EFFECT OF NON-PERFORMING LOAN DETERMINANTS ON FINANCIAL PERFORMANCE OF MWALIMU SACCOS IN MIGORI COUNTY, KENYA

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ABSTRACT

Non performing loans are loans in which borrowers fail to meet the agreed repayment schedule for interest or principal for an extended period, commonly beyond 90 days. In the case of Savings and Credit Cooperative Organizations (SACCOs), which play an important role in mobilizing savings and providing credit to members across many economies, the rise of non performing loans creates major operational and financial difficulties. Because SACCOs rely largely on loan repayments to generate income, any increase in defaulted loans reduces cash inflows, forces higher provisioning, and limits the funds available for issuing new credit. This situation weakens profitability, restricts lending capacity, and ultimately contributes to a noticeable decline in overall financial performance. The study aims to assess the effect of non-performing determinants such as; high interest rates, inadequate loan size, poor appraisal, lack of loan monitoring, and improper client selection on financial performance. The purpose of the study was to assess effect of non-forming loans on overall SACCO's financial performance. The objectives of the study were to: find out how high interest rates affects the SACCO's performance, ascertain whether inadequate loan size had any effects on SACCO's financial performance, to determine whether loans appraisal affects SACCO's performance, whether loan monitoring techniques used has effects on SACCO's financial performance and ascertain whether improper client selection can lead to poor SACCO's financial performance. The study anchored on the main theory of mission drifting theory of microfinance, stewardship and financial accelerator

theory. The study adopted case study design. The study was conducted in Migori County. The study targeted respondents who include: two branch eight managers, loan administrative officers, eight loans values, eight loan assessors, eight loans collectors, 70 bank customer and 13 experienced retired survey respondents. The study adopted stratified sampling technique, in this technique, the size of each stratum is proportionate to the population size of the strata which will be looked at across the entire population hence, and a sample size of 89 employees were selected. Departments of the SACCO. The study adopted a descriptive design to collect data. Data was sorted, corrected, categorized, coded and then formulated by means of simple descriptive statistics; mean and standard deviations and frequency counts using statistical package of social science studies (SPSS). The study found that lenient credit terms and conditions had the highest mean followed by rising recession and falling rates of expansion followed by appropriate measures to minimize the risk of non- performing loan and aggressive lending and botched loan monitoring. The study found that standard deviations are increasing hence inadequate loan size is increasing with number of borrowers. The study recommended that loan payment services should be managed well as financial training in improving financial performance. Loan appraise should be allow asset quality measured by ratio. performing loan The study recommended that the effect of loan size should be measured to improve performance and the marketing of loan offered should be increased to maximize financial performance.

INTRODUCTION

The rise in non-performing loans has become increasingly evident across commercial banks, affecting both retail and corporate segments. This trend was observed early in the Turkish banking sector, where the ratio of non-performing loans began to climb before and after the global financial crisis. The upward movement accelerated during the crisis period and intensified in subsequent years as economic conditions weakened, particularly when contractions in gross domestic product affected loan appraisal and repayment capacity. Non-performing loans refer to situations where borrowers fail to honour loan obligations, whether due to inability or unwillingness to repay. For savings and credit cooperatives, such defaults translate into lost interest income and increased recovery costs, which ultimately erode financial performance. Joseph (2017) notes that high recovery expenses further burden lending institutions, illustrating how non-performing loans impose significant financial strain on cooperative societies (Joseph, 2017).

In Finland, nonperforming loans is continued to rise since then exhibiting strong and negative related with pace of financial performance. The rise in nonperforming loans reflects in part if default consequences of heightened depreciated currency and tight financial conditions, weakened the loan borrower's repayment capacity. Default is the failure to pay loan with interest adding to amount of principal on loan or security when due. The default occurs when a debtor is also unable to meet the legal obligations of nonperforming loans. This case is partly failing to perform a future contract as required by loan conditions and terms in exchange, when a loan borrower default on loan resulting to a negative growth in reporting financial performance. It is beyond the macroeconomic factors that there is high variability in nonperforming loans indicating non-negligible contributions of banks. Reducing the change of obtaining loans in the future (Ocelli, 2016). Similarly, when bond issuers default on bond or exhibit other signs of poor credit management rating agencies lower the credit rating (Keitany, 2016).

In South Africa, the nonperforming loans in financial performance a reviewed at both bank level data and Sacco's indicators over loan size. It is useful not only to the importance of SACCOs against financial crisis. Over the years the finance industry has substantially increased around the world, especially after gross domestic growth and change in credit to inflation contribute to higher nonperforming loans. Equity to asset ratio and return on equity are negatively associated with nonperforming loans, thus the increase in nonperforming loans in the commercial sectors is likely to affect financial performance in the period ahead. They are embodied in the values of mutual rating efficiency and accountability of nonperforming loans. Nonperforming loans is a macroeconomic determinant resulted from higher unemployment rate, exchange rate depreciation with global risk aversion (Heid, 2015).

In Tanzania, factors that cause nonperforming loans in commercial banks are increasing in the recent increase in bank interest rates. The excessive lending measured by loan to asset and the past growth rate of commercial banks' lending results to higher nonperforming loans.

However, Sacco's financial linkages have significant impacts on nonperforming loans; their overall financial performance is still low. In this case, the effects response of a positive shock of gross domestic product and loan lending ratio contributes to decrease of nonperforming loans while a higher interest rates leads to higher nonperforming loans (Blanco, 2014).

In Kenya, SACCOs are an association of people united voluntarily to meet common economic and social obligations through jointly owned and democratically controlled enterprises which are organized and adopted under the principals of cooperatives. There has been massive fraud of funds by SACCOs management delinquency and increased costs. overall external events such as macroeconomic conditions, which are more likely to affect the borrower capacity to repay their loans, while the second group looks more at the variability of nonperforming loans across financial institutions. These attributes the level of nonperforming loans to banking level factors. Thus, the causality from nonperforming loans is due to bad luck in loan monitoring driven mainly by deterioration in macroeconomic conditions. The low cost efficiency is an indicator of nonperforming loans underwriting, monitoring, and control. Thus, the cooperative saving plays a major role in resource mobilization and hence challenged (Ahmed, 2014).

The stringent in traditional loan appraisal of SACCOs in Migori County has caused the delay in loans performance limiting the amount of loan guaranteed, hence, making them unattractive to clients, attracting new members is coupled with prudent loan appraisal. This translates the increase in the number of loan applicants centrally to nonperforming loans problem resulting to low profits of SACCOs which depends largely on savings and credit facilities from its members. This forms the basis which SACCOs with relatively low capital respond to nonperforming loans incentives by increasing the riskiness of loan appraisal, which in turn results in higher non- on average in the future. The excess loss rates are prominent among SACCOs that had equity to asset ratio (Hammond, 2015).

Statement of the problem

The SACCOs is a very significant sector in today's modern world economies. However, there is a decline in financial performance of SACCOs in terms of profits in the year 2017 at 22.01 million as compared to the year 2014 at 22.91 million and the year 2017 at 24.01 million which translates decline in income from loan serving capacity to borrowers (Kinya, 2017).

Gupta (2014) conducted a study on the evaluations of the effect of nonperforming loans on the performance of Indian Banks. The study aims to analyze the effect of nonperforming loans on financial performance. The specific objectives of the study were; to investigate the effect of financing loans, loan recovery procedures, optimal loan scheme, and borrower characteristics on financial performance. The study sampled 74 respondents working in the banks using causal research design. The data collected was analyzed by mean, correlations and regression analysis. The study failed to apply loan appraisal which is an important determinant of nonperforming loans on financial performance. Metaxas (2014) analyzed a study on the effect of nonperforming loans on financial growth of Stanford bank. The study objectives were; to evaluate size of the loan recovery on bank financial growth, to assess the effect of outstanding loan and to establish the effect of macroeconomic factors of financial growth. The study

sampled 12 respondents using stratified sampling and questionnaire to collect data. The study employed percentage, mean and standard deviations to analyze data. The study failed to apply regression analysis to analyze interest rates which is vital in loan performance. It is this insight that the study aims to assess the effect of non-performing loan determinants on financial performance Mwalimu Saccosat Migori County in Kenya.

Objective of the Study

Overall Objective of the study

The overall objective of the study was to assess the effect of non-performing loan determinants on financial performance of Mwalimu Saccos in Migori County in Kenya.

The Specific Objectives

The study was guided by the following specific objectives:

- i. To examine the effect of interest rates on financial performance of SACCOs in Migori county.
- ii. To evaluate the effect of loan size on financial performance of SACCOs in Migori county.

LITERATURE REVIEW

Theoretical Literature Review

The Mission Drifting Theory of Microfinance was originated by Kallberg in 2008. The theory states that implication of equilibrium in perfect markets is the choice of loan structure which does not affect the market value. Theory of mission drifting in microfinance suggests that the foremost mission of financial institutions is to provide financial services affordable to everybody around the world. Firms through interest rate of debt financing can be shift payment from continuing to the government and direct to the firm shareholders and lenders by increasing debts (Ahmed 2014).

The assumptions of the theory are that the effect of interest rate deductibility on financial services is expected with return of shares. It also assumes that the tax deductable effect of interest rate on debt creates more savings for the firm and makes loan cheaper than equity finance. It is assuming that interest rates shield does not exist in reality since interest in loan repayment enable the firm to take advantage of profits (Wesley, 2014).

The shortcoming of the theory is that loan leads to a legal obligation to pay interest and principal and if a firm cannot meet its repayment obligations it is forced into non-performing loans leading to bankruptcy costs. The significance of loan structure is not seemingly simple questions on how banks can finance their loan still remains an issue. There is no consensus that have emerged on non-performing loans hence nonperforming in financial institutions is the most serious problem they face in their operations. When this occur, SACCOs are said to be decreasing loan performance slowly making them deviate from the mission of lending money to low income bracket in the firm (Winters, 2014).

This theory is relevant to inform the firms' use of internal finance debts before moving into loans from external finance. When applying this theory loan should be used to before new equity finance. Currently finance researchers have however will find that new financial firms use internal sources of finance with equity startups to financial performance.

Liquidity Theory

The theory was first suggested by Emery in 1984. The organization which have liquidity problems give advances less credit and has a stringent credit policy. The main point of this suggestion is that when an organization is financially constrained the offer of more credit is constrained since the organization has no funds to invest in neither receivables nor the cash to pay for the collection costs. In accordance with this idea, those organizations present good liquidity or better access to capital markets can finance advance more credit unlike those that are financially constrained (NarKlein, 2013).

It is assumed that when there is a monetary contraction, small organizations react by increasing the amount of trade credit. This theory assumes that numerous approaches have tried to attain credit in terms of liquidity in order to support this assumption that small organizations as a proxy for credit rationed organizations. The decrease in profit levels measures how it affects the growth of stakeholder's wealth from dividend payment (Saba, 2017).

The theory is relevant that financially unconstrained organizations are less likely to demand trade credit and usually offer more credit. It is accepted to reduce on the credit advanced to their clients by adopting a more stringent credit policy so as to reduce cost of bad debts and to discharge funds for investment.

Empirical Literature Review Interest rates

Subaru, (2014) analyzed the effect of interest rates on financial performance of Oceanic banks. The study aims to investigate the effect of interest rates on financial performance. The study used 21 banks listed in the Intercontinental bank reports. The study used percentage, trend analysis to analyze the collected data from financial reports. The results showed that Intercontinental bank has been affected by the incidence of non-performing loans in Nigeria. The study recommended that Intercontinental bank should measure the ways of non-performing loans. Performance of loans has to be enhanced by interest rates charged by Intercontinental banks.

Mohammed (2017) examined the determinants of interest rates on profitability of firms. The purpose of the study was to examine the extent to which the determinants of interest rates affect profitability in banking industry. The study used descriptive statistics and regression analysis to analyze data collected from 24 firms. This result showed that financial regulatory affect profitability of firms among banks. The regression analysis showed that non-performing loans affect profitability of firms. Thus, it was study recommended that stakeholders of banks and policy makers to fast tracking loans.

Saba (2017) explored the relationship between interest rates and financial performance of banks. The study sought to explore the relationship between interest rates and financial performance of banks. The specific objectives were; to investigate the effect of reduced fund for new lending, difficulties in expanding working capital, decrease profit levels and how it affect the growth of stakeholders wealth in dividend payment. The study adopted a survey design using 32 firms with component analysis. Factor analysis was employed to analyze data. Finding indicated that reduced fund for new lending, difficulties in expanding working capital decreases profitability levels related to financial performance of banks. Thus failed to analyze to adopt descriptive analysis to show how interest rates and lenient credit terms affect financial performance.

Joseph, (2017) investigated the causes of high interest rates on profitability of firms in Zimbabwe. The study sought to investigate the effect of shareholders growth of stakeholders' wealth in dividend payment. The study employed correlation analysis using chi square to establish the relationship between profitability of 12 firms. It was concluded that shareholders growth of stakeholders' wealth in dividend payment is significantly related to profitability of firms during high interest rates. Further, external factors are more negatively affecting profitability of firms. It was recommended that Zimbabwe banks to include other external factors from natural disasters, government policies and integrity of borrowers have been identified as the major or predominant causes of poor profitability.

Khalid (2017) the effect of interest rates on bank performance. The study aimed at investigating the effect of interest rates on bank performance. The specific objectives were to examine the extent to which microloans are influenced by non performing loans and savings mobilization. The study used financial statements from 8 banks to collect secondary data from 2005 to 2015 for profitability period under considerations. Using multiple regression model the study analyzed return on assets and profitability ratio. The results supported the hypothesis that the higher the quality of the loan processing activities more profitability level. Loan approval increases non value added activities that is required to process problematic loans and thus the higher the banking performance. The study revealed that financial training is influenced by agency problems which may increase loan grantees. The bank managers are aiming at excessively loans without adequate to improve bank performance during boom periods however, may contribute to non-performing loans.

Abdullahi (2013) investigated the efficiency of interest rate risk management on financial performance of banks in Uganda. The study aimed investigating credit rate risk management on bank performance. The objectives of the study aimed at examining the efficiency of interest rate management on bank performance. This aim was to determine if credit risk has effect on the profitability and examining the relationship between interest income and bad debt (non-performing loans) of 32 respondents from Bank PLC. Using Pearson correlation coefficients with factor analysis the collected data was analyzed. The study found that credit risk affects the financial performance of banks and for the banks to maintain high interest income, adequate attention should be given to credit risk management specifically the lending philosophy of

banks. The study recommends that bank loans should be adequately reviewed from time to time to assess the level of risk and every loan should be secured with collateral.

Nar Klein (2013) studied the effect of managing interest rates on non-performing loans. The study aims to analyze the effect of managing interest rates on non-performing loans among 11 macrofinancial institutions in Central, Eastern and South-Eastern Europe (CESEE) covering the period between 2017 and 2015. The study showed that loan defaults level can be ascribed to both macroenomic conditions and bank specific factors even though the banks were found to have a relatively low explanatory profits from loan defaults. The gross domestic product, unemployment and inflation rate affects the economic recovery of the region.

Mudibo (2005) analyzed the challenges of interest rates encountered among SACCOs. The study aimed at examining the effect of interest rates on performance of loan. Credit analysis and disbursement, budgeting and financial expenditure control were analyzed objectively. Panel data was employed with means, correlation analysis and regression analysis using 7 SACCOs. The study showed that the guideline governing various stakeholders is aimed at the authority of credit committees. However, loan performance is influenced by executive committee and staff members. The study recommends that important decisions on urgent should be analyzed to change interest rates, with the introduction of new loan products and proper services have to wait approval by annual general meeting which leads to low p performance of loan.

Chege (2016), did a study with a major concern on interest rates determinants on Credit default in commercial banks in Kenya. The study objectives were the effect of Credit default using interest rates, to analyze the changes in interest rates, credit scores, and demographic changes, collateral values affect credit defaults. The study analyzed 11 commercial banks from Nairobi security exchange. The data collected from financial reports was analyzed by mean and standard deviation. Credit default and value of collateral to security determine loan performance. The respondents recommended that interest rates should be lowered with introduction of new loan products among others.

Keitany (2013) reviewed the relationship between interest rates and financial performance of SACCOs in Kenya. The using descriptive design, a sample of 20 SACCOs the data sources were only secondary data from SASRA. The study findings indicated that there is a strong negative relationship between interest rate and financial performance of SACCOs. This study however seeks to get further information on factors leading to interest rates default and how this affects growth of SACCOs by covering a larger sample of SACCOs licensed by SASRA.

Loan Size

Nkuah (2013) did a thesis on the aspects of loan size quality on the financial performance of banks in Ghana. The purpose of the study was to examine the effects of appropriate measures to minimize the risk of non- performing to loan on financial performance of selected universal banks in Ghana. The study used data set from the annual reports for 10 Ghanaian universal banks from 2007-2013. The study employed a regressive method. This study though relevant,

it lacks proper statistical research guidelines which makes it lack chronological sequence. The study found that rising the rate of expansion affect financial performance.

Hesbon and Matadata (2015) examined the effect of loan size performance on profitability of banks. The objectives were; the effect of aggressive lending and botched loan monitoring, delay refund of members deposit, competition from banks and microfinance institution, short loans and loan term loans. Financial data was collected from both questionnaires and financial statements from 3 banks comprising 223 respondents. The study found that aggressive lending and botched loan monitoring on short loans and loan term loans does not affect profitability of banks. The study recommended that loan size should be mobilized with resources available and marketing of firms.

Mwangi (2016) analyzed the impact of loan size challenges as faced by SACCOs. The study aims to examine the effect of bank liquidity, cash flow problems, and delayed refund of member's deposit on financial banks. The study employed descriptive research design from 341 respondents sampled randomly. The study used correlation and regression analysis. The results showed that loan size affect Sacco's performance. It was found that it contributes to over 45% of the loan product enactment of the SACCO Act 2008 (SSA) and the subsequent Establishment of the SACCO society. Financing services from other financial institutions threatens their survival into the future.

Magnifisque (2015) did a research on the effect of loan sizeon the financial performance of commercial banks in Rwanda. The objective of the study was to establish the effects of credit risk management and financial performance of commercial banks in Rwanda. The study had four objectives which were, establishing how credit risk can be identified, credit risk analysis and assessment, credit scoring mechanism and how risk monitoring affects financial performance of commercial banks in Rwanda. The study adopted a descriptive research design which assisted to examine the effect between regulation and performance of commercial banks. The response rate was 100% which comprised of 11 commercial banks. This study is not very specific in that it generalizes findings and conclusion which a clear and scientific research study cannot do something which makes the findings and conclusions not to be fully upon thus creating Flaw gap.

Kagoyire and Shukla (2017) examined on the effects of loan size management on performance of commercial banks in Rwanda a case of equity bank Ltd. The study sought to determine the effect of credit management on the financial performance of commercial banks in Rwanda. It used a descriptive design; it targeted 57 employees of Equity bank, in credit department. The study applied correlations analysis to analyze data. In such a big study only one bank cannot be used to generalize for whom owing that different banks have different characteristics and features. The study does not also bring out the data collection procedure all which leads to errors which makes the results not to be depended onloss provisions made for delinquent or non-performing microfinance and small business loans, CBK requires licensed SACCOs to maintain a general loss provision of 5% of the aggregate outstanding of all the present or average period of advance possessions.

Choudhury, (2017) studied the effect of loan size on share of profit. The aim of the study was to examine the effect of loan size on share of profit. The study used descriptive statistics for analysis. The results showed that lending to manufacturing, agro-processing industries, mining or extractive industries and commercial agricultural projects constitute the major sources of its income. As a strategic government owned institution, DBE is uniquely positioned in the financial industry as it is empowered to extend both development finance and short-term working capital loans as a package. The Development Bank of Ethiopia is one of government owned financial institutions engaged in providing short, medium and long term development credits by financing viable projects from the priority areas of the government. DBE's distinguished feature is its "project" based lending tradition. Project financed by the Bank are carefully selected and prepared through appraisal, closely supervised and systematically evaluated.

Woo (2000) examined the determinants of loan sizeon the performance of projects financed by Development Bank of Ethiopia Central region. The researchers strongly believe that identifying the factors affecting loan repayment performance of projects would enable the bank's management to tackle and minimize the problems and consequently will enhance its loan recovery and loan repayment period which extends up to twenty years including maximum five years of grace period. Moreover, low interest rate than commercial banks, which is 8.5% for priority area projects and 9.5% is for non-priority area projects, and suitable rehabilitation mechanism makes the bank different from other lending.

Hammed*et al.*, (2017) studied the effect of the sustainability of the loan size on financial performance. The study showed that the loan repayment performance of its clients should be effective so that the bank will be sustainable as a bank and will have a bankable asset quality. One of the measurements by which bank's asset quality can be measured is the nonperforming loan ratio (Loan defaults ratio). Hence, in order to get soft loan from its lenders, DBE's asset quality has to be regularly monitored and assessed whether it is within the acceptable standard or not that is 15% of the total outstanding loan which is set by Association of African Development Finance Institutions.

Wondimagegnehu (2017) looks on the loan size on profitability of DBE Central region. The results showed that average Loan defaults ratio for the last five years covering from 2009/2014 up to 2013/2014 was 45%. This clearly indicates that there is a problem in loan repayment as it is highly deviated from the accepted standard 15% of the total outstanding loan. The increasing level of Non-performing loans may lead to very serious implications. Therefore, a rough investigation of the various aspects of loan defaults, source of credit, purpose of the loan, form of the loan, and condition of loan provision are of utmost importance both for policy makers and the lending institutions. Even if default is random and influenced by unpredictable behaviors or it is influenced by certain factors in a specific situation needs an empirical investigation so that the findings can be used by any financial institutions to manipulate their credit program for the better. Most of the default arose from poor management procedures, loan diversion and unwillingness to repay loans, etc. Because of this, the lenders must give various institutional methods that aimed to reduce the risk of loan default.

Joseph, (2017) analyzed the effect of loan size on financial performance of small enterprise. This study aimed at identifying the effect of loan size that affects non-performing loans of Development Bank of Ethiopia (DBE) central Region. The study adopted descriptive research design with a population of 212 respondents working in banks. The study used questionnaire to collect data. Using descriptive statistics and correlation analysis, it was found that reducing the default rate enhances the sustainability of the bank, it is imperative that identifying the various factors which significantly affect the loan repayment performance from both borrowers and lender side. Hence, The rationale for undertaking this study is that, to the best of the researcher's knowledge it appears that adequate researches have not been made that comprehensively assess the determinants of Non-Performing Loan in banking industry in general and Development Bank of Ethiopia in particular with the exception of a single study made by on the determinants of Loan defaults of banking industry in Ethiopia. However, in the previous empirical analysis no study has been conducted on borrower-specific factors influencing nonperforming loans. Apart from the economic growth and environmental changes registered by the country within the development finance institution means an institution which is engaged mainly in medium and long term project finance business, with the purpose of promoting development in the industrial, agriculture, construction, services, commercial or other economic sectors.

Asari (2015) analyzed Non-performing loan as defaulted loan in which banks are unable to get profit from them. Generally, loan falls due if no interest has been paid within 90 days, however, different countries may have different experience in this regard. The long run relationship clearly revealed that interest rate has a significant impact on non-performing loans. Inversely, there exist insignificant relationship between inflation rate and non-performing loans. However, in short run, both interest & inflation rates will not impact the non-performing loans, Understanding, and quantification of the degree of potential loss and the consequential implementation of appropriate measures to minimize the risk of loss to the financial institution.

Research Gap

Subaru, (2014) analyzed the effect of interest rates on financial performance of Oceanic banks. The study aims to investigate the effect of interest rates on financial performance. The study used 21 banks listed in the Intercontinental bank reports. The study used percentage, trend analysis to analyze the collected data from financial reports. The used a smaller sample size which could not be appropriate in coming up with appropriate conclusions.

Nkuah (2013) did a study on the aspects of loan size quality on the financial performance of banks in Ghana. The purpose of the study was to examine the effects of appropriate measures to minimize the risk of non- performing to loan on financial performance of selected universal banks in Ghana. The study used data set from the annual reports for 10 Ghanaian universal banks from 2007-2013. The study employed a regressive method. This study failed to apply proper statistical research guidelines which make it difficult to follow chronological sequence. Nakajima and Rias-Rull (2002), conducted a study of loan appraisal on financial performance of financial institutions. The aim of the study was to examine determinant on loan appraisal on commercial bank performance by use of loan valuation in Israel bank. The study used primary

and secondary data by descriptive survey design. The analysis sampled 23 banks. The parameters used was descriptive statistics and inferential. The study failed to adopt quantitative hypothesis which is important aspect in making conclusions.

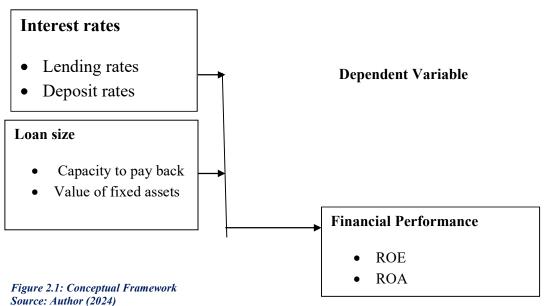
The study carried out by Macit (2017) analyzes the determinants of non-performing Loan in the Turkish banking sector via a panel data analysis for the period between 2005 and 2014. The study did consider to analyze data using mean and regression analysis.

Mohammed, (2012) examines the effects of loan quality on bank performance. Using the multiple regression models to analyze date from 2 commercial bank return on assets and profitability ratios as proxies for banks profitability between the periods of 2006-07 and 2014-11 this could have been tested by the other methods so that more evidence could be got.

Conceptual Framework

Botha (2017), the role of conceptual framework encompasses a summary of the research attributes upon which the study has been guided; it contains both independent attributes against dependent variable ones. It also contains the intervening variables as described in the diagram bellow. This section will explain how the independent variables like high interest rates, inadequate loan size affects the performance of SACCOs.

Independent Variable



Greenidge and Grosvenor, (2014) are common macro-economic elements, while size and advancing policy are micro-economic variables. These variables Guy, (2015) are by no means exhaustive, but they provide a useful framework for monitoring the development of non-performing loans. More recent researches Haunerand and Peiris, (2005) started studying this problem but with particular reference to both undeveloped nations and emergent economies. Moreover, Jimenez and Saurina (2005) observe the Spanish banking sector from 1984 to 2003;

they offer proof that non-performing loans are usually determined by GDP increase, high real interest rates and lenient credit terms.

The factors include income, amount of existing personal debt, accounts numbers from other credit sources and credit history. Credit risk managing is a procedure, a comprehensive system. The process that commences with recognizing the lending markets, over and over again referred to as "target markets" and proceeds through a sequence of stages to loan repayment. Banking institutions face strong challenges in running credit risk. Government controls, the internal and external political interferences and pressures, manufacture difficulties, monetary limitations, market disturbances, delays in production schedules and frequent instability in the commerce environment challenge the financial situation of borrowers. Likewise, financial information is repeatedly unreliable and lawful framework does not always support debt recovery Mueller, (2000) also he identified lack of technical good skills and decision on the part of the lender becomes a possible cause of non-performing loans.

RESEARCH METHODOLOGY

The study adopted a case design and employed a self-administered questionnaire to gather data from the respondents. The study sought to collect data without deploying the research variables or the respondents in an attempt to get the perception of the respondents toward their own assessment in identifying the factors contributing to Non-performing loans in Mwalimu SACCO.

The targeted population of the study was One hundred and fifteen (115) respondents who consisted of the employees from different departments in Mwalimu SACCOs in Migori and Kehancha branches in Migori County as indicated in the table below. The study targeted 115 respondents who include: two branch managers, eight loan administrative officers, eight loans valuers, eight loan assessors, six loan collectors, 70 bank customer and 13 experienced retired survey respondents.

Table 3:1 Target Population

Employee category	Population
Branch managers	2
Loan administrative officers	8
Loans valuers	8
Loan assessors	8
Loan Collectors	6
Bank customer	70
Experienced retired survey respondents	13
Total	115

Source: Sacco Records (2018)

Ngare (2015) affirmed that 30 to 200 elements are sufficient when the attribute is present 20 to 80 percent of the time (i.e., the distribution approaches normality). This technique provided the

researcher a way to achieve even greater representativeness in the sample of the population as indicated by (Kothari, 2014). The sample size will be determined scientifically by the formula: $n=N/(1+Ne^2)$ Where n= desired sample size for the study area, N= total no. of employees in Credit Department e= desired margin error. A margin error of 0.05 is selected since it is logistically difficult to deal with a larger sample size Mugenda*et al*, (2013) Thus $n=115/(1+115*0.05^2) = n=89$ employees

Therefore, the sample size was 89 employees of the SACCO from different Departments. Their distribution is as shown below:

Table 3:2 Sample Size

Employee category	Population	Sample Size	
Branch managers	2	2	
Loan administrative officers	8	6	
Loans valuers	8	6	
Loan assessors	8	6	
Loan Collectors	6	5	
Bank customer	70	54	
Experienced retired survey respondents	1310		
Total	115	89	

Source: Researcher, (2018)

Data Collection Procedures

The study used drop and pick method whereby primary data, which was obtained through self-administered questionnaires with likert scale, closed and open-ended questions. The closed ended questions enabled the researcher to collect quantitative data while open-ended questions were used to enable the researcher to collect qualitative data (Magezi2003). The questionnaires were divided into two sections. Section one was concerned with the general information about the respondents. Section two dealt with the effects of non-performing loans in commercial banks in Kenya. The researcher used research questionnaires to collect data from the respondents.

The validity of the instrument was determined in two ways, first the researcher discussed the items in the instrument with the supervisors, lecturers from department and colleagues who also gave reason as to why contents were to be used. Piloting was carried out in Migori town Gusii Mwalimu SACCOS. The researcher issued 9 questionnaires which is 10 percent of the sample size as recommended by (Mutai, 2000). Crobach alpha was used to reliability of research instruments and found that interest rates was reliable at 0.852 with 15 items, loan size

0.717 with 16 items, loan appraisal 0.835 with 10 items, and loan monitoring techniques at 0.879 with 9 items, hence data collected was reliable since Crobach alpha is more than 0.7 which is the recommended threshold. The analysis of data involved descriptive statistical measure of mean and standard deviation using Statistical Package for Social Sciences (SPSS). Inferential statistics methods of simple and multiple linear regression analysis were used to determine the effect of variables under study on financial performance.

RESULTS AND DISCUSSIONS

The researcher adopted the use of primary data which was collected by use of research questionnaires the issued 89 copy of questionnaires out of which 82 questionnaires was responded out of the sample size of 89 in different sections. This indicated 92% of response rate that the researcher was able to achieve. The study response rate agree with the recommendation of Mutai, (2000), who transcribed that any response rate above 60% is sufficient for the data analysis which would be argued.

Descriptive Statistics

Interest rates

The study sought to establish the effects of interest rates and financial performance.

Table 4.1: Interest rate

Mean	Std. Deviation
3.57	1.217
2.17	1.256
3.60	.872
3.54	1.269
1.68	1.226
1.43	.545
1.41	.543
1.41	.543
	1.41

Source: Researcher (2017)

The study showed that difficulties in expanding working capital had high mean of 3.60 followed by 3.57 of the total mean to reduce funds for new lending, 3.54 of the mean to reduce profit level in SACCO followed by 2.17 decreases SACCO revenue and 1.68 indicated interest rates affect the growth of the stakeholder's wealth in dividend payment. The study revealed that high interest rate reduces funds for new lending however that study recommends that high interest rates should be minimized not to affect the growth of stakeholders' wealth in dividend payment. This would come about to the SACCO policies formulated to implementinterest rate analysis. The study did not agree with the study of Asari (2015) who argued on defaulted loan

in which banks are unable to raise profit from them in order to realize the function of loan policy.

However, that the study agreed with Kimeu (2014) who noted that loan management policies established with rule and guideless to govern interest rates. The idea is by Muriuki(2014) who actually set of guidelines which was designed to cut down interest rates which associated with credit while maximize profits from it. He Postulates that interest rates involve credit procedures, credit standards and credit terms in advancing loan to applicants indicate that a firm's cash is tight up somewhere whose payment is to make the future date.

The researcher established that proper and effective strategic plan, lending policies procedures, risk identification, an internal credit review program or process and other internal control systems are elements of each lending institution, since the success of the MFI depends on how well it manages its strategic plan, thus it would maintain the SACCO's safety and soundness. Venette (2013) said that the future date is considered by interest rates uncertainty, availability of credit is negatively related to productivity, because it is never known whether these debts would be collected, and that the firms use the funds. Conversely, if the firm more so SACCOs constrains credit it would lower its profit levels (Dong 2014). This is because such financial institutions earn returns in terms of the interest incomes charged on these loans. These lower profit levels may also be due to a number of sources.

Thus, the study recommended that there should be established effective loan management policy to minimize costs involved in loan distribution whereas on the other hand maximize the returns from such undertakings. Therefore, SACCOs should employ the qualified and competent staff who can identify risks associated with individual borrowers and all borrowers (the loan portfolio).

The study findings show that the Loan defaults are influenced by loan default had 1.43 followed by savings mobilization 1.41 and financial training. The study revealed that Loan defaults are influenced by loan default. The study recommends that loan payment services should be increased as it indicated by standard deviation .545to .543 of the financial training.

The findings indicated that 54.5% of the respondents agreed that interest rate reduce the growth of shareholder's wealth which in turn reduced dividends payment at the end of the year. This idea of this study was supported by Wheelock and Wilson (2014) who hypothesized that, another implication of loan default for the SACCO is influenced by loan amounts which are written off unfavorably to expansion of the shareholder's wealth as profit is re-invested into the business. The study indicated that 54.3% is caused by loan decrease by members of the SACCO and these are the people who are believed to be the majority to borrow money from the SACCO are caused by SACCO natural calamities like death, accidents, drought, floods, ignorance of borrowers to deviate the borrowed money into different development which in return leads to loan defaults.

The study also sought to examine whether there is need for borrowers to be educated before they are given a loan. It was confirmed from the table above that 45.5% of the respondents

agree that there is need for borrowers to be educated before they are given loans through financial training. This training will help out to understand how to spend the loan and consider the best business to produce more returns.

Loan sizeThe study sought the extent to which loan size affect financial performance as in table 4.2

Table 4.2 loan size

	Mean	Std. Deviation
Appropriate measures to minimize the risk of default to loan	2.89	1.406
Rising recession and falling rates of expansion	2.96	1.494
Aggressive lending and botched loan monitoring	1.77	1.985
Lenient credit terms and conditions	3.20	3.547
Marketing of loan offered reduce profitability	2.94	1.373
Both interest & inflation rates will not impact the loan size	2.98	1.482
Loan diversion and refusal to repay loans,	1.79	.991
Business failure	1.77	.985
Diversion of funds	3.20	3.547
High interest rates	2.89	1.406
Ignorance of the requirements	3.15	1.483
Inadequate marketing avenues	1.76	.976
Inadequate monitoring	2.93	3.548
Poor credit appraisal	2.93	1.368
Willful default	3.07	1.430
Wrong timing of credit delivery	3.06	1.435

Source: Researcher (2017)

The study findings show that lenient credit terms and conditions had the highest mean of 3.20 followed by rising recession and falling rates of expansion with 2.96 followed by appropriate measures to minimize the risk of default to loan which had 2.89 and aggressive lending and botched loan monitoring which had 1.77 respectively. However, the standard deviation showed an increase of standard deviations from .985 to 3.547 implied that inadequate loan size is influenced by lenient credit terms and conditions.

The study findings show that both interest& inflation rates will not impact the loan size had the highest mean of 2.98 followed by marketing of loan offered reduce profitability with the highest mean of 2.94 followed by loan diversion and refusal to repay loans with a mean of 1.79 respectively. The study show that standard deviations are increasing indicated that inadequate loan size is increasing with number of borrowers. The study recommended that loan

diversion and refusal to repay loans should be measured by causes of loan default. This confirms that Mogaka (2013) who noted a study on financial institution crises in Kenya with both cause and remedies of loan default.

Financial performance

The study sought to establish the extent to which financial performance is measured in SACCOs. The respondents were asked to indicate their level of agreement using return on assets aspects and return on equity aspects. Table 4.3 presents the results.

Table 4.3 Financial performance

	N	Mean	Std. Deviation		
Return on asset	82	3.0927	.44383		
Return on equity	82	3.2390	.47603		
Valid N (listwise)	82				

The study results showed that return on asset had mean of 3.0927 and standard deviation 0.44383, and Return on equity had a mean of 3.2390 and standard deviation 0.47603. The findings indicated that the majority of SACCOs measure financial performance through return on equity.

Inferential Statistics Regression Analysis

The regression model provides information about the regression line's ability to account for the total variation in the dependent variable. The R² is 0.203, which is 20.3% of the total variance in financial performance.

Table 4.4 Model Summar	v
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Model	R	R Square	Adjusted R Square	Std.	Error	of	the
				Estin	nate		
1	.213ª	.045	004	.251	69		

a. Predictors: (Constant), loan monitoring techniques, Interest rates, Loan size, Loan appraisal.

For an R square of 0.045, the model explain a 4.5% of the variations between non-performing loan determinants and financial performance to a. Predictors: (Constant), loan monitoring techniques through credit facility and value financing services, Interest rates(Lending rates and

Deposit rates, Loan size through Capacity to pay back and value of fixed asset, Loan appraisal is through individual saving performance.

Table 4.5 contains the Coefficients table. The calculated values are presented in the B Column. The item in the first row is the β_0 -coefficient. The items in the second row (loan monitoring techniques, Interest rates, Loan size, and Loan appraisal are the variable's b-coefficient, which indicates the steepness of the regression line. Table 4.5 Indicated the results

Table 4.5: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	Т	Sig.
		В	Std. Error	Beta		
	(Constant)	3.184	.168		18.902	.000
1	Interest rates(Lending rates and Deposit rates	.005	.065	.009	.082	.935
	Loan size through Capacity to pay back and value of fixed asset	.144	.162	.603	.888	.377

The regression results showed that the constant term was significant, with a coefficient of B=3.184 and a p value of .000, indicating that when all predictors were held constant the dependent variable maintained a strong positive baseline. Interest rates, measured through lending and deposit rates, had a coefficient of B=.005 with a very small standardized beta of .009 and a high p value of .935, showing that interest rates had no meaningful or significant influence on the dependent variable. This means that changes in lending and deposit rates did not produce any notable effect on the outcome of the model. Loan size, measured through the borrower's repayment capacity and the value of fixed assets, produced a coefficient of B=.144 with a standardized beta of .603, but its p value of .377 indicated that it was statistically insignificant. As a result, variations in loan size did not lead to a statistically reliable change in the dependent variable within the model.

Y=3.184+0.005(Ir) + 0.144(Ls)

CONCLUSIONS AND RECOMMENDATIONS

Conclusions of the Study

The loan lending policies should be formulated to establish rule and guideless to govern interest rates. The study showed that non-performing loan is influenced by high interest rate which should be minimized by savings mobilization and financial training. The study concluded that loan payment services should be increased as it indicated by increase of standard deviation and financial training.

Loan size should be empowered to asset quality measured by performing loan ratio. Loan appraise should explain the causes of loan repayment behavior of borrower. The findings show that loan monitoring explains loan repayment behavior of borrowers in SACCO. The study indicated that loan monitoring affect performance.

The Recommendation of the Study

The study sought to establish the effects of interest rates on financial performance. The study recommended that the difficulties of expanding working capital should be improved through loan application process. The study also recommended that level of high interest rate should be reduced to maximize returns from funds lend, however that study also recommends that high borrowing rates should be minimized to maximize wealth in terms of dividend payment. The study sought to establish the effect of inadequate loan size on performance.

The study recommended that the effect of loan size should be measured to improve performance. The study recommended that marketing of loan offered should be increased to maximize profitability. The management should put mechanism to carp to control loan diversion and refusal to repay loans. The study recommended that that inadequate loan size should be increased to number of borrowers. The study recommended that loan diversion and refusal to repay loans should be avoided through control measure by causes of loan non-performing loans.

The study agreed to Collins, Wanjau, (2015) who recommended that there is direct relationship between interest rate and performance. The study noted that interest rate affect performing loans as it increases the cost of loans charged on the borrowers, regulations on interest rates have far reaching effects on performance. The study agreed with Wondimagegnehu (2017) who said that determinants of loan default is underdeveloped due to poor loan appraisal, unsuccessful loan monitoring and lenient credit terms and conditions from unfair interest rates.

Suggestions for Further Research

The researcher suggested that there is need to conduct another study from other sectors and industries in order to establish the similarities and differences that are evident. The researcher concentrated on SACCO issues basically on non-performing loan rates. Therefore, another study can be conducted on interest rates and its effects on SACCOs performance, on the effect of inadequate loan size on performance and on the factors that determine whether loans appraisal affects financial performance.

REFERENCES

Abdullahi S. (2013) Commercial bank mutual fund activities: Implications for bank risk and profitability, Journal of Banking & Finance, 20(10): 1775-1791.

- Ahmed, K. (2014), The Effects of Interest Rate Spread on the Level of Non-Performing Assets: A Case of Commercial Banks in Kenya, International Journal of Business and Public Management. 1(1) 56-72.
- Asari, G., (2015) Non-Performing Loans in Commercial Banks: A case of CBZ Bank Limited in Zimbabwe, Interdisciplinary Journal of Contemporary Research in Business, 4(2): 467-488.
- Blanco, K.&Gimeno, T. (2014), Factors that causes Nonperforming loans in commercial Banks in Tanzania and strategies to resolve them. Journal of management policy and practice 12(7)2015.
- Botha, E., (2017), Impact of financial and multinational operations on manager perceptions of dividends. Global Finance Journal, 2008, 19(2), 171
- Carlos, H. (2017), Non-Performing Loans and Terms of Credit of Public Sector Banks in India: An Empirical Assessment, Reserve Bank of India Occasional Papers, 24(3): 81
- Chege, R. (2016), Ownership and nonperforming loans: Evidence from Taiwan's banks, The Developing Economies, 42(3): 405-420.
- Choudhury, T. (2002) Bank performance and credit risk management. *Master Degree Project, Finance University of Skodve School of Technology and Society.*
- Collins, R. (2015) Life after liftoff divergence and US monetary policy normalization, Remark delivered at the Mayor's Breakfast Series, Ottawa, Ontario, Canada.
- Crowley, T., (2007). Assessing the factors contributing to non-performing loans in Kenyan banks. European Journal of Business Management, 5(32), 155-157
- DBE Loan Manual (2014). Non-core Bank Liabilities and Financial Vulnerability, Journal of Money, Credit and Banking, 45(1): 3-36.
- Dong, H., (2014), The state of play in Deutsche Bank: AG, DB Research, D-60262 Frankfurt am Main, Germany.
- Emery, H., &Mathuva, K. (2017) Forecasting non-performing loans in Barbados. Journal of Business, Finance and Economics in Emerging Economies, 5, 80-107.
- Gathogo, H., Peter, L & Muturi, F. (2017), Impact of Non-Performing Assets on Profitability and Productivity of Public Sector Banks in India, AFBE Journal, 4(1)201-240..
- Greenidge, T.&Grosvenor, L.,(2014) Macro prudential Policies as Buffer Against Volatile Cross-border Capital Flows, The Singapore Economic Review, 60(1): 1-26.
- Guy, R. (2015) Macroeconomic and Bank Specific Determinants of Household's Non-Performing Loans in Tunisia: A Dynamic Panel Data, Procedia Economics and Finance, 13(2014): 58-68.
- Hammed, J., Gathogo, H., Peter, L & Muturi, F, (2017). Challenges in Banking: A Nepalese Diaspora. Socio-Economic Development Panorama, 1 (2) 9 -22

- Haunerand, D. & Peiris, K. (2005) Analysis of sectoral credit default cycle dependency with wavelet networks: evidence from Turkey. Journal of Economic Modelling, 26(3) 505-556.
- Heid, L.&Kruger,O,(2015), Global monetary policy normalisation and South African financial markets, Remark delivered at the Annual Conference of the Bureau for Economic Research, Johannesburg, South Africa.
- ICA (2005), Determinants of Non-Performing Loans in Central and Eastern European Countries: Financial Theory and Practice, Volume 38
- Jimenez, K.&Saurina, P., (2005) Technology readiness index (TRI): A multiple term scale to measure readiness to embrace new technologies, Journal of service Research, 25 (2) 65-78.
- Joseph, K., Edson, H., Manuere, J., Clifford, D & Michael, A. (2017), the Structure of the Turkish Banking Sector before and after the Global Crisis, CBRT Working Paper No. 14/29.
- Keitany N.J, (2013), The relationship between loan default and financial performance of SACCOs. Research paper, Nairobi University, Kenya unpublished.
- Mohammed, F. (2012). Impact of corporate governance on banks performance in Nigeria. Journal of Emerging Trends in Economics and Management Sciences, 3(3), 257-260.
- Kimeu, R. (2014), Factors underlying attitude formation towards online banking in Finland. The International Journal of Bank Marketing. 20(3) 46-50.
- Kinya, N, & Langat, H. (2015), "Banking in transition countries," BOFIT Discussion Papers, no. 12.
- Kothari, C. (2014). Research Methodology: Methods & Techniques (2nd ed). New age International Publishers, New Delhi, India
- Lafuente, R., (2017), financial performance and outreach: A global analysis of leading micro banks. Econ.J.117 (517): 107-133.
- Macit, A. (2017), Microfinance Matters. United Nations Capital Development Fund. Issue 11 / April 2009.
- Magezi, A. (2013). Strengthening Credit Unions in Sri Lanka: Research Monograph, World Council Of Credit Unions, Madison: WI, USA.
- Magezi, G., (2013). 'An Analysis of Nonperforming Loan, Interest Rate & Inflation Rate Using STATA Software' World Applied Sciences Journal, Vol. 12, pp. 41-4
- Magnifisque, L. (2015), Capital Market Tests of Risk Exposure of Loan Sales, Quarterly Journal of Business & Economics, 32 (1): 27-49.
- Mogaka, A. (2013), The Relationship between Interest Rates and Non-Performing Loans in Commercial Banks in Kenya, University of Nairobi (Unpublished).

- Mohammed, P. (2017) Monetary Policy Normalization and Global Financial Stability, Remark delivered at the Bank of Korea International Conference, Seoul, Korea.
- Morake, J., (2013), Bank Insolvency-Bad Luck, Bad Policy or Bad Banking, Annual World Bank Conference on Development Economics.
- Moti, D., Gathogo, H., Peter, L & Muturi, F. (2017), an empirical investigation of the Turkish consumers" acceptance on Internet services, The International Journal of Bank Marketing, 19(2) 425-450.
- Mudibo, A. (2005) Analysis of Panel Data, Cambridge University Press, New York, NY, USA.
- Mueller, T. (1988) Challenges facing Kenya's Banking Sector. In Market Intelligence. The Business and Finance Journal, Annual Special Edition 2(1) 20-50.
- Mueller, T. (2000) an Empirical Estimation of Loan Recovery and Asset Quality of Commercial Banks; Central bank of Kenya; Financial Sector stability report 2017.
- Mugenda, N.G., &Sindani, M.N. (2017). Effectiveness of credit management system on loan performance: Empirical evidence from microfinance sector in Kenya. International Journal of Business, Humanities and Technology, 2(6), 99-108.
- Mugenda, O. M., & Mugenda, A. G. (2013). Research Methods: Quantitative and Qualitative Approaches, Acts Press, Nairobi-Kenya
- Mugenda, O.M., & Mugenda, A.G. (2009). Research Methods. Nairobi: Acts Press.
- Mugisa, T., (2014), Money and Capital in Economic Development, Brooking Institution, Washington, DC.
- Mulafara, J. (2015), Impact of Non-Performing Assets on Profitability and Productivity of Public Sector Banks in India, AFBE Journal, Vol.4, No. 1
- Muriuki, H. (2014), the Effects of Interest Rate Spread on the Level of Non-Performing Assets: A Case of Commercial Banks in Kenya, International Journal of Business and Public Management Vol. 1(1).
- Mutai, H. (2000) Elements of Banking and Insurance, 2nd Edition, Prentice Hall, London.
- Mutai, K. (2000), Does Working Capital Management Affect Profitability of Belgian firms? Journal of Business, Finance and Accounting 30(6), 573-587.
- Mutai, L (2000) The Determinants of Loan defaults in Emerging Europe, 2000-2015, Journal of Economics and Political Economy, 1(2): 112-125.
- Muturi, F., Peter, L &Golin, F. (2013), This Time is Different. Eight centuries of Financial Folly, Princeton University Press, Princeton, NJ, USA,
- Mwangi, S. (2016), Microfinance and its Macro-Environment, Micro Banking Bulletin, 14(3) 22-24.

- Nar Klein, G. (2016) Scaling Up and Mission Drift: Can Microfinance Institutions maintain a poverty Alleviation mission while scaling up? Unpublished PhD Dissertation,
- Nderitu, G. Peter, L & Muturi, F. (2017), The roots of banking crises: the macroeconomic context," Inter-American Bank Working Paper, no. 318, pp. 1–20
- Ngare, O. (2015), Macroeconomic determinants of credit risk: recent evidence from a cross country study, International Review of Financial Analysis, 19(3): 165-171.
- Ngare. G. (2015), the Economics of Microfinance, 2nded. The MIT Press Cambridge, Massachusetts London, England.
- Ngugi, A. (2001). Development of an instrument to measure the perceptions of adopting an information technology innovation. Information Systems journal. 2 (3) 50-100.
- Nkuah, D. (2013), Bankers' Lending Techniques, Chartered Institute of Bankers Publication, Nairobi, Kenya. Specification Tests in Econometrics, Econometrica, 46(6): 1251-1271.
- Nkusu, F. (2015) Micro and Macro Determinants of Nonperforming Loans, International Journal of Economics and Financial Issues, 3(4): 852860.
- Ocelli, T., (2016), The co-operative trilemma. Cooperatives between market, state and the civil society. Research Paper, Catholis University, Leuven, Belgium
- Ombando, T. (2014), "The transformation of the Romanian financial and banking sector," NB Financial Stability Report 7,
- Ondabu, K., (2015), Measurement and Efficiency Issues Commercial. Leuven, Belgium.
- Otieno, G. (2017), Surviving liberalization: The co-operative movement in Kenya. Coop AFRICA Working Paper No.10. Dar as Salaam, Tanzania: International Labor Organization.
- Otieno, G., Peter, L & Muturi, F. (2015), CBN Grants New Licenses to 17 Banks, Nigerian Tribune Newspaper, June 1,
- Paton, L. (2002) Nonperforming Loans in the GCC Banking Systems and their Macroeconomic Effects, IMF Working Paper No. 10/224.
- Paton, T., (2002) Macroeconomic Drivers of Loan Quality in Turkey, Emerging Markets Finance and Trade, 52(1): 98-109.
- Rawlin, P., Gathogo, H. & Peter, L (2017), Microcredit and the Poorest of the Poor: Theory and Evidence from Bolivia, World Development 28 (2), 333 346.
- Richard, E. (2015), Outward maximizing credit union financial sustainability. Research Monograph, World Council of Credit Unions, Madison: WI, USA.
- Rouse, S. (1989), Determinants of Non-Performing Loans: The Case of Eurozone, Panoeconomicus, 61(2): 193-206.

- Saba, D, Gathogo, H., Peter, L & Muturi, F (2017), From Financial Crash to Debt Crisis, NBER Working Paper No. 15795.
- Shanmugan, L.& Bourke, H., (2017), Banking Supervision and Nonperforming Loans: A Cross-Country Analysis, Journal of Financial Economic Policy, 1(4): 286-318.
- Siba, R. (2017). "On the pricing of corporate debt: the risk structure of interest rates," Journal of Finance, (29), pp. 449–470. Press, Princeton, NJ, USA,
- Siba, R. (2017) The Emergence of Captive Finance Companies and Risk Segmentation in Loan Markets: Theory and Evidence. Journal of Money Credit and Banking, 40(3) 65-70.
- Sontakke, L., & Tiwari, H., (2013), Nonperforming Loans and Macrofinancial Vulnerabilities in Advanced Economies, IMF Working Paper No. 11/161.
- Wanjau, K. (2015) Microfinance in Africa, Mexico City: Sasakawa Africa Association.
- Wesley, G. (2014), In-House Training in Accounting for non-accountants for credit officers. Econ.J.117 (517): 107-133
- Wilson, T., & Wheelock, D. (2014), Access to financial services: a review of the issues and public policy objectives, Policy Research Working Paper Series 3589.
- Wondimagegnehu, A. (2017) Macroeconomic Determinants of Credit Risk: The case of Albania, in A. Fullani (ed.), Economic Policies in SEE: Design, Performance and Challenges, Bank of Albania.,
- Woo, P. (2000). Microenterprise credit programmes: déjà vu.: World Development, 20, 1463:70.