that is desist from supporting illegal businesses (Pereira and Mourao, 2012). The guarantor is another important condition so that in case the borrower defaults, the guarantor can be contacted to help follow up with the client.

2.2.2 The capacity of loan repayment among the borrowers

The main aim of microfinance is to provide funds for micro business investment that are expected to increase household income and hence improve livelihood. However, most borrowers misappropriate loans to food, shelter, and clothing to meet their basic needs rather than the intended investment. As Bayang (2009) put it, at the time of loan disbursal, the poor borrowers are pre-occupied with pressing economic problems ranging from shortage of food, lack seedlings, and medical bills among others, a practice which renders loan repayment difficult. Gebeyehu (2002) conducted a case study of factors attributed to loan defaulting among private borrowers financed by Development Bank of Ethiopia Zway Branch. It was revealed that having an alternative source of income, education, experience in a related economic activity prior to securing a loan and engaging in an economic activity other than agriculture enhance successful loan repayment. However loan diversion, being a male borrower and extending the loan repayment period are undermining factors of the loan repayment capacity of projects. Mohamed and Shariff (2013) further studied the determinants of repayment performance of microfinance programs in Malaysia using the individual lending approach. Findings revealed that gender, business experience, education level, distance, or accessibility of the market place; total loan size and transaction costs have a positive coefficient to repayment performances. On the other hand, the age, religion, total income, business sector, business status, year of establishment, business area, total sales, loan type, repayment schedule, repayment period and loan monitoring have a negative coefficient between the delinquent and good borrowers.

2.2.3 The contribution of microfinance institutions to household businesses

Microfinance offer services to individuals and groups in a collective effort to improve their entrepreneurial skills by accessing affordable capital to develop their businesses through granted loans. Priority is given to micro enterprises, self-employment activities, and household enterprises i.e. MFI loans assist household borrowers in establishing business start-ups (Rutashobya, 2001).

According to Chestnut (2010) borrowers, use secured loans to initiate businesses such as purchasing wholesale goods to resell in markets, creating and selling crafts, farming, and other

activities. The profits they earn allow them to repay the loan, make a living, and generally improve their living conditions. Ohri (2004) argues that while microfinance provides the poor with credit access to engage in income generating activities, loans secured are appropriated in increasing assets, including permanent houses or savings accounts, offering recourse during hard times and consumption especially on food, nutrition, and education.

Kuzilwa (2002) studied microfinance services In Tanzania and examined the role of credit in generating entrepreneurial activities. Findings revealed that the output of enterprises increased following credit access. It was further observed that enterprises whose owners received business training and advice performed better than their counterparts who lacked the same. It was recommended that an environment should be created where informal and quasi-informal financial institutions can continue to be easily accessed by micro and small businesses.

3.0 Methodology

This study was conducted in Iringa Municipality using the cross-sectional survey method where data was collected at a single point at a time from selected loan officers and borrowers. Two microfinance institutions in Iringa municipality were purposively sampled to include; PRIDE and FINCA. Ninety-one (91) respondents from whom data was collected through questionnaire, FGD, and interview informed the study. While quantitative data were analyzed descriptively, qualitative data were analyzed in accordance with common themes identified and by quoting the exact words spoken by interviewees and focus group discussants.

4.0 Results

4.1 Demographic Information

Table 4.1 Respondents' Profile

	Value	**Frequency**	**Percentage**
Age	18 – 27	21	23.1
	28 – 37	45	49.5
	38 – 47	22	24.2
	48 and Above	03	03.3
Level of Education	No Formal Education	02	02.2
	Primary Education	31	34.1
	Secondary Education	48	52.7
	College/University	10	11.0
Loan experience	Once	09	09.9
	Twice	15	16.5
	Thrice	39	42.9
	More than 3 Times	28	30.8
Total		**91**	**100**

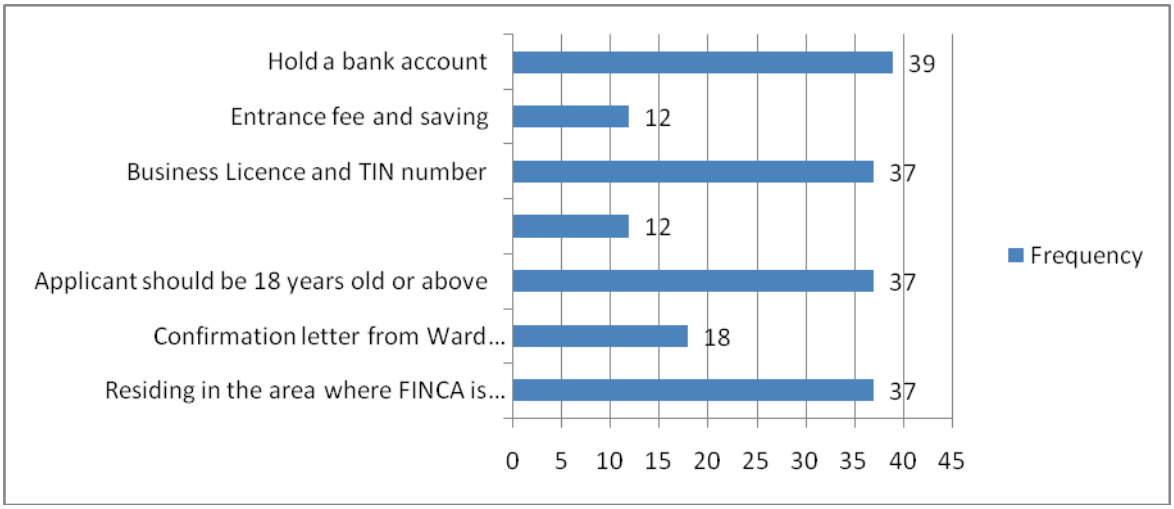
Source: (Field Data, 2018)

Data presented on table 4.1 above reveals that 49.5% of respondents were youths aged between 28 – 37 years old. The table further depicts that the majority of respondents (52.7%) had obtained secondary school education, while 34.1% had primary school education. This indicates that credit was offered to respondents who have better knowledge about micro loans, the role of credit, benefits, understand the procedures of obtaining credit and meeting repayment obligations. The table also portrays that 42.9% of respondents had secured loans at least thrice whereas 09.9% had secured loans only once. This indicates that the majority of respondents had sufficient experience with financial institutions and in the right position to share their opinion regarding the impact of MFI`s on their household welfare.

4.2 Conditions Set by MFI`s in Granting Credits to Borrowers

As presented on figure 4.1 below, the following conditions should be fulfilled by borrowers prior to securing loans from FINCA and PRIDE Tanzania;

Figure 4.1 Conditions set by MFIs in granting Credits to Borrowers



Source: field data (2018)

As presented on figure 4.1 above, the majority of respondents (39) admitted that possession of a bank account is one of the key requirements for obtaining a loan. Moreover, 37 respondents stated that residing in close proximity to FINCA/PRIDE offices, holding a business licence/TIN number and having attained the age of 18 years and above were also part of the criteria for securing a loan. Moreover 18 percent of the respondents stated that a confirmation letter from Ward Executive Officers was a requirement whereas 12 respondents agreed that entrance fees/saving as well as possession of viable income generating activities were required. The findings of the current study are in line with those from one study by Ng'ana (2013) who examined the contribution of microfinance institutions in the development of small enterprises, a case of Ilala Municipality. The findings revealed that permanent location, guarantor, and high interest rates were the main challenges hindering small enterprises from accessing loans.

4.3 The Capacity of Loan Repayments among Clients

Ability to repay loans on time by clients

It was found that 78% of respondents were unable to promptly repay their loans as revealed in both institutions. This was also noted during the FGDs as one discussant directly stated;

"…It is very difficult to repay loans on time as sometimes the business does not bring the desired results." On the same note, one loan officer concurred with the clients that; *"For most clients, prompt loan repayment is always an uphill climb. The biggest problem is the business one is engaged in. They fail to raise the money on time which hinders their chances of obtaining loans when next requested…"*

One borrower also stated;

..."prompt loan repayment is a big challenge for the majority of us. For example in my institution, we repay loans on a weekly basis which is a challenge and sometimes we pay late because a week is insufficient for accumulating enough money for loan repayment…".

Majority of respondents (92%) revealed that the following factors affected their loan repayment capacity to include; high interest rates, short payback period, and the natures of economic activities borrowers engaged in.

4.4 The Contribution of MFIs towards Households Businesses

Findings revealed that all respondents who were loan beneficiaries from the two MFI`s secured loans for business purposes. It was further revealed that 46 respondents (50.4%) used their loans for improving their existing businesses, while 45 respondents (49.6%) used their loans to increase business inventory. This implies that borrowers used loans to expand their businesses that is, engage in income generating activities and investment as capital increases. It was also found that these businesses were regarded as employment and supplemented family income through the profits earned. The profits allowed borrowers to repay loans, make a living, and generally improve their welfare. Rutashobya (2001) and Makunyi (2017) similarly found that MFI loans assist borrowers in expanding their businesses.

Qualitative findings from FGDs revealed similar results as participants declared that micro loans from MFIs enabled them to expand their businesses and make profits which increased their income as one discussant put it;

..."The money I got has assisted me to expand the chicken project. I am now servicing the loan of 1,000,000/= Tshs and I believe I will keep on expanding..."

Similarly, findings from interviews with loan officers indicated that: borrowers who were engaged in poultry keeping were able to expand their business and consequently increase their income. One Loan officer particularly stated:

"…I am happy that micro loans have increased borrowers' income. In many different ways we provide loans, and by using these loans, they were able to invest, make profit and expand their businesses…".

Table 4.2: Use of Loans Secured (n=91)

Category	Frequency	Percentage %
Increase my inventory	46	50.4%
Improving the existing business	45	49.6%
Total	**91**	**100%**

Source: field data (2018)

4.5 The Household Welfare Situation Before and After Accessing Loans

The fourth objective was to find out the household situation before and after accessing loans from MFI's. It was revealed that the income of the majority of respondents had significantly increased in comparison to their income prior to joining MFIs. In this aspect, 34% to 36.2% had raised their income from 200,000 to 299,000 meaning by contrast, it was an upturn in fortunes as far as loan in financial institutions is concerned.

On the same note though, it should be noted that there are respondents who had a monthly income of 400,000 and above. This is indicative of the fact that accessing MFIs loans is important for raising household income for members who joined MFIs.

Upon securing credit, the household welfare of respondents has relatively improved in comparison to their previous situation. One FGD discussant particularly stated;

> ...*"Before taking credit for my business, i faced hard times and I could hardly afford the daily family needs. On top of that, the business was not doing well. But right now, I managed to build my business and I can see changes in family welfare as I have been able to meet almost all their needs..."*.
>
> Another discussant eagerly added; ...*"the loan I took last year has really helped me a lot. I had so many challenges in regards to growth of my business which hampered the welfare of my family. It is now easy to cater for my family needs since the business is doing well..."*

Furthermore, 36.4% of respondents revealed that prior to securing micro loans, they had mud floors whereby 30.7% indicated that they had un-plastered walls before accessing micro loans, indicating poor living conditions. On the other hand however, 11.3% of respondents stated that they still had mud floor even after securing loans while 7.6% still had un-plastered walls. Largely therefore, the living conditions of borrowers significantly improved upon securing loans. Beneficiaries were able to renovate their houses by cementing their floors, had their houses roofed with iron sheets, plastered their house walls and have greater access to basic needs (such as food, shelter and clothing).

5.0 Conclusion

Conclusively, the loan repayment capacity of beneficiaries is greatly challenged by the nature of economic activities they engaged in; which are too risky or require time to realise tangible benefits. Other challenges include the high interest rates imposed on loans, which render the instalments higher in comparison to the income generated. In addition, loan beneficiaries are constrained by the weekly and monthly instalment durations. The duration is too short for beneficiaries to comply and therefore leads to loan repayment default and failure to determine attained profit margin from income generating activities.

6.0 REFERENCES

Bayang, S.(2009).Why Microfinance Fails to Meet Enterprise Goals. Retrieved from http://www.allgambian.net/enterprise detail.com.Accessed on 5/5/2018.

Brouwer, W. B. F., VanExel, N. J. A., Vanden, B., VandenBos, G. A. M., &Koopmanschap, M. A. (2005). Process utility from providing informal care: The benefit of caring. Health Policy 74(1): 85-99.

Chestnut, D (2010). Role of Microfinance Institutions, from the World Wide Web: http://www.ehow.com/about 6744897 role-microfinance-institutions.html. Retrieved March 22, 2018.

Chijoriga, M.M. & Cassimon, D. (2000).*Micro Enterprises Financing – ResentResearch Issues*, DUP, Dar es Salaam.

Doocy, S., Norell, D., Teffera, S., &Burham, G., (2003).Outcome of Ethiopian microfinance programme and management actions to improve services [http://66.102.9.104/search?q=cache:7A8frgTtl20J:www.jhsph.edu/refugee/research/publication/ pdf/Ethiopia.pdf.pdf] site visited on 20 / 1/ 2007.

Kane, S.(2011).*Women and Development in Senegal:* Microcredit and Household Well Being. 59: 2387-2399.

Kuzilwa, J. A. (2005).The role of credit for Small Business Success: A study of National Entrepreneurship Development Fund in Tanzania.

Littlefield, E., Morduch, J.,&Hashemi, S. (2003). Focus Note: Is Microfinance an Effective Strategy to Reach the Millennium Development Goal? Washington, *D.C. USA.*

Microned, R. (2006).Financial sector reforms in Tanzania[http://www.microned.org/microned/coumtries/Tanzania] site visited on 11/ 2 /2008.

Ng'ana, J. J. (2013).The Contribution of Microfinance Institutions in Development of Small Enterprises at Ilala Municipality, Mzumbe University.

Ohri, C. G. (2004).Working papers on microfinance & Health, A case for Integrated Service Delivery University of Washington, Paper 4:January, 2004 Retrieved September 25, 2010 from the World Wide Web: http://www. Social enterprise. net/pdfs/socent micro health.pdf

Pereira, S.,&Mourao, P. (2012)."Why does the microcredit borrowing rate differ across countries? A cross-country study", International Journal of Social Economics, Vol. 39 Issue: 8, pp.536-550, https:// doi.org/ 10.1108/ 03068291211238428. Accessed on 11/9/2017.

Roodman, D. (2011). "Due Diligence: An Impertinent Inquiry Into Microfinance." Center for Global Development. 46(2):238-244.

Rubambey, G. (2002). The National Microfinance Policy In: Enhancing Africa's Competitiveness Through Small and Medium Scale Enterprises.(Edited byMatambalya, F. A. &Mussa, J. A., Mkuki and NyotaPublication,pp 227-334.

Rutashobya,L.(2001). Female Entrepreneurship in Tanzania: Contraints and Strategic Considerations.Proceedings of the International Academy of African Business and Development,Washington,D.C.

Rweyemamu, D. C.,Kimaro, M. P., &Urassa, O. M. (2003)."Assessing Micro -Finance Services in Agricultural Sector Development:A Case Study of Semi-Formal Financial Institutions in Tanzania" Economic and Social Research Foundation.

Tsuchiya, A., Miguel, L. S., Edlin, R., Wailoo, A.,& Dolan,P. (2005).Procedural Justice in Public Healthcare Resource Allocation. Applied Health Economics and Health Policy 4(2): 119-128.

UNDP.(2003).Microfinance [http://www.undp.org/eo/documents/Essential-on-microfinance.pdf] site visited 15/ 06 / 2006.

Yunus, M. (2001).Banker to the Poor:The Autobiography of Mohamed Yunus, Founder of Grameen Bank, Dhaka, Bangladesh.The University Press Limited.

Yunus, M. (2010).Building Social Business: The New Kind of Capitalism that Serves Humanity's Most Pressing Needs.New York: Public Affairs.

Assessment of Bioclimatic comfort using different methods in the Chaldran Region's (in Iran)

Mohammad Yazdani
Ph.D. student of Climatology, Department of Climatology, Faculty of Plnning and Environmental Sciences, Tabriz University, Tabriz, Iran yazdani@tabrizu.ac.ir

Abstract

Climate is one of the factors shaping the environment that directly affects human activities. The use of climatic elements in most plannings, including planning for tourism, is of great use. So that tourists are looking for leisure time in areas that have a favorable climate. Favorable climatic conditions attract tourists and lead to the development of tourism. In this research, the natural and historical features of Chaldran were first introduced. And the Chaldran climates were categorized in the climatic classification of the De Martonne and Emberger. Then, the bioclimatic comfort of Chaldran city were analyzed using tourism climate index(TCI) and Thermo- hygrometric index(THI) in order to plan tourism development according to appropriate tourism seasons. For this purpose, the 13-year data of the Chaldran Synoptic Station between 2004 up to 2016 was used. The results of the TCI model indicate that April, May and July, respectively, with a final coefficient of 72, 77 and 72, are very good conditions, and the months of June, August, September and October, with a factor of 90, 82, 82 and 81, respectively, are excellent climatic conditions for tourists. The results of the THI model also showed that the month of May is cool and the months of June, July, August and September have favorable climate conditions for tourism. In total, the comfort of climate for tourism in the Chaldran region, with a 75 percent coverage of the year, shows a special ability and special talent for tourism development.

Keywords: Climate Classification, Bioclimatic Comfort, TCI model, THI model, Chaldran, Tourism

Journal of Business Management and Economic Research
Vol.2, Issue.6, 2018
pp.11-20

Doi: 10.29226/TR1001.2018.38

Introduction

In general, tourism industry includes a flow of capital, human beings, culture, and interaction between them, which has different effects in geographic space. (Briedenhamm2004:7). Among these effects, we can mention the impact of tourism on economy and development. It forms a major part of the global economy and is considered to be the largest industry in the world(WTO1999:20). Climate and tourism as the main components of a dynamic system affect each other in different ways, and they interact with each other as a new discussion as the tourism Climatology(Lecha and Shachleford1997:15). The climate is very important from the point of view of tourism planning. Tourists tend to look for a favorable climate in which the person does not feel any climate dissatisfaction and this plays a significant role in making decisions for the destination of tourism(Matzarakis2001:39). Bio climatic researches are a foundation in urban planning, architecture and tourism development(Afzalinia2014:178).The bioclimatic investigates, made over time, have confirmed that the subjective perception which the human body feels regardless of the environmental conditions is the basis for the definition of the state of bioclimatic comfort or discomfort(Ionac 2007:128).Bioclimatic comfort conditions are usually associated with indicators that interfere with a set of meteorological, human, and environmental elements. These indicators provide climatic data in a way that reflects the response of people to climatic conditions and in a numerical classification, they range from the most appropriate to the inappropriate. These indicators make it easier to interpret the complex effects of atmospheric elements on human comfort And the possibility of comparing different places in terms of climate comfort. Climatic comfort indicators can examine the relationship between climate and tourism. The tourism climate index (TCI) and the Thermo- hygrometric index (THI) are two indicators of these indices. Each of these indicators, using a variety of climatic parameters, examines climatic comfort in a region and determine the appropriate time for tourism in an area. In general, this indicator states that, at a given time, the combination of different climatic elements is suitable for tourists, travelers or even residents of an area, or not? A wide range of studies have been carried out on the relationship between climatic and tourism factors and the assessment of climate comfort conditions. For example, Matzarakis (2004), (2007) and (2008), Hin (2009), Aloquardo (2004), Morabito (2004), Hartz (2006), Farajzadeh and Matzaralis (2009), Zolfaghari (2007), Yilmaz (2002) and Zengin (2009) has studied the role of climatic factors in the tourism industry and analyzed the climate comfort conditions of their studied areas.

The study area

Chaldran is one of the cities of West Azarbaijan province located in the northwestern part of Iran at 44 degrees 41 minutes east and 38 degrees 55 minutes north latitude. Chaldran can be one of the destinations for tourism due to cold weather in winter and cool in the heat season. This city with an area of 5,000 square kilometers is bounded to the north by the city of Maku and from the west to the border between Iran and Turkey and from the south to Khoy. Chaldran is located on a fertile plain next to the border elevations, and is also known as the Chaldran plain. January with an average temperature of -4.5 and a month of August with an average temperature of 22.2 ° C, respectively, are the coldest and hottest months of the year. Chaldran climates were categorized in the De Martonne and Emberger climate classification, Mediterranean, (I=22.6) and semi-humid (Q=30.1), respectively. The center of this city is Siah Cheshmeh (Qara Eyni) and its height is 1936 meters above sea level, that is one of the highest cities in Iran.The city of Chaldran has a historical significance due to the Safavid Turks' wars with the Ottoman Turks. The Qara church and the tomb of the minister of Shah Isma'il are located in this city. In the Qara church, one of the apostles of Holiness Jesus Christ is buried. In

Figure 1, the location of the study area is shown in the map of Iran and within the province of West Azarbaijan province.

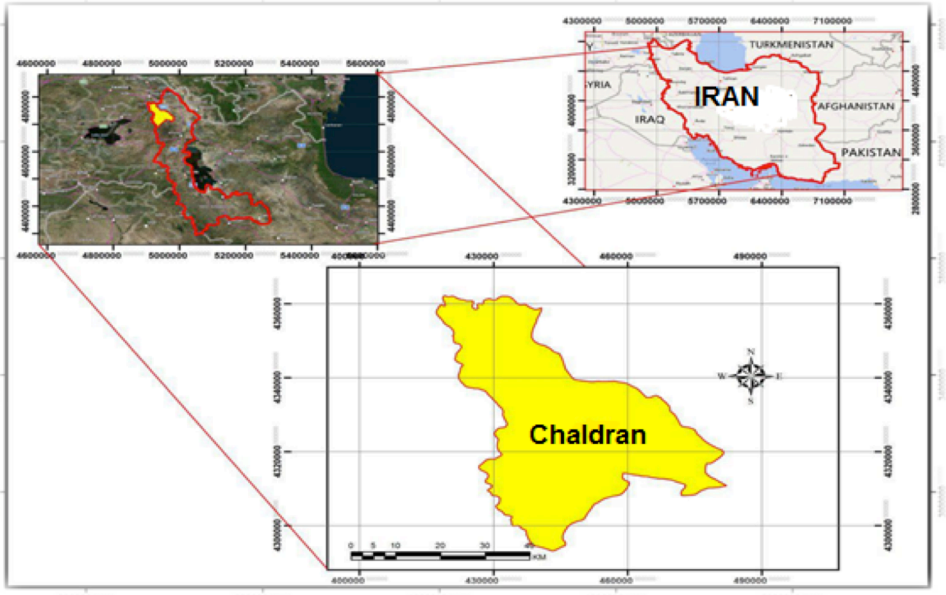


Fig1: The study area

Methods

The favorable climate along with other natural conditions is considered one of the bases of tourism development. Therefore, determining the type of climate in the study area is one of the goals of this study. For this purpose, meteorological data of the city's synoptic station was used in a 13-year statistical period from 2004 to 2016. For this purpose, the climate of the area was calculated in the climatic classification of De Martonne and Emberger And its climate was calculated, respectively, Mediterranean (I = 22/6) and semi-humid (Q = 30/1). One of the features of the Mediterranean climate is precipitation in the cold period and the sustainability of the air during the warm period of the year. However, due to the topography and elevation of the area, its precipitation is also noticeable during the warm period. The present study showed that the average annual rainfall in the area is 436.8 mm, which is 289.34 mm in the cold period and 147.46 mm in the warm period of the year (Fig. 2).

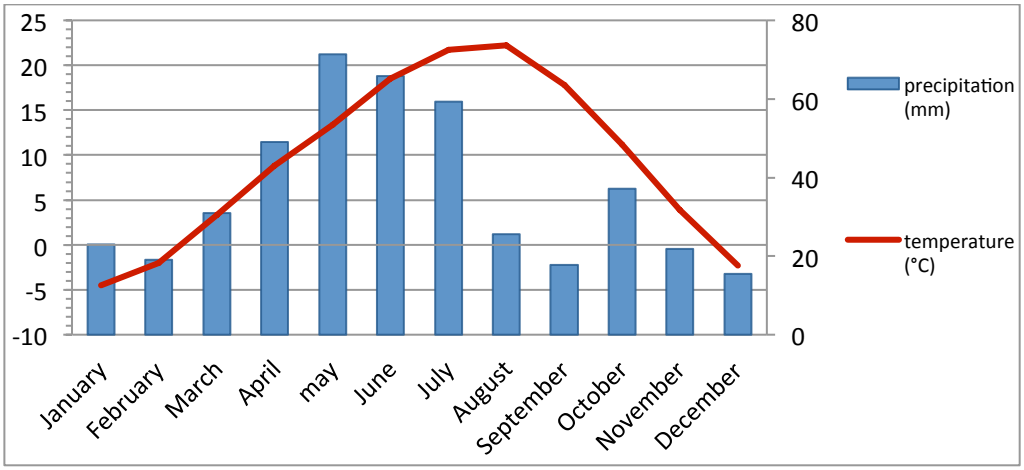


Fig 2: Climografh of chaldran

The other purpose of this study is to evaluate the climatological conditions of the Chaldran city for the development of tourism. After creating databases and statistical analysis and statistical tables, the tourism climate conditions of the studied area was evaluated using the tourism climate index (TCI) and Thermo- hygrometric index(THI).

1- Tourism Climate Index (TCI)

In this model, seven variables are used:

- Average daily temperature per month in degrees Celsius
- Daily average of relative humidity per month in percent
- Daily average of the maximum temperature per month in degrees Celsius
- Average daily minimum relative humidity per month in percent
- Daily average of total rainfall per month in millimeters
- The average daily sunny hours per month
- Average daily wind speed per month in kilometer per hour

The above variables are combined and make up 5 sub-indicators according to Table 1. And given their impact on tourism, they earn points in the TCI model.

Table (1): sub- indexs of the model and their impact on tourism (Mieczkowski 1985)

Sub- index	Monthly climate variable	Impact on tourism	Score in the model
Daytime Comfort Index (CID)	Average maximum daily temperature(°C)and average relative humidity(%)	When the tourists have the maximum activity, they show a warmth of comfort	40
Daily Comfort Index (CIA)	Average daily temperature(°C)and relative humidity(%)	Indicates heat comfort throughout the day and night	10
P	Whole precipitation(mm)	Reflects the negative effect the element has on holiday fun	20
S	Total Sunny Hours(h)	Its effect is positively evaluated for tourism. It also has a negative effect when the air temperature is very high	20
W	Average wind speed(km/h)	The effect of this factor depends on the temperature	10

Finally, after obtaining the initial coefficient of each index, the coefficients are calculated in the final formula of the tourism climate index and the final coefficient and index are calculated (Mieczkowski 1985)(relation1).

$$TCI = 2\,(4\,CID + CIA + 2\,P + 2\,S + W) \ldots\ldots\ldots\ldots\ldots\ldots (1)$$

After calculating the final formula, values and ranging from 0 to 100 are obtained for the indicator, which indicates the quality of the tourist climate in the region. The final result is determined from Table 5. We adjust the resulting value to the table values and finally, the quality of the tourism climate of a region is determined. As you can see in the table, the score 100 shows ideal and desirable conditions, and towards lower values, the amount of discontent and unfavorable climate conditions for tourists is increased(Table 2).

Table (2): The values and descriptive category of the TCI indicator

Rating	Descriptive category	Indicator value
9	Ideal	90-100
8	Excellent	80-90
7	Very good	70-80
6	Good	60-70
5	Acceptable	50-60
4	Marginal	40-50
3	Unfavorable	30-40
2	Very unfavorable	20-30
1	Extremely unfavorable	10-20
0	Impossible	0-10

2- Thermo- hygrometric index(THI)

The index uses the air temperature (TA) and relative humidity (RH), applicable towarm climatic
conditions. It employs a simple linear equation:

$$THI = t - (0.55 - 0.0055f)(t - 14.5) \ldots\ldots (2)$$

In this relation, the THI represents the Thermo- hygrometric index, t is the mean dry temperature to Celsius and f is the average relative humidity to the percent. The temperature range and THI status are shown in Table 3.

Table(3):The categories of the thermo hygrometric index [THI; Kyle 1994 in Unger 1999]

THI category	Temperature (°C)
Hyper-glacial	<–40
Glacial	–39.9 to –20
Extremely cold	–19.9 to –10
Very cold	–9.9 to –1.8
Cold	–1.7 to +12.9
Cool	+13 to +14.9
Comfortable	+15 to +19.9
Hot	+20 to +26.4
Very hot	+26.5 to +29.9
Torrid	>+30

Results

1- Results from the TCI model

In the study of climate conditions affecting tourism, according to the TCI model, the tourism climate conditions of Chaldran city were analyzed on a monthly basis. And the index was obtained for each month of the year and the following results were obtained(Figure 3 and Table 4):

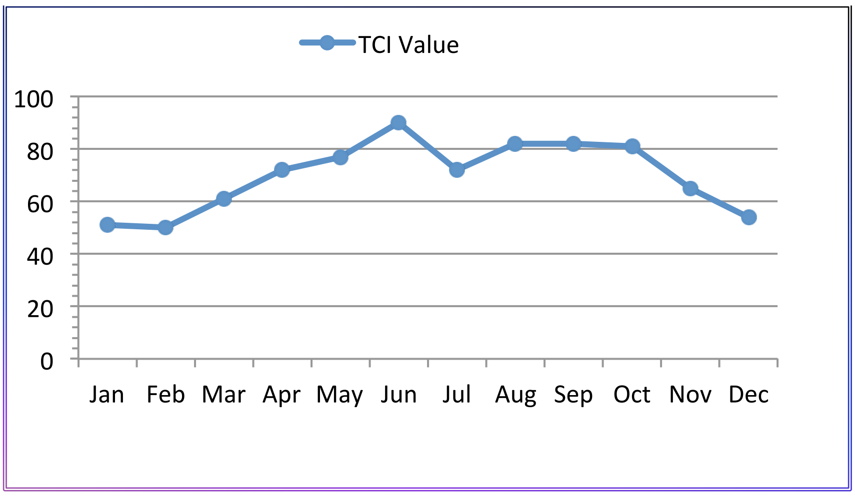


Fig3: Monthly TCI Values of Chaldran

Table (4): The coefficients and conditions of the tourist climate obtained for months according to the model TCI

Month	Average maximum temperature (°C)	Average relative humidity (%)	Average temperature (°C)	Average relative humidity (%)	Average wind speed (km/h)	Average precipitation (mm)	Number of sunny hours per day	CID Sub-index	CIA Sub-index	The final coefficient of the tourism climate	Climate conditions for tourism
Jan	6.1	57.8	-4.5	70.2	23	22.9	4.8	2	1	51	Acceptable
Feb	8.1	53.1	-2	66.4	28.5	19.1	5.5	2	1	50	Acceptable
Mar	14.3	45.5	3.3	59.3	31.7	31	6.3	1.5	1.5	61	Good
Apr	20.6	40.5	8.8	56.2	31.7	49	6.2	4	2	72	Very good
May	24.4	41.3	13.4	57	26.3	71.44	7.9	5	2.5	77	Very good
Jun	28.8	36.1	18.5	51.2	14.54	65.75	10.2	5	4	90	Excellent
Jul	32	35.2	21.7	49.7	23.3	59.3	10.4	3	5	72	Very well
Aug	32.2	30.8	22.2	45	24.8	25.6	10	3	5	82	Excellent
Sep	29.34	34.1	17.8	48.5	24.1	17.84	9.3	4	3	82	Excellent
Oct	24	45.1	11.2	60.7	26	37.2	6.9	5	2.5	81	Excellent
Nov	14.9	47.9	3.9	64.6	25.2	21.76	5.6	2.5	1.5	65	Good
Dec	10.3	53	-2.3	68.2	25.5	15.5	5.4	2.5	1	54	Acceptable

Weather conditions for tourism with coefficients of 50 and 51 are acceptable in January and February. The reason for the low coefficients is the existence of cooling conditions due to the dominance of the western and polar systems. Which has diminished the desirability of the climate for tourism, with the intermittent falling snow and frost. In March, the coefficient increases to 61, and the climate conditions rank well for tourism. The average temperature of this month is 7.8 degrees higher than January. And this is due to the increased energy received by the sun due to spring equinox.

In April, with the increase of the coefficient to 72, the climate of the tourist changed to a very well rating. The average temperature rises and the dominance of the western and northern systems becomes dim.

Due to the fact that the average maximum temperature of the months is May, June, July, August, September and October between 24 and 33 ° C, the Trade Wind system was used to determine the initial wind speed coefficient.

The tourism climate conditions for the months of May and June amounted to 77 and 90, and were ranked very well and excellent. With a rise in temperature to 13.4 in May and 18.5 in June, the Chaldran region experiences moderate and favorable conditions.

With rising temperatures at the peak of summer, a slight decline in the desirability of climatic conditions. As of July, the final coefficient of tourism has dropped to 72 and climate conditions for tourism have been very well estimated.

Considering the mountainousness of the studied area and the effect of elevation on the decrease in temperature, the climate conditions of the tourist with a coefficient of 82 in August are in excellent condition.

With the end of summer and the onset of autumnal equilibrium, the final coefficient for the months of September and October will be 82 and 81, and will provide excellent conditions for tourists. Gradually, with the steadiness of Western systems and northern flows, the climate's desirability for tourism is reduced. So the final coefficient will be reduced to 65 in November

and 54 in December and the climate conditions of the tourism, respectively, are well and acceptable.

2- Results from the THI model

According to Table 3 and Relationship No. 2, the values of THI and its climatic comfort were calculated for Chaldran, and Table 5 was compiled. As shown in Table 5 and Figure 4, the climatic comfort of the city was estimated to be cool for May and was favorable for the months of June, July, August, and September.

Finally, in order to overcome climatic comfort in the TCI and THI indices, the findings of both indices were compared. According to the findings of both indicators, the months of May, June, July, August and September in Chaldran were evaluated for favorable tourism.

Table(5): Bio climatic comfort Chaldran region based on Thermo-hygrometric index

Month	Average temperature(°C)	Average relative humidity(%)	THI	THI category
Jan	-4.5	70.2	13.6	Very cold
Feb	-2	66.4	3	Cold
Mar	3.3	59.3	5.8	Cold
Apr	8.8	56.2	10.2	Cold
May	13.4	57	13.7	Cool
Jun	18.5	51.2	17.4	Comfortable
Jul	21.7	49.7	19.7	Comfortable
Aug	22.2	45	19.9	Comfortable
Sep	17.8	48.5	16.9	Comfortable
Oct	11.2	60.7	11.9	Cold
Nov	3.9	64.6	6	Cold
Dec	-2.3	68.2	0.6	Cold

On the other hand, according to the TCI model, Chaldran climate conditions for seven months and according to the results of the THI model, the humidity and heat conditions for four months are favorable for the comfort of tourists. In total, the comfort of climate for tourism in the Chaldran region, with a 75 percent coverage of the year, shows a special ability and special talent for tourism development.

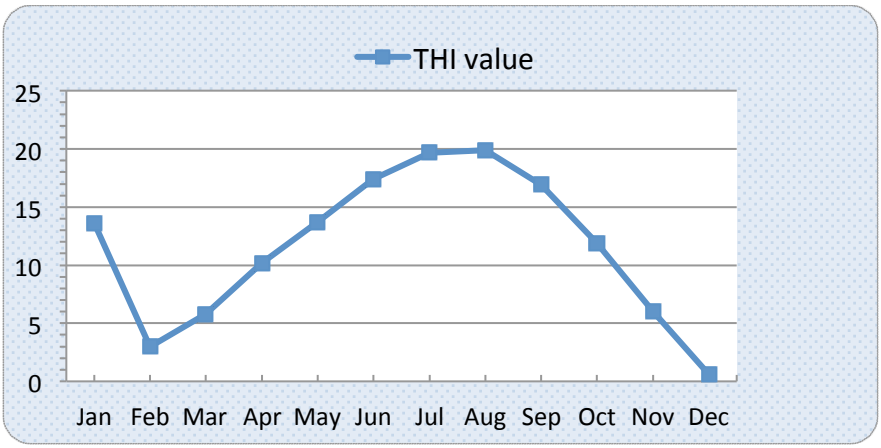


Fig4: Monthly THI Values of Chaldran

Conclusion

The purpose of this study is to investigate the conditions of Chaldran's Bioclimatic to determine its tourist calendar. It must be said that the city is less well-known despite its natural and historical capabilities. The study showed that the bioclimatic comfort in this city could lead to the development of tourism and the economic flourishing of Chaldran.

References

Agnew, M. Palutikof, J, (2006),. Impacts of Short-term Climate Variability in the UK on Demand for Domestic and International Tourism. Climate Research, 31, 109-120.

Briedenhan, Jenny and Eugenia wickness, (2004). Tourism- Routes as a tool for the Economic Development of Rural Vibrant Hope or impossible Dream, Tourism of Management Vol. 25.

Chakavak Khajeh Amiri Khaledi.(2017). A Case Study of Evaluation and Distribution of Tourism imate by Using TCI: Baluchestan Region of Iran. Journal of Geology, 2017,1227-1237

Farajzadeh Hassan, Matzaralis Andreas, (2009), Quantification of climate for tourism in the northwest of Iran, Meteorological Applications, No. 16, 545-55.

Farzaneh Afzalinia1,Mohammad Reza Bosshaq, Soleyman Kohi;(2014). Analysis of Human – Tourism Climatic Comfort using Bio-climatic indices in Dezful region, Adv. Biores., Vol 5 (3) September 2014,178-182

[6] Gomez Martin M. B., (2005), Weather, Climate and Tourism a Geography Perspective, Annals of Tourism Research. Vol. 32, NO3, 571- 591

Hartz Donna A., Brazel Anthony J., Heisler Gordon M., (2006), A case study in resort climatology of Phoenix, Arizona, USA, International Journal of Biometeorology, Vol 51, 73-83.

Hein, L. Metzger, M. J. Moreno, (2009), A Potential impacts of climate change on tourism; A Case Study for Spain. Current Opinion in Environmental Sustainability, Volume 1,170-178.

Ionac, N. (2007).Stressful bioclimatic in Dobrogea.Vol.LucrarileSeminarului Geografic "Dimitrie Cantemir",

Editura Universita_ii "Al.I. Cuza" din Iasi, 128-134.

Lin Tzu-Ping, Matzarakis Andreas, (2008), Tourism climate and thermal comfort in Sun Moon Lake,Taiwan, International Journal of Biometeorology, Vol. 52, 281-290.

Kyle, W.J. (1994). The human bioclimate of Hong Kong, Proceedings of the Contemporary Climatology Conference, pp, 345–350.

Lise W, Tol RSJ. (2002). Impact of climate on tourism demand. Climatic Change 55(4), 429–449.

Matzarakis A, (2001), Heat stress in Greece. International Journal of Biometeorology; 41:34–39.

Mieczkowski, Z., (1985),The tourism climatic index: a method of evaluating world climates for tourism. Canadian Geographer, 29(3), 220-233.

Roshan, G., Rousta, I. Ramesh, M. ,(2009),. Studying the Effects of Urban Sprawl of Metropolis on Tourism – Climate Index Oscillation: A Case Study of Tehran City. Journal of Geography and Regional Planning, 2(12), 310-321.

Toy, S. Yilmaz, S. Yilmaz H. (2007). Determination of bioclimatic comfort in three different land usesin the city of Erzurum, Turkey. Building and Environment, Vol42 (3), 1315-1318.

World Tourist Organization, (1999); WTO Publications Unit, World Tourism Organization, Madrid, Spain.

Zengin Murat, Kopar Ibrahim, Karhan Faris, (2009), Determination of bioclimatic comfort in Erzurm-Rize expressway corridor using GIS, Building and Environment, Vol. xxx, (xx-xx), Article in Press.

Zolfaghari Hassan, (2007), Determine suitable temporal calendar for recreation in Tabriz using PET and PMV, Geographical research quarterly, No. 62, 129-141.

Zolfaghari Hassan, Moradi Farshad, (2003), The study of comfortable temperature in Kermanshah Province, Geography and regional development Journal, No. 3, 44-56.

The Dynamics of Inflation, Money Growth, Exchange Rates and Interest Rates in Ghana

Ignatius Abasimi
School of Economics, Northeast Normal University, Changchun, Jilin, China. abasimiignatus@gmail.com

Xuan Li
School of Economics, Northeast Normal University, Changchun, Jilin, China.

Agus Salim
School of Economics, Northeast Normal University, Changchun, Jilin, China.

Long Vorlak
School of Economics, Northeast Normal University, Changchun, Jilin, China.

Abstract

Does money supply really influence inflation in Ghana? This study investigates the dynamics of inflation, money growth, exchange rate and interest rates in Ghana from 1990-2017. The autoregressive distributed lag model (ARDL) and error correction model (ECM) were employed in the study because the studied variables were found to be integrated and co-integrated at different intensities. The results revealed that money supply has no impact on inflation in the short and long run in the study period. Exchange rate and nominal interest rate were however found to influence inflation rate significantly in both the short and long run and in the same direction. It is recommended that the Bank of Ghana should maintain a stable economic growth by establishing a rigorous pecuniary polices as well as derivatives conveyance for financial institutions in the country to act in complacence.

Keywords: Inflation, autoregressive distributed lag model, co-integration, Bank of Ghana, financial institutions.

Journal of Business Management and Economic Research
Vol.2, Issue.6, 2018
pp.21, 32

Doi: 10.29226/TR1001.2018.39

1. Introduction

The stability and growth of every economy depends on the impacts of the transmission mechanism of money supply, inflation and exchange rates and perhaps, the volatility of other financial instruments. Inflation targeting is one of the centermost underpinnings of most developing economies. The central bank of Ghana adopted this principle in 2007 were inflation was hedged at 5%, however, there were short run shocks associated with its implementations. Nevertheless, inflation targeting is a flexible concept but not rigid. This measure of the Bank saw inflation dropped to significant digits (10.7% in 2010 and 9.2% in 2012). Inflation growth in Ghana has been quite repulsive since 1999-2018, for instance, Consumer prices in Ghana advanced 10.4 percent year-on-year in March of 2018, easing from a 10.6 percent rise in the previous month, mainly due to a slowdown in clothing and footwear and transport prices. Inflation rate in Ghana averaged 16.81 percent from 1998 until 2018, reaching an all-time high of 63 percent in March of 2001 and a record low of 0.40 percent in May of 1999.

According to Goldberg and Knetter (1997) exchange rate pass-through is the percentage change in local currency import prices resulting from a one percent change in the exchange rate between the exporting and importing countries. Exchange rate pass-through therefore is the effect (positive or negative) of exchange rates on import and export prices, consumer prices or inflation, investments as well as trade volumes. Engel and Rogers (1996) established that crossing the US-Canada border can considerably raise relative price volatility and that exchange rate fluctuations explain about one-third of the volatility increase. That is US-Canada border is an important determinant of relative price volatility even after making due allowance for the role of distance. Parsley and Wei **(**2001) confirmed previous findings that crossing national borders adds significantly to price dispersion.

The demand for and supply of money are the key determinants of exchange rates. Interest Rate Parity is an important concept that explains the equilibrium state of the relationship between interest rate and exchange rate of two countries. The foreign exchange market is in equilibrium when deposits of all currencies offer the same expected rate of return. The condition that the expected returns on deposits of any two currencies are equal when measured in the same currency is called the interest parity condition. It implies that potential holders of foreign currency deposits view them all as equally desirable assets, provided their expected rates of return are the same. Given that the expected return on say US dollar deposits is 4 percent greater than that on Ghana cedi deposits, all things being equal, no one will be willing to continue holding Ghana cedi deposits, and holders of Ghana cedi deposits will be trying to sell them for US dollar deposits. Krugman et al. (2012) explained that there will therefore be an excess supply of Ghana cedi deposits and an excess demand for US dollar deposits in the foreign exchange market.

Monetary growth also possesses deviance and self-correcting effects on every economy. Bawumia et al. (2003) postulates that a tightening of monetary policy through an increase in the monetary authority's official rates (or other rates that the Central Banks may see appropriate for monetary purposes) will lead to a fall in the demand for money, prices and output while the exchange rate will rise. What this means for the Ghanaian economy is that, following a contractionary monetary policy shock, interest rates rise the demand for money and output falls. In the short run, inflation rises and the real effect of interest rate hike is felt in the economy.

Available literature suggest that depreciation of a country currency is largely a monetary phenomenon, however, monetary expects associates this to short and long run shocks in the inflations dilemma. In many scenarios, monetary policy authorities have reacted vehemently to

short-run digressions from targets, in a quick to maintain credibility. This had a damaging impact on the economy. Attempting to hit inflation targets for every year is not desirable and might not be feasible especially for a developing economy like Ghana.

Dennis & Samuel (2015) noted that inflation is one macroeconomic variable that remains elusive to the policy makers in the country. Though the much-desired single digit level was attained in 2010, 2011 and 2012, it could not be sustained and has as expected returned to double digits and currently stands at about 10.3% at the end of the 2013 fiscal year. This trend is predicted to prevail for a while as policy makers struggle to discover the mix of policies that will control both inflation and its causal factors.

Most early empirical studies on monetary growth, inflation and exchange rates focus their studies on the patterns of prices of tradable goods to changes in exchange rates (purchasing power parity relations). This can be source from the studies of Magee (1973, 1974) and Dunn (1970). A handful of them also employed co-integration to established long run relationships between these economic variables (see; Engle and Granger (1987) and MacDonald (1995)). A more recent study is that of Bawumia et al. (2003) and Dennis & Samuel (2015) they employed the structural error correction (ECM) and ARDL models in their working paper "An Investigation of the Transmission Mechanisms of Monetary Policy in Ghana from 1983 to 1999" and "inflation, exchange rates and interest rates in Ghana" respectively. Their studies established the existence of long run relationship between inflation, exchange rates, and real income. These studies failed to recognized the influence of interest rates and money supply on inflation in both the short and long run. Due to this opaque and scanty availability of empirical studies on the underlining phenomena, this study seeks to give a more thorough comprehension of the relationship between these economic variables by estimating the short and long run causality between inflation, money growth (broad money supply), exchange rates and interest rates in Ghana.

1.1 Theoretical Framework

In other to give a clear understanding of the empirical results of the study, it's imperative to take a glance at some of the theoretical literature on inflation, money supply, interest rates and exchange rates.

The Fisher Effect

The extent to which (percentage change) the nominal interest rate response to inflation expectations holding constant the real interest rate is termed as the Fisher Effect. Thus, when expected inflation rate rises in a percentage point the nominal interest rate also increases in the same percentage assuming real interest rates are kept constant.

$$i_t = r_t^e + \pi_t^e \tag{1}$$

Where i_t=nominal interest rate, r_t^e= real interest rate, and π_t^e = expected inflation.

Equation (1) is obtained by the following derivations;

$$(1 + i_t) = (1 + r_t^e).(1 + \pi_t^e) \tag{2}$$

$$1 + i_t = 1 + r_t^e + \pi_t^e + (r_t^e.\pi_t^e) \tag{3}$$

$$i_t = r_t^e + \pi_t^e + (r_t^e.\pi_t^e) \tag{4}$$

The term $(r_t^e.\pi_t^e)$ is often minute and can therefore be eliminated. Thus, the Fisher Effect can be written as $\Delta i_t = \Delta\pi_t^e$ which is a one-to-one relationship between nominal interest rate and expected inflation, the nominal interest rate is an observable factor in the marketplace and is usually referred to as the interest rate while the real interest rate is calculated from the observed

interest rate and the forecasted inflation. This implies that an increase in expected inflation leads to a proportional increase in the nominal interest rate. Jareño & Tolentino (2012) concluded that this also implies that when expected inflation is zero, nominal interest rate is equal to real interest rate, thus the cost of holding money is equal to its opportunity cost, the real returns on assets.

Mundell-Tobin effect (1963-1965)

This theory of interest rate and inflation postulate that nominal interest rates would increase less than one-to-one with respect to expected inflation. This is because in response to inflation the public would hold less in money balances and more in other assets, which would drive interest rates down. In other words, an increase in the exogenous growth rate of money increases the nominal interest rate and velocity of money but decreases the real interest rate. The importance of the Mundell–Tobin effect is that it appears as a deviation from the classical dichotomy. Mundell-Tobin is off the view that the real interest rate, would fall if inflation rose, meaning the overall effect would be that i did not rise on a 1:1 basis with inflation. The reason, they said, that r falls is because higher inflation means people would rather save than hold money: if more people are saving money then the real interest rate falls. Consequently, inflation rises whilst r falls so i does not rise at the same rate as inflation.

2. Literature review

Inflation is the general and persistent rise in the prices of goods and service manufactured in an economy. A couple of empirical studies has been conducted and portrays the short and long run relationship of inflation, exchange rates and interest rates. Bawumia et al (2003) noted in their studies "An Investigation of the Transmission Mechanisms of Monetary Policy in Ghana" from 1983 to 1999 that exchange rates, money supply and real income depicts the existence of a long and short run equilibrium relationship between inflation, money supply, the exchange rate, and real income. A Structural Vector Error Correction Analysis was used in their investigations.

Nortey et al. (2015) investigated the volatility and conditional relationship among inflation rates, exchange rates and interest rates using multivariate GARCH DCC and BEKK models using Ghana data from January 1990 to December 2013. The study revealed that the cumulative depreciation of the cedi to the US dollar from 1990 to 2013 is 7,010.2% and the yearly weighted depreciation of the cedi to the US dollar for the period is 20.4%. There was evidence that, the fact that inflation rate was stable, does not mean that exchange rates and interest rates are expected to be stable. Rather, when the cedi performs well on the forex, inflation rates and interest rates react positively and become stable in the long run. Their study further indicates that inflation rates, exchange rates and interest rates maintain stable mean and variance over the study period. Their study exhibits the time series forecast of volatility in inflation, exchange and interest rates for the next twelve months (2014). The exchange rates forecast indicates that there is likely to be instability in the exchange rate in 2014. Their study however, were able to predict a partial effects of exchange rates and interest rates on inflation volatility, as of 2014 year ending inflation rate in Ghana was 17.0%.

Dennis & Samuel (2015) in their paper inflation, exchange rates and interest rates in Ghana: an autoregressive distributed lag model reveals that in the short run a percentage point increase in the level of depreciation of the Ghana cedi leads to an increase in the rate of inflation by 0.20%. A percentage point increase in the level of nominal interest rates however results in a decrease in inflation by 0.98%. Inflation increases by 1.33% for every percentage point increase in the nominal interest rate in the long run. An increase in inflation on the other hand increases the nominal interest rate by 0.51% which demonstrates the partial Fisher effect. A 1% increase in the interest rate differential leads to a depreciation of the Ghana cedi by approximately 1% which

indicates the full International Fisher effect. Their studies concluded that they are short and long run relationships between inflation, exchange rates and interest rate in Ghana.

Fama E. & Gibson (1982) also unfold that interest rates are negatively related with expected inflation in their study; inflation, real returns and capital investment. They employ the Mundell-Tobin model in their investigations, their evidence suggests that the variations in expected real returns is quite elementary to the outcome of capital expenditure processes. The maximum expected real returns varies directly with capital expenditures so as to achieve equilibrium allocations of resources between consumption and investment. This positive relation between expected real returns and real activity, that comes out of the real sector, combines with a negative relation between expected inflation and real activity, which is traced to the monetary sector, thus inducing the negative relation between expected inflation and expected real returns predicted by Mundell and Tobin.

Kandel et al. (1996), concluded in their studies that ex-ante interest rate has a negative correlation with expected inflation, this contradicts the fisher hypothesis that real rate of interest is independent of inflation. However, their studies are in confirmations with the theories of Mundell and Tobin, Stulz, and Darby and Feldstein. The study also reveals that nominal interest rates includes an inflation risk premium that is positively related to a proxy for inflation uncertainty.

Jareño & Tolentino (2012) uses the OLS regression (in their studies; Fisher effect in the Spanish case: a preliminary study) to find out whether the variations in expected inflation rate influences nominal interest rates. Their study finds a positive and significant relationships between variations in the current expected inflation rate and variations in nominal interest rates. Namely, an increment of 100% in the inflation rate gets a nominal interest rates increment around 20%, relying on the past inflation rate too. Thus, the study concludes the existence of partial fisher effect on inflation in the case of Spanish.

3. Methodology

The study uses time series data from the world bank and international monetary fund databases for 1990-2017 period. The variables considered in the study includes inflation rate (as the regressand at time t) which is adopted as a proxy for the average yearly inflation in Ghana, money supply which is measured as the annual percentage broad money growth, exchange rate is measured as the official exchange rate of 1Ghana cedis per US dollars, and the nominal interest rates measured as the deposit interest rate paid by commercial or similar banks for demand, time, or savings deposits (central bank's monetary policy rate). The study adopted the autoregressive distributed lag model (ARDL) approach to estimate the short and long run causality of the variables considered. This technique is adopted due to the fact that the variables had a mixture of I(0) and I(1) properties. This econometric model also makes it flexible to attached different variables with different lag-lengths as they infiltrate the model. This implies ARDL model has a reparameterization approach to co-integration of non-stationary variables and error-correction (EC) processes. The model is demonstrated as;

$$INF_t = \beta_0 + \beta_1 INF_{t-1} + \cdots + \beta_Z INF_{t-D} + \varphi_O EXG_t + \varphi_1 EXG_{t-1} + \cdots + \varphi_h EXG_{t-u} + \omega_O NIT_t + \omega_1 NIT_{t-1} + \cdots + \omega_J NIT_{t-r} + \gamma_O MS_t + \gamma_1 MS_{t-1} + \cdots + \gamma_s MS_{t-m} + \varepsilon_t \quad (5)$$

Where INF is inflation rate, EXG is exchange rate depreciation, NIT is nominal interest rate, MS is money supply and $\varepsilon_t$is the "noise" term which is serially independent, the model (Eq 5) is further stretch to incorporate the study variables as;

$$\Delta INF_t = \beta_0 + \Sigma\beta_F \Delta INF_{t-F} + \Sigma\lambda_j \Delta EXG_{t-j} + \Sigma\psi_k \Delta NIT_{t-k} + \Sigma\pi_x \Delta EXG_{t-x} + \Sigma\phi_g \Delta MS + \theta_0 INF_{t-1} + \theta_1 EXG_{t-1} + \theta_2 NIT_{t-1} + \theta_3 MS_{t-1} + \mu_t \quad (6)$$

Where $\beta_0$is an intercept, $\curlywedge_F$, λ_j , ψ_k, π_x *and* ϕ_g are short run dynamics (coefficients), θ_0 , θ_1 , θ_2 ,and θ_3 are long run coefficients, and Δ represents first order differences, equation (6) can further be expressed as;

$$\Delta INF_t = \beta_0 + \sum_{f=1}^{p} \beta_F \Delta INF_{t-F} + \sum_{j=1}^{q} \lambda_j \Delta EXG_{t-j} + \sum_{k=1}^{m} \psi_k \Delta NIT_{t-k} + \sum_{x=1}^{\omega} \pi_x \Delta EXG_{t-x}$$
$$+ \sum_{\phi=1}^{n} \phi_g \Delta MS_{t-G} + \theta_0 INF_{t-1} + \theta_1 EXG_{t-1} + \theta_2 NIT_{t-1} + \theta_3 MS_{t-1} + \mu_t \quad (7)$$

After estimating equation (7), an F test on the null hypothesis H_0: $\theta_0 = \theta_1 = \theta_2 = \theta_3 = 0$ is carried out to ascertain whether the variables INF_{t-1}, EXG_{t-1}, NIT_{t-1} MS_{t-1} which have long run coefficients are statistically significant. If the regressors considered are statistically significant and co-integrated then an unrestricted error correction model (ECM) is used to estimate the given long run relationships among them.

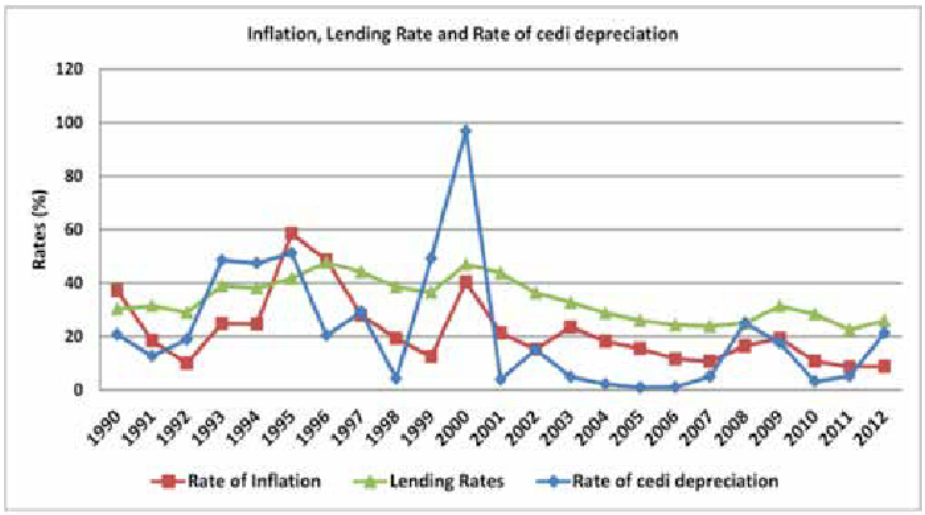
4. Results and Discussion

Configuration of Inflation, Exchange Rate, Interest Rate and Money Growth in Ghana

Inflation in Ghana generally is quite volatile in historic times. For instance, it was as high as 116% in 1977 and further spike to 122% in 1983. It is however, quite stable in contemporary times with single digits being recorded between 2010-2012-year period. Due to the instability of the economy, its shoot up to double digits again in 2016 and 2017 recording at 17% and 18% respectively.

According to international Fisher relations, real interest rates are equal across the world, and hence differences in nominal interest rates are caused by differences in national inflationary expectations. Ergo, fluctuations in official exchange rate in the short run are caused by both the inflation differential and the nominal exchange rate. All things been equal, depreciation of the real exchange rate will have a significant knock on the inflation rate in the country. A decline in the rate of depreciation is ushered by a reduction in inflation. Figure 4.1 shows the relationship among the three variables.

Figure 4.1 Trend of inflation, exchange rate depreciation and interest rate in Ghana

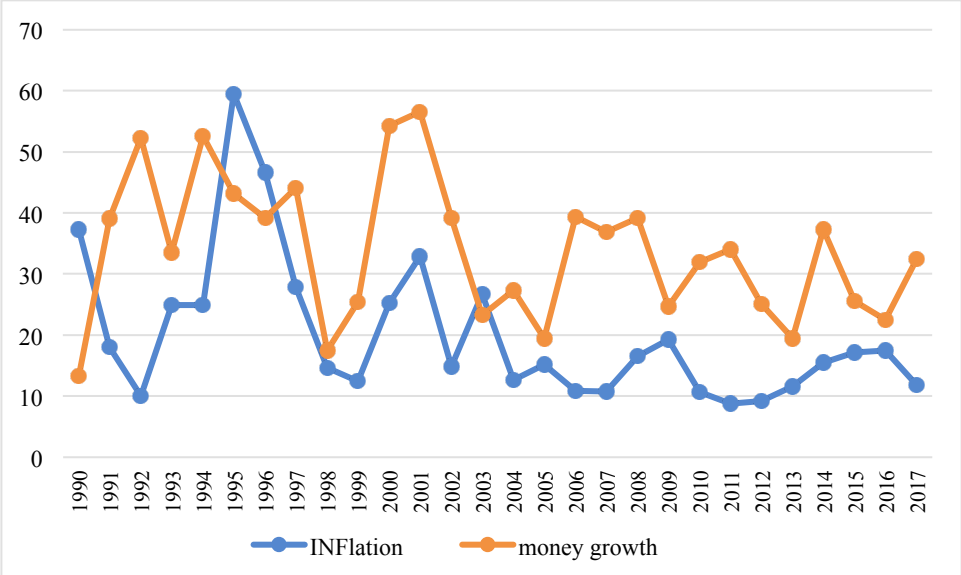


Source: ResearchGate

The money supply is one of the key monetary instruments the Bank of Ghana use to stabilize the economy as well as control inflation. The trend of money supply in Ghana displays a high growth rate level at 68.52% in 1978 and the lowest recorded in 1967 as 1.23%. The high money

supply in 1978 contributed to the high inflation in 1983 (122%). Figure 3.2 shows the trend and money supply in Ghana in the study period.

Figure 4.2 Trend of Inflation and Money Growth in Ghana



Source: Authors Construct, 2018

Results of Determination Model Test

One of the issues of time series data is that the variables are a mixture of stationary and non-stationary variables and may results to spurious estimates if OLS is applied for the analysis. Due to this, the Augmented Dickey Fuller (ADF) method is applied to test for stationarity of the variables (unit roots test) see table 4.1 below. The results portray that inflation and money supply or growth are both stationary at level and first difference. Ergo, exchange rate and nominal interest rate are both non-stationary i.e I(1) at level but stationary at first difference i.e I(0). The autoregressive distributed lag model (ARDL)was therefore suitable in this case, since the variables are integrated at different magnitudes. The (ARDL) and error correlation model (ECM) was employed to estimate the short and long run causality between the variables since they were co-integrated.

Table 4.1 Unit Root Test (ADF)

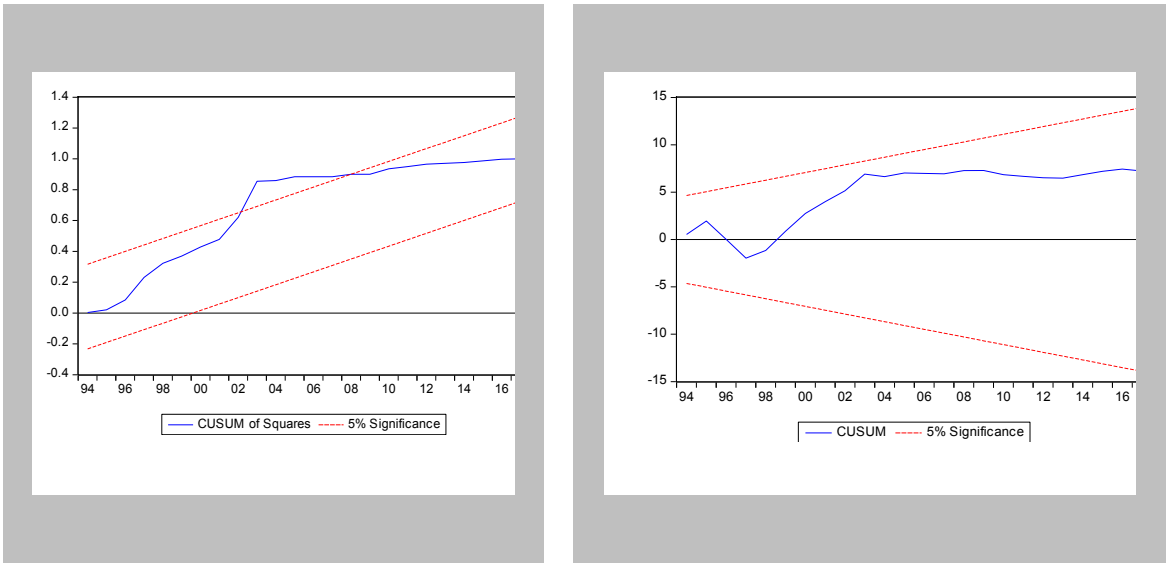
Variables	Z(t)	ADF Test statistics	1% critical	5% critical	10% critical	MacKinnon (1996) one-sided p-values approx. for Z(t)	Decisions
INF_t	Z(t)	-3.026	-3.699	-2.976	-2.627	0.0450	No Unit roots
ΔINF_t	Z(t)	-5.929	-3.753	-2.998	-2.639	0.0001	No Unit roots
EXG_t	Z(t)	3.945	-3.699	-2.976	-2.627	1.0000	Unit roots
$\Delta EXGt$	Z(t)	0,450	-3.769	-3.005	-2.642	0.9805	Unit roots
NIT_t	Z(t)	-1.390	-3.699	-2.976	-2.627	0.5719	Unit roots
$\Delta NITt$	Z(t)	-4.507	-3.724	-2.986	-2.632	0.0016	No Unit roots
MS_t	Z(t)	-4.257	-3.699	-2.976	-2.627	0.0026	No Unit roots
ΔMS_t	Z(t)	-4.807	-3.808	-3.021	-2.650	0.0012	No Unit roots

Note; the ADF test statistics (absolute values of Z(t)) is compared with the critical values (absolute values) at 5% significance level. The null hypothesis is rejected if Z(t)>5% critical value.

The results from the unit root test shows that the variables considered are a mixture of I(0) and I(1). The ARDL model was applied and the residuals extracted for used in the ECM estimates. The results show that inflation, exchange rate and nominal interest rate where significant at different lags levels. (see appendix 4.1 for results).

Figures 4.3 displays the CUSUM tests and CUSUM of squares test of stability for the variables considered. It is clear from CUSUM test that the variables are quite stable for the period investigated since they do not exceed the 5% significance line. However, the CUSUM of squares shows that not all the variables are stable because they exceed the 5% significance line. The deviation however seems to be transitory as there is a sign that the plot of CUSUM of squares test is returning back toward the criteria bands and perhaps the model is quite stable.

Figures 4.3 CUSUM Tests and CUSUM of Squares Test



To check whether the model is stable or not and also for serial correlation, the Breusch-Godfrey Serial Correlation LM Test was carried out. Table 4.2 shows the results for the Breusch-Godfrey test for serial correlation. Since the p-value is greater than 5% significance level (0.2355>5%), we fail to reject the null hypothesis of no serial correlation and conclude that the model and perhaps the data has no serial correlation.

Table 4.2 Breusch-Godfrey Serial Correlation LM Test

F-statistic	0.616557
Obs*R-squared	2.892054
Prob.F(4,7)	0.5611
Prob.Chi-Square(4)	0.2355

In other to determine whether the variables are co-integrated, the ARDL bound test was employed. The results of the ARDL bound test of co-integration are displayed in table 4.3. The test statistic; F-statistics has a higher value (8.52) than the upper bound critical value, 5.61 (at 1% significance level) hence we have sufficient reasons to reject the null hypothesis of no long-run relationship at 1% significance level and perhaps the existence of cointegration among the studied variables. The error correlation model (ECM) were further applied to obtain the short (see table 4.4) and long run estimates (see table 4.5).

Table 4.3 ARDL Bound Test of Co-integration

Variables	F-statistic	Cointegration
f(LINF,LEXG,LNIT,LMS)	8.52***	Cointegration
Critical Value Bounds		
(significance)	**Lower Bound (I0)**	**Upper Bound (I1)**
10%	2.72	3.77
5%	3.23	4.35
2.5%	3.69	4.89
1%	4.29	5.61

Table 4.4 Short run coefficients (ECM)

Dependent variable: $\ln(INF_t)$

Variables	**Coefficients**	**Standard Error**	**t-statistics**	**P-value**
$\Delta\ln(INF_{t-1})$	0.922743	0.246010	3.750829	0.0032***
$\Delta\ln(NIT_{t-1})$	1.303394	0.213556	6.376331	0.0001***
$\Delta\ln(EXG_{t-1})$	0.194350	0.077927	2.494010	0.0298**
$\Delta\ln(MS_{t-1})$	0.001355	0.168721	0.008031	0.9937
ECm(-1)	-1.716035	0.386874	-4.435642	0.0010***

R^2=0.936 AR^2=0.866 F-statistics= 13.361 P(F)=0.001

Asterisk *** and ** indicates 1% and 5% significance levels respectively. Ln= natural log

Table 4.5 Long Run Coefficients

Dependent Variable $\ln(INF_t)$

Variables	Coefficients	Standard Error	t-statistics	P-value
$\ln(NIT_t)$	0.589285	0.087896	6.704346	0.0000***
$\Delta\ln(EXG_t)$	0.113255	0.034895	3.245558	0.0078***
$\Delta\ln(MS_t)$	-0.137646	0.138442	-0.994249	0.3415
C	1.658648	0.510591	3.248483	0.0078***

Discussions

All explanations are in elasticities due to the attachment of natural logs (LN) to the variables. The short run causality was estimated by applying an unrestricted error correction technique. The ECM-1 is negative and significant at 1% level, this implies that, the speed of adjustment to equilibrium following short-run shocks is only about 1% of the disequilibrium, caused by previous period shocks, which converges back to the long-run equilibrium.

In table 4.4, the short run coefficients of nominal interest rate show that a percentage increased in nominal interest rate leads to a 1.30% rise in inflation rate in Ghana. Inflation however increased by 0.19% for every percentage increased in the exchange rate depreciation of the Ghana cedi to the US dollar. In other words, an appreciation of the US dollar to the Cedi will increase inflation by 0.19% in the short run in the country. In the long run, a percentage

increased in the exchange rate depreciation of the cedi (GHC) to the US dollar will lead to an increased in inflation rate by 0.11% (see table 4.5). The percentage increased in nominal interest rate in the long run is 0.59%. this implies that inflation will increased by 0.59% for every percentage point increase in nominal interest rate. Money supply or growth was however, found to have no significance effects on inflation rate in both the short and long run, however, monetary economist often attribute inflation to be a monetary phenomenon. This unexpected nature of money growth can be explained in various ways; firstly, a closely look at figure 4.2 will reveal that apart from 1994-1995 were inflation rate was higher than money supply, its (inflation) being minimal below the supply of money ever since. Nevertheless, this could be probably being attributed to Milton Freidman argument that, when people motives of demand for money is to hold more cash than to spend it, then the velocity of money supply will be constant and perhaps will not have a very significant effect on inflation. Another reason why money growth does not influence inflation in the study period could be credited to the Bank of Ghana monetary policies to tighten or cab inflation cause by increase in supply of money. Since 1983 were Ghana experienced higher inflations in historical times (122%), which was almost always attributed to high money growth, the Bank since then has been much cautious in altering and maintaining its monetary policies hence money growth is stable and perhaps it's not seen as an inflation phenomenon.

This study is in line with Bawumia et al (2003), Dennis & Samuel (2015) and Francisco Jareño & Marta Tolentino (2012) findings. Dennis & Samuel (2015) found that nominal interest rate and exchange rate depreciation of the Ghana cedis both influence inflation in the short run and long run. Their studies reveal a positive relationship between inflation and exchange rate depreciation and an inverse relationship between nominal interest rate and inflation. Bawumia et al (2003) employed co-integration and error correction model and found that inflation rate is affected by exchange rate depreciation positively. This study is also in line with the theoretical Fisher effect. The Fisher effect is based on the underlining assumption that, when the expected rate of inflation increases by a percentage point, the nominal interest rate rises by the same proportions, and this is evidenced in this studies. This is also backed by the studies of Francisco Jareño & Marta Tolentino (2012) Their study finds a positive and significant relationships between variations in the current expected inflation rate and variations in nominal interest rates in Spanish case. Precisely, an increment of 100% in the inflation rate gets a nominal interest rates increment around 20%, relying on the past inflation rate too

5. Conclusion and Recommendation

This study employed the autoregressive distributed lag model (ARDL) to estimate the short and long run causality or relationships among inflation, money growth, exchange rate depreciation and the nominal interest rates in Ghana. The ARDL and ECM were employed because the studied variables were found to be integrated at different intensities and co-integrated.

The results revealed that money supply has no impact on inflation in the short and long run. Exchange rate and nominal interest rate were however found to influence inflation rate significantly in both the short and long run in the same different directions. In other to promote economic growth, its sufficient for the Bank of Ghana to embark on monetary policy which aims at price stability, there is the need to coexist in harmony the indigenous and traditional interest rate-exchange rate trade-off, Goldfajn and Gupta (1998).

Due to volatility of inflation to responsiveness of interest rate and exchange rates, the Bank of Ghana should come out with more reliable but stable monetary and fiscal policies to curb both short and long run shocks of these variables. The Bank of Ghana can maintain a stable economic growth by establishing a rigorous pecuniary polices as well as derivatives conveyance for

financial institutions in the country to act in complacence. Nevertheless, the Bank of Ghana needs to demarcate conceivable transmission mechanism for interest earnings investment securities such as T-bills and stocks so as to paved a free and stable operations of these investment sectors. This will minimize feature economics shocks in these macroeconomic variables.

References

Bawumia, M. and Abradu-Otoo, P. (2003). Monetary Growth, Exchange Rates and Inflation in Ghana: An Error Correction Analysis. *Bank of Ghana Working paper,* W/P BOG 2003/05.

Engle, R. F., and Granger, C. W. J. (1987). Co-integration and Error-Correction: Representation, Estimation and Testing. *Econometrica,* 55 (2): 251-276.

Fama, Eugene F. & Gibbons, Michael R.(1982). Inflation, real returns and capital investment, Journal of Monetary Economics,Elsevier, vol. 9(3), pages 297-323.

Goldberg, P. K., and Knetter, M. M. (1997). Goods Prices and Exchange Rates: What Have We Learned? *Journal of economic literature,* 35 (3): 1243-1272.

Jareño, F., and Tolentino, M. (2012). The Fisher Effect in the Spanish Case: A Preliminary Study. *Asian Economic and Financial Review,* 2 (7): 841-857.

Kandel, S., Ofer, A. R., and Sarig, O. (1996). Real Interest Rates and Inflation: An Ex-Ante Empirical Analysis. *Journal of Finance,* 51 (1): 205-25. doi: 10.2307/2329307.

Krugman P. R., Maurice Obstfeld, Berkeley Marc J. Melitz (2012). *International Economics: Theory & Policy*, ninth edition. Pearson Publications.

Krugman, P. (1978). Purchasing Power Parity and Exchange Rates. *Journal of International Economics,* 8 (3): 397 – 407.

Macdonald, R. (1995). Long-Run Exchange Rate Modelling: A Survey of the Recent Evidence. *International Monetary Fund Staff Papers*, 42 (3): 437-389.

Magee, S. P. (1974). Import Prices in the Currency Contract Period. *Brookings Papers on Economic Activity*, 5 (1): 117-168.

Nchor, D., Darkwah, S. A., and LubošStřelec. (2015). Inflation, Exchange Rates and Interest Rates in Ghana: An Autoregressive Distributed Lag Model. *International Journal of Scientific and Research Publications,* 5 (1): 2250-3153.

Nortey, E. N., Ngoh, D. D., Doku-Amponsah, K., and Ofori-Boateng, K. (2015). Modeling Inflation Rates and Exchange Rates in Ghana: Application of Multivariate GARCH Models. *Springer Plus e-Collection,* 24 (4): 486. PMC. doi: 10.1186/s40064-015-0837-6. Retrieved: May 24th, 2018.

Parsley, D. C. and Wei, S. J. (2000). Explaining the Border Effect: The Role of Exchange Rae Variability, Shipping Costs, and Geography. *Journal of International Economics,* 55 (1): 87-105.

Appendices

Appendix 4.1 ARDL Estimates
Dependent Variable: LINF
Method: ARDL
Date: 05/25/18 Time: 15:44
Sample (adjusted): 1994 2017
Included observations: 24 after adjustments
Maximum dependent lags: 4 (Automatic selection)
Model selection method: Akaike info criterion (AIC)
Dynamic regressors (4 lags, automatic): LINT LEXG BMG
Fixed regressors: C
Number of models evalulated: 500
Selected Model: ARDL(4, 4, 0, 1)

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LINF(-1)	0.204506	0.256113	0.798500	0.4415
LINF(-2)	0.059094	0.199574	0.296100	0.7727
LINF(-3)	-0.627173	0.174539	-3.593319	0.0042
LINF(-4)	-0.373749	0.208959	-1.788619	0.1012
LINT	1.294935	0.199373	6.495036	0.0000
LINT(-1)	-1.423167	0.399946	-3.558401	0.0045
LINT(-2)	0.758200	0.512882	1.478312	0.1674
LINT(-3)	0.002506	0.432056	0.005800	0.9955
LINT(-4)	0.411509	0.216965	1.896657	0.0844
LEXG	-0.193463	0.075537	-2.561167	0.0265
BMG	0.000641	0.005166	0.124078	0.9035
BMG(-1)	-0.007966	0.005104	-1.560882	0.1468
C	2.242968	0.695182	3.226447	0.0081

R-squared	0.938073	Mean dependent var	2.844199
Adjusted R-squared	0.870517	S.D. dependent var	0.500414
S.E. of regression	0.180068	Akaike info criterion	-0.287791
Sum squared resid	0.356669	Schwarz criterion	0.350322
Log likelihood	16.45349	Hannan-Quinn criter.	-0.118499
F-statistic	13.88577	Durbin-Watson stat	2.134103
Prob(F-statistic)	0.000060		

*Note: p-values and any subsequent tests do not account for model selection.

Factors Influencing the Perfomance of Microfinance Insttutions: A Case Study of Meru County

Lydia Kagwiria Kirika
Meru university of science and technology, Kenya lydiahkagwiria14@gmail.com

Abstract

The main goal of every Microfinance Institution (MFI) is to operate profitably in order to maintain its stability and improve growth and sustainability. This study focused on the factors influencing MFIs financial performance in Mere County. In every market there is increased competition from the various player in the market with an aim of convincing customers to purchase their products and services, this has not been an exception in micro finance institutions, thus the study objectives was to determine factors influencing microfinances performance. There are various sources of the reviewed literature such as National micro & small enterprises baseline (1999), Ministry of devolution & planning (May 2013) Meru county development profile among others as indicate in references.

The study applied survey research using descriptive approach in order to find out or enquire the state of affairs that exist at present that causes this effect. The study was carried out in Meru Town and some of the micro finances such as SMEP, FAULU, KWFT, located in Meru were used in data collection by using simple random sampling to select the sample to be used, the target population was 956 which was minimized to a sample size of 274 . Questionnaires were used in Data collection to gather the information which was directed to customers, credit managers and the branch manager of the various micro finances. After the data collected it was be analyzed by first coding by assigning numerical values to make them quantitative. Tables and pie charts were used in presentation of data, frequency distribution tables was used to show the number of respondents and their views for easier analysis. The findings and conclusion of this study are likely to be useful to micro finances and other scholars.

Keywords: Microfinance,loan repayment , interest rates ,small medium enterprise, collateral

Journal of Business Management and Economic Research
Vol.2, Issue.6, 2018
pp.33-41

Doi: 10.29226/TR1001.2018.40

Background

Global financial markets and systems have experienced a very impressive growth over the Last few decades. This has been accompanied by an evolution also in the business practices in countries around the world. In the financial sector there has been a development of various new financial instruments and techniques to meet changes in the constantly changing business environment. The financial institutions have been able to create various innovative products for different sectors in the market. Through the various capabilities to create innovative products, financial products have been able to create and maintain economic performances countries around the world. As a result of these changes in the financial sector and business world there is an arising importance and research interest in financial institutions in banking institution (Ho, 2002)

Microfinance originated in 1976 in Bangladesh by Dr.Mohammed Yunshan he started microfinance scheme as part of an experiment in the rural areas. The scheme later became the Grameen Bank which has created the way for many microfinance banks and institution all over the world. Dr Mohammed Yunus was awarded the Nobel Peace Prize for these efforts of trying to eliminate poverty through the use of microfinance (Bateman, 2014). The nature of microfinance has changed over the years and depending on a country, the goal of players and their activities is no longer only for social economic development but some are out for profit. They are no longer 'non-profit' organizations but businesses that are aimed at making a profit at member's expenses. The microfinance industry has many players in it and the industry experiences a lot of changes in regulation and policies (Robinson, 2001).

(Robinson, 2001) The experiment done by Dr. Yunus evolved into the Grameen Bank which became the first microfinance institution in the world. Their operation popularized a system of group lending, where loans were given to individual members of homogeneous groups, then members of the group would guarantee each other. The members would not get any further credit if any member defaulted in payment. This in turn created the incentive to pay the loans that were issued. The loans did not have any collateral so they became very popular among the people without anything to use as collateral.

This microfinance model began to spread globally, especially in developing countries (Roy, 2009).Habibu (2010) and John (2011) noted in their respective studies that (2010) and John (2011) noted in their respective studies that MFIs loans had increased the income in most owners and poor individuals in Bangladesh and Zimbabwe respectively. Both studies focused on business performance in areas such as acquisition of assets and increased sales.

In Kenya on 2ndMay 2008, the Microfinance Act gave the microfinance institution the ability to take deposits as opposed to before where the microfinance institution did not have the ability to take up deposits and had to be dependent on other financial institution such as banks. Most microfinance institutions applied for license and were now able to take up deposits from the general public. The term microfinance was replaced by microfinance bank following further amendments on the Act in 2013.

The new licensed by the central bank to provide all types of financial services which included savings and credit (Central Bank of Kenya, 2008).In a report done by Central bank of Kenya (2013), it revealed that there are presently about nine deposit-taking microfinance banks that are operating Kenya.

Some MFIs have not changed to DTMBs due to tough conditions placed by the CBK.The strict requirements have seen those MFIs that converted experience an enormous reduction in earnings which has led to the discouraging of other players to transform. The reason for transforming to a deposit taking microfinance was to enable the MFIs to be able to access cheaper funds. This would help them be able to lend to the public at much lower rates as opposed to when they depended on other financial institution which are more expensive leading to high interest rates on their clients.

The major goal of deposit taking micro finance banks is to enable the low income earners to have an opportunity in which they can become self -sufficient through opportunities of being able to save money, borrowing money and accessing insurance. Most clients of the Microfinance institutions are low incomes earners who have limited access to major financial services and the products provided by DTMBs enable this type of client to access credit and banking service which he or she cannot be able to access in main stream banking. These services are such loans, savings, insurance and remittances (IMF, 2011).

In Kenya Micro finances are seen as potential institution to provide credit & other financial services for poverty eradiation ,about 60% of the population are poor & out of the scope of formal banking service ,according to (National micro & Small enterprises Baseline Survey 1999) .There are close to 1.3 million MSEs employing nearly 2.3 million people that is 20% of the country's total employment ,contributing 18% of the overall GDP & 25% non-Agricultural GDP.Despite this important contribution only 10.4% of the MSEs receive credit & other financial service .The formal banking sector (mainstream banks) in Kenya over the years has regarded the informal sector as risk & not commercially viable (Omino 2005)

According to the (poverty reduction strategy paper PRSP of 1999) a large number of Kenyans drive their livelihood from MSEs , however in spite of the importance of this sector ,it shows that provision & delivery of credit & other financial services to the sector by mainstream banks has been below expectations which means the poor have difficult to climb out of poverty due to lack of finance for their productive activities .Thus new innovative & pro- poor mode of financing low income households & MSE's based on sound operating principle need to be developed (Omino 2005).

Micro finance fill a needed gap with the financial service industry by offering small loans or micro credits to people unable to access conventional loan service. Those living in under-developed areas can access needed financial resources through the service provided by micro finances. Micro finances established using NGO or a saving & credit co-operative societies framework have been important source of credit to low income households & MSE's in rural & urban areas who lack collateral to access loans from Mainstream banks (National micro & small enterprise baseline 1999) .this micro finance institution are regulated by micro finance Act 2006 & the regulation issued there under sets out the legal regulatory & supervisory framework ,this Act became effective 2nd may 2008 with the principle aim of regulating the establishment business & operation .According to (central bank of Kenya 2013) .The Act enables deposit taking by micro finance licensed by central bank of Kenya to mobilize savings from general public thus promoting

Problem statement

Microfinance institutions play a significant role in Kenya and the growth of the economy. With continuous economic growth, it is important there is need for finance to help in the enhancing and growth of business. The poor need financing to help them be able to grow their business and this

can be achieved through the microfinance funding. Kenyan informal sector is constitutes of 6.4 million people (CBK 2010).

Despite efforts by various microfinance institutions, Kenya Women's Finance Trust (KWFT), K-Rep, Family Finance, Equity Bank and others to improve the banking of the people through microfinance, the industry has not shown any sign of growth and expansion (Kenya Economic Survey, 2009). The interest rates charged by financial institution such as commercial Banks, microfinance institutions and other financial institutions in Kenya have been high. This has caused a lot of criticism with people shying away from financing options due to the high interest rate

Despite efforts by the movement through the CBK to bring them down, the rates have still remained high. These high interest rate changes have had negative impacts on the economy. The effect of this has been the reduction of the value of disposable income in the country. This has made it difficult for people seeking funding so as to be able to access affordable funding. Most studies and research conducted in this area of microfinance, focused on different perspectives rather than effect of interest rates on microfinance institutions 'products thus pointing out the need to pursue this study. Such studies include Nyawach(2011); Chelogoy, Anyango and Odembo (2004); Kanyinga and Mitullah (2007) with the studies dealing with the exploitive practice by banks and micro finance through expensive interest rates. These studies are limited because they did not look into the effect on the interest rates on the microfinance institutions 'products and how these changes affect the decision of a person seeking finance.

Research objective

The general objective of this study was to establish the factors influencing the performance of microfinance institution in Meru town Kenya.

Research methodology

This study adapted survey research using descriptive approach to answer study questions. According to Orodho (2003) descriptive survey is a method of collecting data by interviewing or administration of questionnaires to a sample of individuals. Descriptive research is used to describe characteristics of population or phenomenon being studied (Shields, Patricia and Rangarjan, N 2013). A descriptive study is undertaken in order to ascertain and to be able to describe the characteristics of the variables in a situation. Danielle Joynson (2014) descriptive study has several advantages like; it uses qualitative and quantitate data in order to find the solution to whatever is being studied, it also in understanding the characteristics of group in a given situation. Zikmundy Bobin (2010) says that descriptive research is to describe characteristics of objects people, groups, organisations or environment.

Findings of the study

The number of questionnaires that were administered to all the respondents was 280 questionnaires. A total of 256 questionnaires were properly filled and return from the microfinance employees and members. This represented an overall successful response rate of 92%. According to Mugenda and Mugenda (2003), a response rate of 50% or more is adequate.

Table 4.1 Response rate

Response rate	frequency	percent
Returned	252	90%
Unreturned	28	10%
Total	280	100%

Source; survey data 2018

Demographics

The preliminary information gathered regarding the characteristics of the respondents was about microfinance name.

Microfinance name

The respondents were asked to indicate the name of their microfinance. Table 4.2 shows that 41.8% of the respondents were from KWFT, 26.4% SMEP and 31.8% FAULU BANK.

Table 4.2 Microfinance name

Microfinance Name	Frequency	percent
KWFT	117	41.8
SMEP	74	26.4
FAULU BANK	89	31.8
Total	280	100

Source; survey data 2018

Credit management and financial performance

Table 4.3 Credit management

Credit officers and customer's views	frequency	percent
Laid down policies are followed	244	87
Credit is checked if it was administered as per the guideline	199	71
Defaulters are listed with the CRB	156	56
Credit repayment is checked monthly	230	82

Source; survey data 2018

Descriptive analysis for credit management

The first study question was to determine ways in which credit management affect microfinances financial performance in Meru town. Table 4.3 shows that 87% of the respondent said that laid down policies are followed when giving credit, 71% said that credit is checked if it was administered as per the guideline, 82% said that credit repayment is checked monthly and 56%said that defaulters are listed with the CRB.

Pricing policy, Investment decision and finance performance

Table 4.4 Pricing policy and investment decision

Branch manager's opinion	agreed	disagreed
Stock market highly preferred	2	1
Impact of carving	2	1
Short term investment money market	1	2
Investment decision scrutinized before implementation	2	1
Surplus funds invested in income generating avenues	2	1

Source; survey data 2018

Descriptive analysis for investment decision and pricing policy

The second study question was to investigate ways in which pricing policy and investment decisions affect microfinance financial performance. Out of the three branch managers interviewed majority agreed that stock investment are highly preferred, majority agreed that the carving as an impact in their financial performance, majority disagreed that short term investment are preferred, 2 managers agreed that investment decisions are scrutinized before implementation and majority agreed that surplus funds are invested in income generating avenues.

Competition from commercial banks and financial performance

Table 4.5 Competition

Branch managers views	agreed	disagreed
Commercial banks threat	1	2
Banks more liquid	2	1
Microfinances depend on banks	2	1

Source; survey data 2018

Descriptive analysis for competition

The researcher wanted to find out the effect of competition from commercial banks on financial performance of microfinances. Table 4.5 shows that 2 out of the 3 manager's interview disagreed that commercial banks are threat to microfinances financial performance, 2 managers said that banks are more liquid than Microfinances and 2 agreed that microfinances depend on commercial banks.

Repayment period and collateral and financial performance

Table 4.6 Collateral and period

Customer's opinion	frequency	percent
Interest rates	167	68
Repayment period	125	51
Requirements are many	199	81

Source; survey data 2018

Descriptive analysis for repayment period and collateral

The fourth and last the study question was to establish ways in which repayment period and collaterals affect microfinances financial performance. Table 4.6 shows that 68% said that interest charged are too high, 51%agreed that repayment period is short. Finally, 81% said that the requirements access loans are too many and the process is long The number of questionnaires that were administered to all the respondents was 280 questionnaires. A total of 256 questionnaires were properly filled and return from the microfinance employees and members. This represented an overall successful response rate of 92%. According to Mugenda and Mugenda (2003), a response rate of 50% or more is adequate.

Table 4.1 Response rate

Response rate	frequency	percent
Returned	252	90%
Unreturned	28	10%
Total	280	100%

Source; survey data 2018

Summary of the findings

The summary was done in line with the objectives of the study based on the output of the descriptive analysis.

The study sought to establish the extent to which credit management influence microfinances financial performance .Descriptive analysis was conducted and the results indicated that laid down policies are followed when giving credit and they are reviewed annually. In addition respondent said that credit repayments are checked monthly and defaulters are listed with the CRB.

Descriptive analysis for pricing policy and investment decision was conducted and the findings indicated that microfinances invested surplus funds in income generating avenues, microfinances also invested its funds in stock market and investment decisions are scrutinized before they are Implementation.

The results also indicated that there was low competition from commercial banks. The employees also agreed that banks are more liquid than microfinances in terms of huge credit and microfinances depend on commercial banks.

The findings on repayment period and collaterals indicated that microfinances higher interest than the commercial bank. Result further indicated that repayment period is very short and the requirements are many and the process is long.

Conclusion

Credit management and financial performance

The study concluded that there were effective credit management policies at the microfinances governing credit or loan issuing. This because the credit officers said that laid down polices are followed when giving loans and action is taken for the defaulters to ensure effective loan repayment.

Pricing policy, Investment decision and financial performance

The study concluded that there was good and effective investment decisions which led to increased financial performance of microfinances owned by business groups and employed workers. It was possible to infer that holding other factors constant investment decisions were found to have a positive and significant relationship with financial performance of microfinances.

Competion from commercial banks and financial performance

The study concludes that competition from commercial banks was low this led to improved financial performance of microfinances due to their flexibility. It can be concluded that when holding other factors constant competition was found to have a positive and significant relationship with financial performance of microfinances.

Repayment period, collateral and financial performance

The study concludes that the interests charged by microfinances are too high. It can also be concluded that repayment period and collaterals required have a significant effect on microfinances financial performances.

Recommendations

The study recommends that microfinances should review loans repayment regularly, ensure proper loan appraisal and educate members on loan repayment before loan disbursement.

The study recommends microfinances to establish effective investment policies so as to attract and encourage large institutions and foreign investors to participate. They should also develop a risk appetite index and involve financial experts in investment decisions.

The study recommends microfinances to ensure competition from commercial banks is managed well and minimize their dependent on commercial banks.

The study recommends that microfinances should reduce their loan requirement and charge affordable rates to attract more customers thus helping improve their liquidity hence increasing financial performance.

References

Abir & C. (2010) Factors Influencing new product Development in Micro Finance institution Indian institute of management Lucknow: India.

Andrew B.Abel. (2010).Macroeconomics (5th Ed).Dorling Kindersley: India Pvt.Ltd

Government of Kenya (2005) ''Development of micro finance & small enterprises For healthy & employment creation for poverty eradication'' –Session Paper 2.

Central bank (2009), Report on growth of banks I Kenya.

Central bank of Kenya.(2013). Available from https:// WWW.centralbank.go.ke

Fornell, E,(1992) . A national customer satisfaction Barometer; (pp 1-21). The Swedish experience Journal of Marketing

Michael , T . & Miles , G. (2004). Financial Performance of Microfinance Institutions Journal of Microfinance.6, 41

Amidu, M. (2006). Determinants of dividend payout ratios in Ghana the Journal of Risk Finance. 7, 136-145.

Anthony, D. (2005). Cooperation in microcredit borrowing groups: Identity, sanctions, and reciprocity in the production of collective goods. American Sociological Review, 70(3), 496–515.

John, s. & S.Arnold (2010).Financial Exclusion in Kenya: Examining the changing Picture, 2006-2009.Financial inclusion in Kenya

Kothari, CR (2004). Research Methodology (2nd Ed) .New Delhi: New age International limited.

Mark W.Johnson (2010).Business model innovation for growth & Renewal Frog Design

Gisemba, P.N (2012). The relationship between credit management practices and financial Performance of microfinances in Kenya.Unpublished MBA Dissertation, university of Nairobi.

Jeremiah, Bichanga (2014) .financial factors influencing performance of microfinances in Kenya. Retrieved from:URL:http://dx.doi.org/10.6007/IJARAFMS/v4-12/892 s