

# INFLUENCE OF INTEREST RATES ON PROFITABILITY OF MICROFINANCE INSTITUTIONS: A CASE STUDY IN TRANS NZOIA COUNTY, KENYA

<sup>1</sup>Emmanuel Sakit Barasa, <sup>2</sup>Dr. Elizabeth Nambuswa Makokha

<sup>1,2</sup>School of Business, Department of Business Administration. Jomo Kenyatta University of Agriculture and Technology, P.O. Box 62000 - 00200, Nairobi Kenya

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**Abstract:** The main purpose of this research project was to determine the influence of interest rates on profitability of microfinance institutions in Trans Nzoia County. The specific objective of the study was to determine the influence of money lending on the profitability of microfinances in Trans Nzoia County. Keynes liquidity preference theory, Fisher's theory and the theory of pricing were studied in relation to the effect of interest rates on profitability of microfinances. The research design was descriptive survey. The research population was five Microfinance institutions registered by Central Bank of Kenya in Trans Nzoia County, 100 respondents from each microfinance for five years, 2013 to 2017 were provided with the questionnaires as a source of Primary data. By the use of vector auto regression (VAR) model, 15 questionnaires were taken to the supervisors for validity and reliability of the instrument. Secondary data was collected from central bank's supervisory report and Microfinance internal audited Reports. The data collected was scrutinized using SPSS (Statistical Package for Social Scientists). Regression analysis and Pearson correlation was used to verify the data to find out whether there existed a relationship between interest rate and the profitability of Microfinances in Trans Nzoia County, Kenya. Being a descriptive research, the data was audited and tabulated using descriptive methods which illustrated the research findings in the study area. The descriptive methods were; frequencies, percentages and tables. The study found out that interest rates has a significant influence on profitability of microfinances in Trans Nzoia County. The study therefore recommended the following; microfinance should have a better assets portfolio, check and controlled systems to monitor credit defaults, microfinance should carefully screen all the clients and charge interest rates consequently, microfinances should have a daily and effective interest rate system generated, Trans Nzoia County government to establish a credit regulation policy, regular check of registered microfinances to control manipulation of interest rates, monthly financial seminars should be established, due to the increase number of microfinances and competition, mergers and partnership of microfinance is advised, seasonal interest rates should be revised to control exploitation of clients, the research should be done in different county to enable generalization and comparison of the findings.

**Keywords:** Interest rates, Money lending.

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## 1. INTRODUCTION

The international monetary funds define the microfinance institutions as those institutions that engage in micro financial transactions using different ways to serve the low-income households, micro enterprises, small scale farmers and other business who lack access to the formal restricted banking services. In Kenya, the Microfinance institutions can be traced back during colonial period. The British Government did not provide credit facilities to black people and hence informal credit groups such as home table banking were formed within the societies in both rural and developed areas.

Microfinance institutions is an entity that gets money through fund deposits from clients and interest on fund deposits is lent to borrowers to finance the small business, or providing credit and other financial facilities to micro enterprises basically for low income households (Microfinance Act, 2006).

Dondo (2004) states that the Government, shylocks and donor community assumed that the low income people required cheap credit and as a result of this assumption credit unions were set up in effort to mobilize savings amongst the low income people. Kamau (2008) indicates that the overall objective of the Microfinance should be to balance between credit threats and gains in a way that it maximizes the microfinance's market value to the shareholders. He noted that the objective of the interest rates is to get profits in a manner consistent with reasonable stability in the interest margin. Suresh (2012) also debated that most Microfinance began and found sustainable models of lending to the low earners people and groups which includes NGOs, non-banking financial institutions, mobile table banking and charitable organizations, basically restricted to credit. Robinson (2003) indicated that 2000 was the turning point in the evolution of microfinance institutions (the millennium era), when great pioneers like Mohammad Yunus founded the Grameen Bank in Mumbai with the aim of breaching the gap between the rich and the poor through accessibility of cheap credit.

This initiative clearly predicted for the first time that low income borrowers and the sideline group who were the women and the youths were willing to take on small scale business funded by cheap loans. Kenya has witnessed an increase in the number of Microfinance Institutions (MFIs) in the last decade. These institutions are established to the unprivileged people and groups who lack access to official credit facilities by getting a bargainable credit facilities. Despite this, most of the low income people are not able to access credit since borrowing interest rates have been fluctuating over the years. Chung (2013) debated that Microfinance institutions (MFIs) high interest rates is the main reason of controversy from the coming of microfinances institutions up to today.

Molyneus and Thornton (2003) discovered a less strong relationship between liquidity and microfinance profitability. One possible reason for the conflict in the findings was the different in elasticity of demand for credit for different circumstances. Devaajargal (2003) in his research he found the correlation between cleared credit and profitability to be negative and statistically significant. He also found that credit outstanding was one of the factors determining microfinance profits, hence microfinance had to increase their monetary lending rate. Demirque Kunt (2003) studied determinants of commercial bank interest margins and profits in the global perspective using financial level data for 70 nations in the years 2004 – 2014. The findings were the differences in interest margins and microfinance profitability reflect a variety of factors; microfinance characteristics, economic conditions, microfinance overall financial structure and legal and institutional signals. Rajeev (2005) studied that interest rates influence business gains.

Credit demand in Rabat slum that used data from safe save, a credit union in the slums of Rabat, Bangladesh and Dubai, did a research to examine how first-class borrowers are sensible to increase in interest rates on credit available. Unexpected interest rates between sub branch variations were that elasticity of credit demand ranging from -0.70 to -3.08 were detected. They also found that less rich account holders are sensitive to the interest rate than rich borrowers and consequently the microfinance's portfolio paradigm shifts away from its minor borrowers when the interest rate change.

Sudin (2010) studied the effects of conventional interest rates and rate of profit on fund deposited with Arabic credit system in Thailand his findings were that both interest rate of deposit accounts of conventional microfinance and rate of profit declared by Arabic credit system have strong relationship with the amount of deposits of Arabic microfinance. Advance, several related studies have been conducted on interest rates and business profits but not directly related to interest rates and profitability of microfinance institutions. Siddiqui (2012) carried out a study on the impact of interest rate on credit defaulters in India. The research used payback method lending interest rate published yearly by the state credit in India. The study concluded that rising credit defaulters are significantly but not impacted by the cost of money borrowing.

How to get credit is the greatest nightmare to economic growth in Africa, majority of the households do not have enough collateral to guarantee a credit (Demirque Kunt 2007). These households depend on informal moneylenders or shylocks where they borrow at high interest rates or are simply blocked from getting credit and therefore no investment. Microfinance institutions expand the frontier of finance intermediation by providing less expensive credit to those who are excluded from formal financial markets. Microfinance is on demand in the public business policy. It has achieved excellent success by improving the households of the inferior groups, through the provision of less expensive financial services. Such programs are sponsored by most modern organizations which includes World Bank, United nation, governments, private companies and over mentioned charitable organizations (NGO's).

Their aim is to help the inferior people to cope with the risk and take advantage of small income earners (Banersee 2009). By removing monetary constraints, microfinance is able to encourage small scale investments from unrealized markets opportunities and yields a return on investment (Hilson 2010). Levels of success is different across microfinance institutions depending on some factors, some unsuccessful and don't exist while others grow by reaching more borrowers. Thorough modern lending technology, Microfinance are generating high credit payback timeline rates on collateralised credits in complex external environments that often exceed 90% (Demirque Kunt 2007). Converting high credit payback rates into profits remains a challenge to most microfinance. Although micro-banking is dominated by NGO's and private investors, scholars believe only two per cent would be successful (Armendariz 2010).

Mark (2004) studied economic interest rates at family bank focusing on profitability: a case study investigation by regression matrix to test if market rate fluctuations have an impact on family bank profitability. The findings were not positive. Joseph (2009) studied interest rates and profit life cycles; a disaggregated approach. His findings were that disaggregated matrix with interest rate terms do well as compared to simple autoregressive matrix in summarizing the behavior of profits. Ndungu (2003) carried out a study on the factors of getting profit of quoted private banks in Kenya. His findings revealed that proper asset and liability management were found to have influence on profitability. High interest rates were found to have a negative effect on quoted private banks' profitability in Kenya. Kibe (2003) concludes that key determinants of success of Microfinance include management's strength to understand proceedings in interest rates and inflation then interpret forecast with regard to change in interest rates over concentration of Microfinance in a particular location, competition among Microfinance in providing a better service.

The total assets owned by the organization and the ability of such assets to add value to profits, the market share of the financial institution, the magnitude of pay bill or the salary inflation rate, the price, cost of margins in the service being rendered, the managerial efficiency and the primary reason of the Microfinance for example providing basics to the unprivileged people. Ongweso (2009), did a study on the relationship between interest rate and credit defaulters in commercial banks in Kenya for the period 2005 – 2010, her findings were a positive relationship between interest rates and credit defaulters whereby an increase in the interest rates resulted in greatest credit defaulters. Bett (2006) studied the effects of lending interest rates on profitability on savings, credit union and cooperative societies in Kenya, his findings were interest rates of Saccos is positively correlated with profitability. Kamau (2008) studied determinants of profitability of microfinance institutions in Kenya by a survey method which relied on secondary data. Her findings were profit before taxation depended on interest income, interest expenses, shareholder capital, loans and advances to customers.

Interest rate is the price a borrower pays for the use of money they borrow from a lender over a specified time (Selassie, 2007). Interest rate is a rent of money. Interest rates are fundamental to a capitalist society and are expressed as a percentage rate over the period of one year. Interest rate as a price of money reflects market information regarding expectations in the purchasing power of money or upcoming inflation, (Ngugi, 2003). Financial institutions help in mobilization of savings, diversification of funds, pooling of risks and allocation of resources. However, the receipts for deposits and loans are not synchronized. Intermediaries like banking sector incur specific costs (Ngugi, 2003). They charge a price on the intermediation services offered under risk and set the interest rate levels for deposits and loans. The difference between the gross costs of borrowing and the net return on lending explains the intermediary costs such as information costs, default costs and operational costs (Rhyne, 2003). When the Government regulates the market, supply and demand cannot interact freely to get the equilibrium of quantity and price. When there is an artificial ceiling the allocation of resources is distorted if the equilibrium price is above the ceiling. The consequence are the people who want finance but do not qualify at the ceiling interest rate. This segment of the market cannot access funds in the formal economy they have to resort to the informal economy. By placing a ceiling on the interest rate, but not providing an alternative means of finance, the government effectively excludes the people they were trying to protect, since interest rates are not allowed to rise above a given price, there are no incentives to expand the quantity of loans offered and this will create a shortage in circulation of money. Basically, this will encourage people to consume more of the service than if the market price were charged. One of the key factors influencing the lack of supply of credit to small enterprises is the non-recoverability of costs. Charging a rate of interest on loan is the main source of income for almost all financial institutions in the banking industry. It is the only way by which they can recover their costs – financial, operating and risk.

The components of an interest rate in most loans includes, Cost of capital, Sufficient return to cover the risk of loan loss or bad debt, Operating costs and A profit margin. Given these variables, the banking or lending institutions can only survive by fully recovering all the costs of the first three components, and grow if they can also receive the last

component. David C. (2004) categorizes the interest rate as the bank base rates, personal loan rates, deposit rate, interbank interest rates, house purchase loan rates and the overall level of interest rates while Wikipedia Articles (2007) categorized interest rates as simple interest rates, compound, cumulative and real interest rates. According to Selassie (2003), interest rates are regarded as purely monetary phenomenon, a payment for the use of money. The possession of the actual money will our disquietude and the premium which we require to make us part with the money is the measure of the degree of our disquietude. By the way of contract, this theory emphasizes the supply and demand for money, arguing that it is the interaction of variables which determines the interest rates. It stated that the classical theory focuses on what might be termed as the economic variables and argues that the level of real interest rates is determined by the level of savings (which provides the level of loanable funds) and the level of investment in the capital equipment (which provides the demand for the loanable funds). This theory dismisses the relevance for the money, arguing that its use is to merely determine the absolute price level and does not influence the interest rate. Saunder (2005) asserts that interest rates influence the overall economic activity including the flow of goods, services and financial assets within the economy and as well as the whole world. He points out that interest rates relate to the present value to the future value of money. A high interest rate leads to a high discount rate thus the present value of money. On the other hand, a low interest rate leads to a future cash flow at a lower discounting rate.

## 2. MONEY LENDING

Money lending refers to the ideology of giving money to clients for investment purposes or gaining the control value of money in the Economy. Maxwell (2003). Studied the effects of securities monetary collateralized by funds in investment risk. He found out that securities monetary collateralized by funds are the most common form of securities lending transaction. The study discussed that the standard compensation scheme for securities lending agents typically provides for agents to share in gains and not losses, this creates incentives for them to take higher risk. It also highlights the need for better scrutiny and understanding of monetary investment by practices especially in the light of investor's experience. He did not provide a summary information about interest rate of profitability in his study. Borrow and cash offers money as a guarantee to the lender. This is the most common form of investment in enterprise profitability. This program accepts the type of customized term loan of a portfolio of securities. Because the transaction is customized, it is difficult to make general statement regarding its use. Meaning, borrowers negotiate an annual free for rights to borrow securities from beneficial owner's entire portfolio. The annual fee represents a good bargain for the lender or borrow for the securities held in that portfolio.

In his conclusion, he discussed about risk seeking incentives in agent compensation arrangements are the of money market investment activities are an uneasy combination that did contribute to transactions in sourcing specific securities for guaranteed market transactions. While it might tempting to suggest removing funds of securities against cash collateral such a policy response may be extreme. An increase in data transparency in particular around cash investment choices lower the possibility of reasonable cost to bear if it controls financial systemic disruption. Adrian (2006) studied the effects of Securities and Repo Lending in federal bank of London. He used the descriptive analyzed and concluded that market participants should consider both the social benefit of high transparency and the need to refine standard agent compensation arrangements to limit the risk seeking incentives of agent in the securities for funds, the industry carefully tracks investment income as a profitability metric shows that is not typical form of securities loan transactions. He found out that fund providers should carefully check the lending transaction as a credit extension when the intrinsic value of the collateral is not driving the transaction. A counterparty that extends great amount of money want a good understanding of investment activity it supports. Admittedly such diligence might prove impossible in practice as money if fungible and money borrowers or security lenders may have incentives to disclose credible but inaccurate description of asset to invest. Vermeulen (2005) studied the response of bank's investments and financing to adverse fund shocks. The objective of the study was the role of bank relationships in the Asian Central bank. His main aim was to find out the effects of financial limitations, lending relationship, bank investment and bank financing. He found his economic theory explained that lending relationships are important in overcoming asymmetric information challenges between creditors and their clients. Consequently, banks with deep lending relationships benefit from good credit conditions. He argued in terms of adverse money flow that financial constraints are likely to be binding and that banks strongly need external sources of finance, they have to minimize spending especially the investment spending.

Single and multiple bank relationship companies show that the same investment reaction to money flow in periods of adverse cash flow amazed. Single bank relationship is not especially helpful in removing financial constraints challenges during hard times. Finally, he investigated the determinants of the probability of achieving more bank debt. He found that a single bank has a lower probability of obtaining bank credit in adverse monetary flow amazed periods is higher the larger the firm and the lower initial leverages. From the findings it was summarized that really impedes investment in adverse cash flow periods is when banks cumulate a drop in money flow and a contraction of external bank credit. It depends more on the size and the initial leverage of the bank than on the number of bank relationships. Melzer (2012) using a longitudinal Chinese survey<sup>8</sup> finds that the effects of credit access among low-income households and the high-cost of lending loans increases the financial distress and harms some consumers. Money lending lead consumers to increased difficulties in paying their mortgages and utility bills, cause an increase in bankruptcies. Melzer focused on the spillover costs of cash lending and finds that households with convenient access to money lending outlets are more likely to use food stamps and less likely to pay child support increasing the question of whether credit users also use food banks more.

Melzer concludes that taxpayers are also being humiliated by the need to pick some of the spillover costs of money lends. As well family members of credit users who are dependent on child support payments may also be humiliated by lack of funds to meet their basic needs. Matthews et al (2007) describe competition in bank lending in England as monopolistic and, as mentioned above, Llewellyn (2005) finds that British banks had been earning more returns. Similarly, the Competition Commission (2004) reports that British banks, especially the main ones, were making excessive profits by overcharging of customers, especially micro businesses, and that banking markets were characterized by less strong competition. Open financial markets made it easier for big corporations to increase external sources of finance without relying much on banks. Consequently, banks restructured themselves in response to dwindling ancient business lending and as a result their sources of gains has changed significantly: consumer credit and financial market mediation have become important, while lending to firms and commercial corporations much less. Indeed, Lapavitsas (2011) notes that the enormous enlargement of bank assets in millennial times has little to do with lending to corporations for investment and was instead related to lending to private groups and to other credit unions. With reference to the USA, Nersisyan and Wray (2010) report that non-interest income – mostly from off-balance sheet activities but also from trading and fees – accounts for a big share of commercial banks' income and that the share of commercial and corporate loans in total assets has plummeted.

Nersisyan and Wray remark that “the bigger banks aren't really in the business of making loans to enterprises”. Lapavitsas and Powell (2013) stated the same findings following their comparative analysis of well-equipped economies. summarizing that the clear fall in the banks' ratio of non-FIRE (finance, insurance and real estate) corporate lending to total financial assets is, in some ways, a mirror image of the high corporations' share of loans to liabilities, they conclude that the major increases in finance, real estate and household lending have replaced corporate lending as the driving factor behind banks' loan portfolio. According to this statement, these shifts in banking behavioral change are far more accentuated in big financial institutions than in smaller ones. These descriptions of the financialization of the monetary system are compelling. Nevertheless, they are based on inspections of the changes of certain financial ratios over timeline. In this research we extend the research evidence approach in two ways: first, we relate enterprise lending directly to bank profitability and search for the presence of bank capability and shareholders effects; second, we can do an econometric analysis in which we standardized a number of factors – specifically, different measures of risk, bank effectiveness, macroeconomic policies, firms models and market price, which are expected to have a great influence on bank profitability but which have generally been assumed from the analysis. One factor which we devote special alert is the occurrence of the international financial crisis. The introduction of new bank lending system, in British households and businesses, fell rapidly following the start of the crisis in mid-year of 2007. Loans to the British commercial assets amounted to half of all the outstanding loans to England businesses (UK Treasury, 2010).

Since 2008, net bank lending to European banks has on average continued to fall, with debt repayments higher than new lending. This may partly reflect demand-side factors, as the demand for financial loans naturally decreases during a recession as enterprises scale back on inventories and capital investment strategies, while trying to rebuild fund reserves, and it may also reflect supply-side factors, as banks tend to restricted credit supply during financial crisis, when bad debts impair their balance sheets. Moreover, as European banks are heavily dependent on wholesale interbank funds, a surprise in that market is likely to affect new credit supply. Aiyar (2011) shows that the crisis in the world funding markets

resulted into a shock to European banks' external funding and, as a result, led to a substantial reduction in domestic lending. In fact, the study found that each 2 percent decrease in banks' external funding caused a 0.7 percent to 0.8 percent reduction in domestic lending, which is a substantial impact.

This was an important channel for transmitting the financial shock to the real economy. Evidence from Riley et al (2014) shows that the banking crisis is likely to have the highest adverse effect on upcoming enterprises with little collateral, businesses seeking to increase quickly and companies with stretched balance sheets, while older and established businesses may have experienced great credit conditions. Despite the Bank of England's low interest rate policy and the decline in the cost of bank lending, the spread between the interest rate charged for new loans and the Bank Rate or LIBOR has continued to increase after the 2008 financial crisis, pointing to the importance of supply-side explanations for the post-crisis reduction in money lending.

### 3. METHOD

This study adopted a descriptive research design and the study focused on 500 employees from five microfinances in Kitale town; and a sample size of 150 employees from the population which accounted for 30 percent of the entire population. Questionnaires were used to collect data from the study area because of confidentiality of the research. A pilot study with a sample of a tenth of the total sample with homogenous features was appropriate for the pilot study. Data collected using the questionnaire was analyzed through SPSS (Statistical Packages of Social Sciences). Data was coded for analysis. The study used non-linear regression matrix or model to determine the relationship between interest rates and the profitability of microfinance institutions. Analysis of Variance (ANOVA) was employed to determine the overall fit of the model and therefore testing the hypothesis. The significance of the specific coefficient values of the model was tested using statistics at 95% confidence interval. Linear regression was applied to test the significant level of the variables.

### 4. DISCUSSION

Demirque Kunt (2003), money lending rate of a financial institutions always determines the profitability index, the higher the money lending's the higher the profit margin expected by the microfinance or otherwise the lower the amount of money given to clients the lower the profits or gains. The findings were presented in a five point Likert scale where **SA: strongly agreed, A: agreed, NS: not sure, D: disagreed, SD: strongly disagree**. Table 4.1 represents 130 respondents who were asked whether money lending had the effects on the profitability of microfinance.

**Table 4.1: Influence of Money lending on the profitability of Microfinance in Trans Nzoia County**

Statements	P	SA	A	NS	D	SD	TT
Money lending have helped Improve business profits	%	46.15	15.38	0	23.08	15.38	100
All officers handling money Lending procedures are qualified	%	42.31	46.15	0	11.54	0	100
Officers always review interest Rates before lending money to clients	%	46.15	0	7.70	33.85	12.31	100
The general manager always Reviews the grading of each Money lending portfolio	%	38.46	38.46	0	11.54	11.54	100
Central Bank rates are considered When drafting lending interest rates At the branch	%	46.15	15.38	15.38	23.08	0	100

The results in the table 4.1 shows that majority of the respondents at 46.38 percent strongly agreed that money lending has improves the profits of the business and investment. Morduch, J (2005) states that the aim of any business unit is to make profits in returns to better services, his theory concurs with these findings since it can be asserted that micro credit loans have has a great and significant role in influence the business profitability in the study area resulting to self-employment,

business expansion and economic growth. From the findings 15.38 percent of the respondents agreed, 23.08 percent of the respondents disagreed and 15.38 percent of the respondents strongly agreed that money lending has improved the profits of the business.

The research found out that out of 130 respondents, 42.31 percent of the respondents strongly agreed and 46.15 percent of the respondents agreed, that most of the staff handling money lending portfolio have the needed qualifications. According to Yunus, M (2003) indicated that money lending portfolio is the key asset to the microfinance, human resource to manage such an asset need to be experienced and competent for job performance so as to avoid wrong decisions and errors, Yunus findings agrees with this research findings that money handling officers need to be qualified to improve on service render to customers and therefore increased margins. From the findings, only 11.54 percent disagreed that money lending officers are not qualified in most microfinance.

Out of 130 respondents, 46.15 percent of the respondents strongly agreed that officers always review interest rates during money lending procedure before issuing funds to clients. This finding agreed with Mark, J (2003). He carried a research on the effects of market interest rates on bank profitability, he noted that continuous review of interest rates solves the problem of charging higher interest rates to clients which might exploit them, or on the other hand failing to review interest rates may lead to charging lower interest rates that may affects the profits of microfinance. The research further found out that many micro-credit customers have increased using credit while new customers are planning to seek for credit once they are ready. From the findings, 7.70 percent of the responded are not sure, 33.85 percent of the respondents disagreed, and 12.31 percent strongly disagreed that the loan officers do not reviews the grading of each money lending portfolio, and that this negligence can lead to wrong decision making that can affect the money lending portfolio quality.

From the research findings, 38.46 percent strongly agreed and 38.46 percent agreed that the general manager always review the grading of each money lending portfolio leading to improved decision making in microfinances. This finding tallies with Ngugi R.W (2003) that all the financial reports needed to be reviewed by the general manager for effectiveness and efficiency and thus better executive decision making. Only 11.54 percent of the respondents disagreed and 11.54 percent of the respondents strongly disagreed that the general manager don't review the grading of each money lending portfolio.

From the table 4.1, 46.15 percent of the respondents strongly agreed that Central Bank rates are considered when drafting lending interest rates at the microfinance and its branches, meaning that the microfinance charged interest rates basing on the CBK rates. 15.38 percent of the respondents agreed, 15.38 percent of the respondents are not sure and 23.08 percent of the respondents disagreed that most of the microfinance don't considers CBK interest rates when drafting their interest rates but based on the location, competition, size of the microfinance and number of clients.

#### 4.1 Descriptive Statistics:

##### a) Pearson Correlation:

The study tried to bring out the relationship between interest rates and profitability, the variables of the study. Pearson's correlation coefficient was computed at 95% confidence intervals (error margin of 0.05). The table below illustrates the findings of the study.

**Table 4.2: Correlation Matrix**

		<b>Profitability</b>
	<b>Pearson Correlation</b>	<b>.635**</b>
<b>Money lending</b>	<b>sig. (2-tailed)</b>	<b>.000</b>
	<b>N</b>	<b>130</b>

As shown in the table 4.2, the p-value for money lending was found to be 0.000 which is less than the significance level of 0.05, ( $p < 0.05$ ). Indicating that the Pearson's correlation coefficient (R-value) of 0.635, presented a positive relationship between money lending and profitability of microfinance.

**b) Multiple Linear Regression results:**

Linear regression was computed at 95% confidence interval (0.05 margin error) to show the multiple linear regression relationship between interest rates and profitability, the variables of the study. The linear regression method used for this study was the least squares method. This was used to determine the line of best fit for the model through minimizing the sum of squares of the distances from the points to the line of best fit. The regression model was of the form:  $ROA = \alpha + \beta_1 MLR + \beta_2 CP + \beta_3 CS + \epsilon$  Whereby ROA is return on assets,  $\alpha$  is regression constant,  $\alpha - \beta_3$  is regression coefficients, MLR is Money lending interest rate, CP is credit payback, and CS is customer satisfaction, and  $\epsilon$  is error term.

**c) Coefficient of Determination (R<sup>2</sup>):**

From the findings the coefficient correlation (R) was found to be positive 0.530, meaning that there was a positive correlation between interest rates on the profitability of microfinance in Trans Nzoia County. Coefficient of determination (R<sup>2</sup>) indicates that 40% of profitability of microfinance is influenced by interest rates. The adjusted R square however, indicates that 30% of profitability of microfinance in Trans Nzoia County is influenced by determinants leaving 70% to be influenced by other factors not captured in the study.

**Table 4.3: Analysis of Variance (ANOVA)**

Model	unstandardized coefficient	standardized coefficient	F	Sig.	
	B	Std.Error	Beta		
Constant	-.053	.264	-.199	.000	
Money lending	0.720	.944	.154	3.08	.000
Credit Payback	0.712	.113	-.165	4.628	.016
Customer Satisfaction	0.442	.103	-.121	3.44	.028

a. Independent variable: (Constant), money lending rates, customer satisfaction, credit payback.

b. Dependent Variable: ROA

From table above, the following regression equation was established:

$$ROA = -0.053 + 0.720MLR + 0.712CP + 0.442CS \quad p = .035$$

From the model, when other factors of independent variables are at zero, the financial performance on profitability (ROA) will be  $-0.053$ . Holding credit payback and customer satisfaction constant, a unit increase in money lending interest rate would lead to 0.720 increase in microfinance' financial performance or profitability.

Based on the findings

**H<sub>01</sub>:** Money lending do not have a significant influence on the profitability of microfinance Institutions in Trans Nzoia County.

From the table 4.3, Money lending ( $\beta=0.720$ ) was found to be positively related to the effects of interest rates to the profitability of microfinance in Trans Nzoia County. From t- test analysis was found to be 3.08 and the p-value 0.000. Statistically this null hypothesis was rejected because  $p < 0.05$ . Thus, the study accepted the alternative hypothesis therefore concluding that money lending has influence on the profitability of microfinance in Trans Nzoia County.

## 5. CONCLUSIONS AND RECOMMENDATIONS

Microfinance' strength is to improve information between borrowers and lenders and ability to manage risks are the foundation of profitability. These abilities are integral elements of their output and influence the managerial incentives to produce financial services prudently. The literature on financial intermediation suggests that microfinance institutions, by screening and monitoring borrowers, can solve predicted moral hazard and adverse selection problems caused by the imperfect information between borrowers and lenders.



From the findings and conclusion, the study recommends the following:

There is need for the government to control the microfinance money lending interest rates, high interest rates slow down the profitability of microfinance. There is need for the CBK to make a prudent policy in balancing its' key role regarding the monetary policy to ensure the stability of the Kenyan currency and accelerating economic growth through the provision of accessible credit facilities. Experts of the effect of interest rate on profitability of microfinance in Kenya, need to provide financial managers and commercial banks' regulatory with additional information, including information on how to improve the profits in a way that they enhance profits without manipulating interest rates. The commercial banks that provide credit facilities to microfinance need to closely audit these microfinances financial statements quarterly before they modify their accounting books to hide their real financial statements.

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