

Financial Services and the Return on Equity of Microfinance Banks in Nigeria

M.O. Ndugbu, Peter. O. Ihejirika
Department of Banking and Finance,
Imo State University, Owerri

Uzo-Ahunanya Chidinma
Ph.D. Candidates, Department of Banking and Finance,
Imo State University, Owerri

DOI: [10.56201/rjpst.v7.no1.2024.pg238.257](https://doi.org/10.56201/rjpst.v7.no1.2024.pg238.257)

Abstract

This study examined the relationship between financial services and the return on equity of microfinance banks in Nigeria. Data were sourced from financial statement of the microfinance banks. Return on equity was used as dependent variable while microcredit, micro savings, micro insurance and micro leasing were used as independent variables. Panel data ordinary least square was used to examine the relationship between financial services and the return on equity of microfinance banks. The study found that 86.9 percent variations in return on equity of the microfinance banks can be accounted for by the independent variables. micro saving, microcredit and micro insurance have positive relationship while micro leasing have negative relationship with return on equity of the micro finance banks. From the findings, the study concludes that financial services explained significant variation in return on equity of the microfinance banks. We recommend that management of the microfinance banks should increase the loan rate so that investors see microfinance banks as the number one source of funding, and the Central Bank of Nigeria should reduce the microfinance banks minimum reserve in order to increase micro credit in the economy. Management of the microfinance banks should ensure effective means of deposit mobilization by increasing services to the rural communities and microfinance banks should allocate proper credit to the real sector for productive purposes in order to increase performance. The management of the microfinance banks should ensure well formulated policies to manage micro insurance services to add positive to the performance.

Keywords: *Financial Services, Return on Equity, Microfinance Banks, Micro-Credit, Micro-Savings*

INTRODUCTION

The classic model for any retail banking is the transformation of customer savings into productive loans and investments. For microfinance banks to be profitable, they must have the ability to mobilize savings in the form of deposits for onward lending to customers and investments. The performance of the banks therefore depends on many factors including the ability of microfinance bank to development financial services and the extent to which the financial services are stretched

to the needed banking publics. Finance theory outlined that the ultimate goal of a company is to maximize shareholder wealth (Abrams & Ivatury, 2005); this is because shareholders provide funds to the company. Shareholder wealth can be measured in terms of profitability indices such as return on assets, return on equity, and return on investment, net profit margin and profit after tax.

Corporate performance can basically be defined as the degree to which an organization can effectively utilize its available funds and assets, and convert them into profits. Performance of corporate ventures enables organizations to better withstand negative shocks and contribute to the stability of the business environment. The performance of an organization is affected by numerous factors. These factors include elements internal to each organization and several important external forces shaping earnings performance (Adama, Duru, & Diyoke, 2017). The importance of corporate performance can be appraised at the micro and macro levels of the economy. At the micro level, profit is the essential prerequisite of a competitive enterprise and the cheapest source of funds. Profitability is not merely a result, but also a necessity for successful business in a period of growing competition in financial markets. Hence, the basic aim of an organization's management is to achieve profit, as the essential requirement for conducting any business (Adewole, Dare, & Ogunyemi, 2019). At the macro level, a sound and profitable microfinance bank is better able to withstand negative shocks and contribute to the stability of the business environment.

Micro finance refers to the provision of financial services to low income households, including the self-employed (Akims, et al., 2020). These financial services include savings, credit, payment facilities, remittance and insurance (Ledgerwood 1999; Wright, 1999; Christen and Rosenberg 2000). Micro finance therefore encompasses micro-credit, micro-savings and micro-insurance. (Ruth 2002). With the passage of time, there has been increasing emphasis on the importance of offering a range of quality, flexible financial services in response to a wide variety of needs of the poor (Wright, 1999). Robinson (2001), considers microfinance as small-scale financial services- primarily credits and savings-given to people who are involved in small enterprises or microenterprises where goods are produced, recycled, repaired, or sold; who provide services; who work for wages or commissions; who gain income from renting out small amounts of land, vehicles or machinery and tools; and to other individuals and groups at the local levels of developing countries. Ledgerwood (1999) emphasised that the main activity of cooperative financial institutions is savings.

The primary role of microfinance banks is to provide financial intermediation. This involves the transfer of capital or liquidity from those who have excess at a particular time to those who are short at that same time. Since production and consumption do not take place simultaneously, something is required to fill the gap. Hence, finance in the form of savings and credit is meant to fill this gap. Savings and credit are made more efficient when intermediaries mobilize funds from firms and individuals from the surplus unit characterized with shedding liquidity to the deficit sector (characterized by acquisition of liquidity). The choice of which financial services to provide and the method of providing these services depends on the objectives of the microfinance banks, the demands of its target market, and its institutional structure ().

The most prominent driver of an institution's financial performance is profitability. Unfortunately, many microfinance banks fail due to capital constraints that negatively impact their operations (Wagner and Winkler 2013; Dominice, 2012; Aijazuddin and Iravantchi, 2015; Dorfleitner et al., 2014; Abrams and Trant, 2009; Schicks, 2014). Some research finds that MFIs fail in servicing their debt (Abrams & Trant, 2009), while other work found outright default (Aijazuddin & Iravantchi, 2015). Microfinance policy targets are to increase access to financial service of the economically active poor by 10% annually, to create a share of micro-credit to ensure the participation of all state and to eliminate gender disparity by ensuring that women access to financial service increase by 15%. The policy has the role of providing innovative ideas to business organization, provision of seed money, business training and social rehabilitation, startup funding and training in business practices, promotion of socio economic conditions and general welfare and business literacy campaign (Nagarajah, 2008).

There are many studies on the factors that determine the performance of microfinance banks. Anaman and Pobbi (2019) carried out a report on analyzing the financial performance and sustainability of MFI's in Ghana, Ahmed (2014) analyzing the performance of microfinance institutions in Nigeria, Kweyu (2022) assessed the effect of firm characteristics on financial stability of microfinance banks in Kenya. Asimwe (2019) focused on m-banking and financial performance among commercial banks and established a positive nexus. Bogan (2022) investigated the influence of microfinance banks' financial intermediation activities on the performance of small-scale manufacturing businesses in Nigeria. This study examined the relationship between financial service and return on equity of microfinance banks in Nigeria.

REVIEW OF RELATED LITERATURE

Micro Financing

Micro financing is a type of banking service that is provided to unemployed or low-income individuals, or groups who otherwise have no other access to financial services. Ultimately, the goal of microfinance is to give low-income people an opportunity to become self-sufficient by providing a way to save money, borrow money and get insurance. Micro financing provides options to customers with limited resources to promote participation in productive activities or to support a small business. Micro financing is a source of financial services for entrepreneurs and small businesses lacking access to banking and related services (Wairimu & Mwilaria, 2017). The two main mechanisms for the delivery of financial services to such clients are: (1) relationship-based banking for individual entrepreneurs and small businesses; and (2) group-based models, where several entrepreneurs come together to apply for loans and other services as a group.

Financial Services

Financial services are the broad range of services accessed and delivered through digital channels, including payments, credit, savings, remittances, insurance, and financial information. Financial services have significant potential to expand the delivery of basic services via affordable, convenient, and secure environment to the public at large (particularly the poor) through innovative technologies like mobile-phone-enabled solutions, electronic money models, and

digital payment platforms. Financial Institutions (Banks, Microfinance institutions) and non-financial firms (mobile network operators) and third-party providers (agent network managers, payment aggregators, and others) are leveraging digital channels to offer basic financial services at greater convenience, scale and lower cost than traditional banking allow.

Measures of Financial Service of Microfinance banks

Microcredit

Credit is one of the most significant bases of capital accumulation and may be viewed as a device for facilitating the temporary transfer of purchasing power from one individual or organization to another. Credit provides the basis for increased production efficiency through a specialization function (Kimemia, 2004). Access to credit is regarded as one of the key elements in raising agricultural productivity (DBSA, 2005). According to Ozowa (2007), microcredit to farmers encompasses all loans and advances granted to borrowers to finance and service production activities relating to agriculture, fisheries and forestry and also for processing, marketing, storage and distribution of products resulting from these activities.

In the view of Waterfield and Duval (1996) credit is borrowed funds with specified terms of repayment. In instances of insufficient accumulated savings to finance a business and when the return on borrowed funds exceeds the interest rate charged on the loan. It makes sense to borrow rather than postpone the business activity until sufficient savings can be accumulated. Assuming the capacity to service the debt exists. Loans are generally made for productive purpose that is, to generate revenue within a business. Some microfinance banks also make loans for consumption, housing, or special occasions. While many microfinance banks insist that only productive loans made, any loan that increase the liquidity of the household frees up enterprise revenue, which can be put back into the business.

Methods of credit delivery can generally be divided into the two broad categories of individual and group approaches. First, individual's loans are delivered to individuals based on their ability to provide the microfinance loans with assurances of repayment and some level of security. Second, group-based approaches make loans to groups that is, either to individuals who are members of a group and guarantee each other's loans or to group that then sub-loan to their members.

Micro Savings

Savings is a common word used by individuals on daily basis. It simply means putting something aside for future use or what will be considered as deferred expenditure (Amu and Amu, 2012). Savings is the portion of income not spent on current expenditures. Saving is defined as that part of disposable income which is not spent on consumption (Bime & Mbanasor, 2011). According to Virani (2012) saving is sacrificing the current consumption in order to increase the living standard and fulfilling the daily requirements in future. Saving is an amount of something such as time or money that you do not need to use or spend. It could be used for investment to earn interest (profit) or be used to purchase assets such as buildings. Saving is related to deferring consumption, which is done by the households (individuals), the firms and, the governments. When the interest rate is

high, the household will save more money in the bank where entrepreneurs can borrow (Kanjapon, 2004).

Uppal (2001) opined that micro-savings is an important part of micro-finance. It enables poor people (especially in developing countries) a small cash cushion them. Micro-savings can either be voluntary or it may be a forced savings requested to secure loans from the lender. This is particularly interesting in risky investments but usual. Voluntary savings usually serves as security against unpredictable risks, such as infectious disease or epidemic, natural disasters in general; small business uses the option of micro-savings.

Micro-Insurance

Micro-insurance is a term increasingly used to refer to insurance characterized by low premium and low caps or low coverage limits, sold as part of a typical risk-pooling and marketing arrangements, and designed to service low-income people and businesses not served by typical social or commercial insurance schemes. Micro-insurance products are mainly targeted at low income groups in the unorganized sector- farmers and craftsmen. Uppal (2001) opined that in India, the amount of premium in these schemes ranges between 200 to 500 naira. The coverage provided by these products is in the range of 5000- 50000 naira .These products are available in various categories such as health insurance, personal accident cover, crop insurance and insurance for equipment.

Return on equity

Return on equity (ROE) is a measure of the profitability of a business in relation to equity. ROE ratio essentially measures the rate of return that the owners of the common stock of a company receive on their shareholdings. It signifies how good the company is in generating returns on the investment it received from its shareholders. ROE is one of the all-time favorites and perhaps the most widely used overall measure of corporate financial performance (Rappaport, 1986). The ultimate purpose of any profit-seeking organization is to create wealth for its owners. According to Black et al., (2001), shareholder value is created when the equity returns of a company exceed the cost of that equity. It can also be described as the present value of all future cash flows, less the cost of debt. ROE is calculated by taking the profit after tax and preference dividends of a given year and dividing it by the book value of equity (ordinary shares) at the beginning of the year.

Theoretical Reviews

Financial Intermediation Theory

Financial intermediation theory was developed by Gurley and Shaw (1960) and it argues that financial intermediaries exist so as to mobilize savings and deposits that are loaned out to those people in need. The theory raises a number of issues that explain the existence of financial intermediaries; these include high transaction costs and availability of inadequate information (Cai, 2018). Financial intermediaries play a key role in the economy through reduction of the costs that customers incur as they channel funds (Molnár, 2018). The key contribution of the intermediaries is their ability to facilitate steady flow of funds from units with deficit to those having surplus (Okello, Munene, Mpeera and Akol 2018).

The key role of the financial intermediary is the creation of specialized financial instruments and commodities (Drissi & Angade, 2019). They are the imperfections in the market that results into existence of financial intermediaries in a financial system (Ratnawati, 2020). In markets that are highly perfect characterized by in absence of transaction and information costs, financial intermediaries would be nonexistent (Havrylchuk & Verdier, 2018). There is high pronouncement of information asymmetry in financial markets. At the same time, there exists asymmetry of information between lenders and the borrowers. Those lending funds may not have accurate information on collaterals and integrity of the borrowers (Greenbaum, Thakor & Boot, 2019). Thus, the moral hazards in financial markets act as hindrances towards effective and proper transfer and sharing of information between the people participating in financial markets which would in turn affect the financing of suitable projects (Boot, Hoffmann, Laeven & Ratnovski, 2020).

Transaction Cost Theory

This theory was proposed by Coase (1937) and later on developed by Hicks and Niehans (1983) and its main argument is that the need to reduce transaction costs provides the strong incentive for managers to embrace financial innovations like m-banking. The main focus of the theory is how transaction costs can be saved, an analysis of each specific transaction as a unit on its own and having a distinction of the attributes of different transactions (Koker, 2021). The theory argues that transaction costs are those expenses that need to be incurred in order to retain market related information that is accurate (Rindfleisch, 2020). Such costs are characterized by ambiguity and have an effect on economically undertaken decision. These transaction costs include the expenses that are incurred to search for information, negotiate, contract, manage compliance and handling the breach of contractual agreement (Cuypers, Hennart, Silverman & Ertug, 2021).

Microfinance Theory

Fisher and Maitreesh(2010) were the early theorists who formulated the first wave of microfinance theory which is basically based on joint liability. By joint liability, if a member of the group defaults in the repayment of the loan, the group members are contractually required to repay in her stead. Such repayment can be enforced through the threat of common punishment, typically of the denial of future credit to all the members of the group. Ghatak andGuinnane (1999) cited in Adewusi (2015), reviewed the critical mechanisms proposed by the various theories which joint liabilities could improve repayment rates and the welfare of the creditconstrained borrowers. They all have the perception that joint liability can help alleviate the major problems facing lenders, among which are screening, monitoring, auditing and enforcement by utilizing the local information and social capital that exist among borrowers. Joint liability can do better than conventional banks for two reasons:

- i. Members of a close-knit community have more information about one another than an outsider.
- ii. A bank has limited scope for financial sanctions against the poor people who default on a loan since, by definition, they are poor.

However, their neighbour may be able to impose powerful non-financial sanctions at a low cost. Other microfinance theories have gone off in other directions aside from the joint liability among which are: frequent repayments and sequential lending. Infrequent repayment approach, borrowers are allowed to repay their loans in regular instalments beginning soon after the loan is

given out. This aspect of the repayment schedule is usually explained as inducing fiscal discipline among borrowers. Jain and Manuri (2003) also cited in Adeusi (2015) argue that an alternative rationale for this loan repayment structure lies in difficulty in monitoring borrower's action.

Microfinance Theory

Fisher and Maitreesh(2010) were the early theorists who formulated the first wave of microfinance theory which is basically based on joint liability. By joint liability, if a member of the group defaults in the repayment of the loan, the group members are contractually required to repay in her stead. Such repayment can be enforced through the threat of common punishment, typically of the denial of future credit to all the members of the group. Ghatak andGuinnane (1999) cited in Adewusi (2015), reviewed the critical mechanisms proposed by the various theories which joint liabilities could improve repayment rates and the welfare of the creditconstrained borrowers. They all have the perception that joint liability can help alleviate the major problems facing lenders, among which are screening, monitoring, auditing and enforcement by utilizing the local information and social capital that exist among borrowers. Joint liability can do better than conventional banks for two reasons:

- i. Members of a close-knit community have more information about one another than an outsider.
- ii. A bank has limited scope for financial sanctions against the poor people who default on a loan since, by definition, they are poor.

However, their neighbour may be able to impose powerful non-financial sanctions at a low cost. Other microfinance theories have gone off in other directions aside from the joint liability among which are: frequent repayments and sequential lending. Infrequent repayment approach, borrowers are allowed to repay their loans in regular instalments beginning soon after the loan is given out. This aspect of the repayment schedule is usually explained as inducing fiscal discipline among borrowers. Jain and Manuri (2003) also cited in Adeusi (2015) argued that an alternative rationale for this loan repayment structure lies in difficulty in monitoring borrower's action.

Empirical Review

Bogan (2022) investigated the influence of microfinance banks' financial intermediation activities on the performance of small-scale manufacturing businesses in Nigeria. The study was limited to two states in Nigeria, Lagos and Oyo states. The study adopted a correlative descriptive survey design and employed a purposive sampling method which was used in selecting seven hundred and forty-seven small-scale food manufacturing businesses in Lagos and Oyo states. After testing and data analysis, the finding and results show that microfinance banks' financial intermediation activity has no significant influence on the performance of small-scale food manufacturing businesses in Lagos and Oyo states. The study however recommends that microfinance banks ought to focus more on ethical and professional conduct by ensuring that loans and credits are given to credible and promising entrepreneurs; also reducing the strict policies in credit supply to small and medium enterprises (SMEs); monetary authorities need to encourage MFBs to create more branches that can enable investor in rural areas to have access to credit facilities as well as to save. The central bank and other monetary policy regulators ought to have a common opinion to create a specialized banking financial intermediation role that is responsible for supporting and financing small-scale manufacturing investments in the economy. Lastly, there is a need for both private organizations/individuals and the government to assist microfinance banks in improving the performance and growth of small-scale businesses. This study focused on microfinance and

performance of small and medium scale enterprises, the present study focused on the effect of financial services on the return on equity of microfinance banks.

Kweyu (2022) assessed the effect of firm characteristics on financial stability of microfinance banks in Kenya. Specifically, the study evaluated the effect of bank size, capital adequacy, management efficiency and earnings ability effect on financial stability of Microfinance banks in Kenya and also examined the moderating effect of interest rate on the relationship between firm characteristics and financial stability of Microfinance Banks in Kenya, Market Power Theory, Buffer Capital Theory, Efficiency Structure Theory and Financial Intermediation Theory. The study adopted explanatory research design and positivism research philosophy. The target population comprised of thirteen licensed microfinance banks in Kenya hence a census. Secondary data was utilized: MFIs audited financial statements and Kenya's Central Bank were the sources of the data used; a document review guide was the data collection instrument. Data analysis was done via descriptive statistics, correlation analysis and panel regression analysis. The study adhered to ethical standards accordingly. In view of the correlation analysis, all the firm characteristics had positive relationships with Kenya's Microfinance Banks financial stability. With respect to the panel regression, the study found that: bank size had insignificant effect ($\beta=167.712$, $p=0.084$) on financial stability while capital adequacy had significant effect ($\beta=146.387$, $p=0.006$); management efficiency had significant effect ($\beta=9.704$, $p=0.000$) while earnings ability had insignificant effect ($\beta=132.604$, $p=0.308$) on financial stability of Microfinance Banks in Kenya. Furthermore, the study further discovered that interest rates had significant moderating effect ($\beta=35.2692$, $p=0.000$) on the relationship between firm characteristics and financial stability of Microfinance Banks in Kenya. The investigation advocates that: Microfinance Banks should strive towards holding additional capital levels which will serve as buffers, thereby, reducing the likelihood of breaching the minimum capital requirements; management should strive towards the improvement of scale efficiency and technical efficiency. This will in turn further strengthen the ability of banks to withstand shocks. The management should ensure maximum use of resources, while ensuring the maximization of income and reduction of costs of operation. This in turn will improve the financial stability of Microfinance Banks in Kenya. Given that this study was based on unbalanced data, additional study can be done using balanced data based on different time scope.

Anaman and Pobbi (2019) carried out a report on analyzing the financial performance and sustainability of MFI's in Ghana. Their report adopted quantitative design in analyzing the substantial issues influencing the performance of MFI's. Study adopted regression analysis model to measure profitability, liquidity and creation of credit also it analyzed the hypothesis of loan default, size of MFI and interest expenses. In the study, researchers applied correlation analysis that measured the multicollinearity to assess the situation of linear relationship between variables. Measured variables including ROA, non-performing loans, operational expenses, interest expenses, liquidity, size of MFI and tax paid by MFIs. Results analyzed basing on data from 42-selected MFI in Ghana found that, there was significant discrepancy on the maximum and minimum rate between profitability and credit creation. The profit found to be 0.1531 that implies low rate of profit to some of MFIs. Also, it is observed that, credit advanced to customers was very low which signifies that there is low credit allocation to customers. For interest expenses the value was 0.3669, which signifies that MFIs have set aside enough capital to resolve the interests' issues.

They further calculated on the interest expenses and found to be relatively higher compared to operating costs. Its implication is that, MFI management spent enough money on serving the interests payments rather than operations.

Adeyinka, Odi, Ebenehi, Ademola and James (2018) examined the relationship between Financial Intermediation and the performance of Microfinance banks in Nigeria. The main objective of this study is to examine the effect of financial intermediation on the performance of Microfinance banks in Nigeria. Data were sourced from the Central Bank of Nigeria Statistical Bulletin. The method adopted for data analysis to the stated objective was regression analysis. It was discovered in the Credit Supply Equation 1 that there was a significant relationship between Total loans of Microfinance banks and deposit mobilized by Microfinance banks in Nigeria. It was revealed in MFBs Performance Equation 2 that there was a significant relationship between total asset and Capital employed by Microfinance banks in Nigeria. It was also revealed in MFBs Performance Equation that there is a significant relationship between Loans to deposit ratio of Microfinance Banks and Liquidity ratio of Microfinance banks in Nigeria.

Adeyinka, Odi, Ebenehi, Ademola and James (2018) examined the relationship between Financial Intermediation and the performance of Microfinance banks in Nigeria. The main objective of this study is to examine the effect of financial intermediation on the performance of Microfinance banks in Nigeria. Data were sourced from the Central Bank of Nigeria Statistical Bulletin. The method adopted for data analysis to the stated objective was regression analysis. It was discovered in the Credit Supply Equation 1 that there was a significant relationship between Total loans of Microfinance banks and deposit mobilized by Microfinance banks in Nigeria. It was revealed in MFBs Performance Equation 2 that there was a significant relationship between total asset and Capital employed by Microfinance banks in Nigeria. It was also revealed in MFBs Performance Equation that there is a significant relationship between Loans to deposit ratio of Microfinance Banks and Liquidity ratio of Microfinance banks in Nigeria.

Gap in Literature

There are many variables that are variables studies that affect performance of microfinance banks. Most of the findings of previous studies are based in the financial market of the developed countries (Zipporoah & Simba, 2015). The empirical studies examined in this study did not examine microfinance banks but focused on commercial banks (Ngerebo-a & Lucky (2016; Simiyu & Ngile, 2015;). The variables examined in the studies did not include financial services variables such as deposits and credits. This study therefore seeks to fill this gap by establishing the link between financial services variables and performance of deposit money banks in Nigeria.

METHODOLOGY

Quasi experimental research design was employed in obtaining, analyzing and interpreting the relevant data for hypotheses testing. The rationale for the variety is that quasi experimental research design allows the researcher the opportunity to observe one or more variables over a period of time (Uzoagulu, 1998). Specifically, cross sectional panel data was adopted in data analysis. The secondary data that was used in this study which were sourced from the financial statement of the quoted microfinance banks, Stock Exchange Facts Book and Central Bank of Nigeria Statistical Bulletin. Firm annual statements and reports are deemed to be reliable because

they are statutorily required to be audited by a recognized auditing firm before publication. However, due to availability of required data ten microfinance banks were used.

Data Analysis Method

The method of data analysis used in this study was the panel data multiple linear regressions using Ordinary Least Square (OLS) method. This approach, which is a quantitative technique, includes tables and the test of the hypotheses formulated by using ordinary least square regression analysis at 5% level of significance. To arrive at a result that was not lead to spurious regressions, the study tested for stationarity at different levels in the variables making up the model. Other tests that were carried out on the model include test of Durbin Watson Test and test of model specification so as to achieve the objectives of our study as well as answer the research question and hypotheses. The study used Hausman test to determine the appropriate model.

Model Specifications

From review of literature, financial service can be affected by several generic factors. So, it is necessary to investigate the effect on financial performance of microfinance banks. Following the hypotheses earlier stated in chapter one, regression models was formulated to capture the effect of independent variables on the dependent variables.

$$Y = \beta_0 + \beta_{1x_{it}} + \mu \quad (1)$$

Where Y = Dependent Variable

$\beta_{1x_{it}}$ = Independent variable

β_0 = Regression Intercept

μ = Error Term

Disaggregating Equation 3.1 to form the multiple regression models

Linear Regression Models

The linear regression model is formulated as follows:

$$ROE = f(MC, MS, MI, ML) \quad (2)$$

Transforming equation 3.2 to testable form:

$$ROE = \alpha + \alpha_1 MC + \alpha_2 MS + \alpha_4 MI + \alpha_5 ML + \mu_i \quad (3)$$

Where

ROE = Return on equity

MC = Microcredit

MS = micro savings

MI = Micro insurance

ML = Micro leasing

μ = Error Term

$\beta_1 - \beta_4$ = Coefficient of Independent Variables to the Dependent Variables

β_0 = Regression Intercept

A-priori Expectation of the Result

The explanatory variables are expected to have positive and direct effects on the dependent variables. That is a unit increase in any of the variables is expected to increase microfinance banks return on equity. This can be express mathematically as $\alpha_1, \alpha_2, \alpha_3, > 0$

ANALYSIS AND DISCUSSION OF FINDINGS

Table 1: Regression Results on Financial Services and Return on Equity of Microfinance Banks in Nigeria

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Pooled Regression Results				
MS	-0.010422	0.169013	-0.061661	0.9510
ML	0.034095	0.051341	0.664088	0.5085
MI	0.055857	0.043944	1.271108	0.2074
MC	-0.545061	0.177535	-3.070166	0.0029
C	8.219139	1.253569	6.556590	0.0000
ECM(-1)	0.867668	0.063878	13.58313	0.0000
R-squared	0.726643	Mean dependent var		4.978721
Adjusted R-squared	0.709559	S.D. dependent var		1.297581
S.E. of regression	0.699301	Akaike info criterion		2.189742
Sum squared resid	39.12170	Schwarz criterion		2.360976
Log likelihood	-88.15891	Hannan-Quinn criter.		2.258656
F-statistic	42.53159	Durbin-Watson stat		1.722790
Prob(F-statistic)	0.000000			
Fixed Regression Results				
MS	0.025729	0.127197	-0.091895	0.9270
ML	0.089819	0.045941	0.989705	0.3253
MI	-0.032606	0.060619	1.894360	0.0618
MC	0.249030	0.151822	-4.575535	0.0000
C	2.964584	1.078913	9.771427	0.0000
ECM(-1)	0.280404	0.074347	20.24322	0.0000
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.890771	Mean dependent var		4.978721
Adjusted R-squared	0.869233	S.D. dependent var		1.297581
S.E. of regression	0.469228	Akaike info criterion		1.481714
Sum squared resid	15.63242	Schwarz criterion		1.909798
Log likelihood	-48.71369	Hannan-Quinn criter.		1.653998
F-statistic	41.35788	Durbin-Watson stat		1.389617
Prob(F-statistic)	0.000000			
Random Regression Results				
MS	-0.010422	0.113407	0.202280	0.8403
ML	0.034095	0.034449	1.955125	0.0545
MI	0.055857	0.029486	-0.537880	0.5923
MC	-0.545061	0.119125	1.640284	0.1054
C	8.219139	0.841140	2.747749	0.0076
ECM(-1)	0.867668	0.042862	3.771533	0.0003
Effects Specification				
			S.D.	Rho

Cross-section random		0.000000	0.0000
Idiosyncratic random		0.469228	1.0000
Weighted Statistics			
R-squared	0.726643	Mean dependent var	4.978721
Adjusted R-squared	0.709559	S.D. dependent var	1.297581
S.E. of regression	0.699301	Sum squared resid	39.12170
F-statistic	42.53159	Durbin-Watson stat	1.722790
Prob(F-statistic)	0.000000		
Unweighted Statistics			
R-squared	0.726643	Mean dependent var	4.978721
Sum squared resid	39.12170	Durbin-Watson stat	1.722790
Correlated Random Effects - Hausman Test			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	103.898141	5	0.0000

Source: Computed from E-view 9.0
 there are broadly two classes of panel estimator approaches that can be employed in financial research: fixed effects models and random effects models. The simplest types of fixed effects models allow the intercept in the regression model to differ cross-sectionally but not over time, while all of the slope estimates are fixed both cross-sectionally and over time. The random effects approach proposes different intercept terms for each entity and again these intercepts are constant over time, with the relationships between the explanatory and explained variables assumed to be the same both cross-sectionally and temporally(Brooks, 2014).

The Hausman Test that examines whether the unobservable heterogeneity term is correlated with explanatory variables, while continuing to assume that regresors are uncorrelated with the disturbance term in each period. The null hypothesis for this test is that unobservable heterogeneity term is not correlated or random effect model is appropriate, with the independent variables. If the null hypothesis is rejected then Fixed Effects method is employed Brooks (2014). From the table the probability coefficient is less than 0.05, therefore the fixed effect model is selected for the analysis.

Adjusted R² from Table 1 indicates that 86.9 percent variations in return on equity of the microfinance banks can be accounted for by the independent variables. This also indicates that there are other variables that influence the variations in the level of return on equity of the microfinance banks. The F-value shows that the explanatory variables are jointly statistically significant in the model while the Durbin Watson shows the absence of serial autocorrelations.

Discussion of Findings

The formulated regression model found that 86.9 percent variations in return on equity of the microfinance banks can be accounted for by the independent variables. The study found that micro savings, microcredit and micro leasing have positive relationship with return on equity of the quoted microfinance banks while micro insurance have negative relationship with return on equity

of the quoted micro finance banks. The positive relationship between the variables is in line with the expectations of the study and meets the opinions of relevant theories. The positive effect of the variable confirm the findings of Anaman and Pobbi (2019) that, credit advanced to customers was very low which signifies that there is low credit allocation to customers. For interest expenses the value was 0.3669, which signifies that MFIs have set aside enough capital to resolve the interests' issues. Kweyu (2022) that: bank size had insignificant effect ($\beta=167.712$, $p=0.084$) on financial stability while capital adequacy had significant effect ($\beta=146.387$, $p=0.006$); management efficiency had significant effect ($\beta=9.704$, $p=0.000$) while earnings ability had insignificant effect ($\beta=132.604$, $p=0.308$) on financial stability of Microfinance Banks in Kenya, Asimwe (2019), Usman (2020). Chiinze (2017), Bochaberi and Job (2021) Gathu and Njenga (2021), Isabwa (2021), Bogan (2022) that loans and credits are given to credible and promising entrepreneurs; also reducing the strict policies in credit supply to small and medium enterprises (SMEs); monetary authorities need to encourage MFBs to create more branches that can enable investor in rural areas to have access to credit facilities as well as to save and the findings of Taiwo, Yewande, Edwin, and Benson (2016) that by reducing the resource gap for small businesses, micro financing significantly promoted businesses. The following are the outcomes of research that Obokoh, Monday, and Ojiako (2016) conducted on SMEs and microfinance banks: The experience in Nigeria demonstrated that microfinance lending is beneficial to the growth of SMEs.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study focused on the relationship between financial services and the return on equity of microfinance banks in Nigeria. From the regression results, the study found that 86.9 percent variations in return on equity of the microfinance banks can be accounted for by the independent variables. This also indicates that there are other variables that influence the variations in the level of return on equity of the microfinance banks. The F-value shows that the explanatory variables are jointly statistically significant in the model while the Durbin Watson shows the absence of serial autocorrelations; all the financial services are positively related to the return on equity except micro insurance. From the findings, the study concludes that there is significant relationship between microcredits and the return on equity of microfinance banks in Nigeria. The research concludes that there is no significant relationship between micro savings and the return on equity of microfinance banks in Nigeria. Conclude that there is no significant relationship between micro insurance and the return on equity of microfinance banks in Nigeria. That there is no significant relationship between micro leasing and the return on equity of microfinance banks in Nigeria.

Recommendations

From the findings, the study makes the following recommendations:

- i. Management of the microfinance banks should increase the loan rate so that investors see microfinance banks as the number one source of funding, and the Central Bank of Nigeria

should reduce the microfinance banks minimum reserve in order to increase micro credit in the economy.

- ii. Management of the microfinance banks should ensure effective means of deposit mobilization by increasing services to the rural communities and microfinance banks should allocate proper credit to the real sector for productive purposes in order to increase performance.
- iii. The management of the microfinance banks should ensure well formulated policies to manage micro insurance services to add positive to the performance.

REFERENCES

- Abebe, H. G. (2005). *The Supply Responsiveness of Peasant Agriculture in Ethiopia: some Macro Econometric Results from Cereal Production*. Center Discussion Paper.
- Abrams, J. (2009). Zero is not the number: The microfinance debt default rate. A Baseline Analysis, New York, IAMFI.
- Abrams, J., & Ivatury, G. (2005). The market for foreign investment in microfinance: opportunities and challenges.
- Acha, I.A. (2011). Does Bank Financial Intermediation Cause Economic Growth in Developing Economies: The Nigerian Experience. *International Business and Management*, 3(1), 156-161.
- Ackerman, P. L. (1988). Determinants of individual differences during skill acquisition: Cognitive abilities and information processing. *Journal of Experimental Psychology: General*, 117, 288–318.
- Adair, P., & Berguiga, I. (2010). Les facteurs déterminants de la performance sociale et de la performance financière des institutions de microfinance dans la région MENA: une analyse en coupe instantanée. *Région et Développement*, 32.
- Adama, U. J., Duru, U. I. & Diyoke, O. K. (2017). The role of microfinance banks on employment generation in the grassroots: Evidence from Karu Local Government Area of Nasarawa State, Nigeria. *Asian Journal of Economics, Business, and Accounting*, 4(2): 1-9.
- Adams, S. (2010). Impact of microfinance on maize farmers in Nkoranza (Brong Ahafo Region of Ghana). *Journal of Management Research*, 2 (2), 3-7.
- Adebayo C. O, Sanni S. A., & Baiyegunhi L. J. S., (2012). Microcredit scheme impact and food security status of beneficiaries in Kaduna State, Nigeria: A propensity score matching approach. *African Journal of Agricultural Research*, 7(37), 5191-5197.
- Adegboye, R. O. (2004) *Land Agriculture and Food Security in Nigeria*. Faculty lecture, Faculty of Agriculture, University of Ilorin.
- Adegeye, A. I. & Ditto, J.S. (1985). *Essential of Agricultural Economics*. New edu; impact Publishers Ibadan, Nigeria.
- Adekunle, E. (2015) Federal government spends 2.4 billion dollars on rice importation since 2012 *Vanguard*
- Adewole, J. A., Dare, F. D., & Ogunyemi, J. K. (2019). Implications of financial intermediation on The performance of commercial banks in Nigeria: 2000-2017. *Financial Markets, Institutions and Risks*, 3(4), 94–105. [https://doi.org/10.21272/fmir.3\(4\).94-105](https://doi.org/10.21272/fmir.3(4).94-105).
- Adeyemi, K.S. (2008). Institutional Reforms for Efficient Microfinance Operations in Nigeria. Central Bank of Nigeria. *Bullion*, 32 (1), 26-34.

- Adeyeye, P.O., Aluko, L.F. & Migiro, S.O. (2015). Does Demand-leading Hypothesis hold in a developing economy? A Nigerian focus. <http://creativeeconomics.org/licenses/by.ncnd/4.0/> Agbo, F. U., Onwumere, Adhikary, S. (2014). Financial performance of microfinance institutions and outreach to the poor in South Asia (Doctoral dissertation, Aristotle University of Thessaloniki, Thessaloniki, Serres, Greece). Retrieved from <http://ikee.lib.auth.gr/record/134373>
- Agbloyor, E. K., Turkson, F. E., & Baffour, P. T. (2018). Financial development and the social cost of financial intermediation in Africa. *Journal of African Business*, 19(4), 455-474.
- Al-Absi, A. A. (2016). Impact of microcredit in microfinance banks on small business spread in Yemen (Case study of Sana'a, Yemen). *International Journal of Business and Management Invention*, 5(11), 14-29.
- Alemu, K. S., & Negasa, B. D. (2015). Determinants of financial performance of commercial banks in Ethiopia. *Journal of Business Management and Economics*, 3(11), 33-40. doi:10.15520/jbme.2015
- Ali, M., & Puah, C. (2018). Does bank size and funding risk effect banks' stability? A lesson from Pakistan. *Global Business Review*, 19(5),
- Ali-Shami, A. H. (2008). *Determinants of insurance company's profitability in UAE*. Unpublished Master's thesis, University of Utara Malaysia.
- Al-Khouri, R. (2012). Bank characteristics and liquidity transformation: The case of GCC banks. *International Journal of Economics and Finance*, 4(12). doi:10.5539/ijef.v4n12p114
- Allan, B., & Emma, B. (2015). *Business Research Methods*. Oxford, U.K: Oxford University Press.
- Al-Qudah, A. M., & Jaradat, M. A. (2013). The impact of macroeconomic variables and banks characteristics on Jordanian Islamic banks profitability: *Empirical evidence. International Business Research*, 6(10).
- Amdemikael, A. (2012). *Factors affecting profitability: An empirical study on Ethiopian Banking Industry*. Unpublished MSc thesis, Addis Ababa University.
- American Jobs Creation Act. *The Review of Financial Studies*, 25(11), 3351-3388. Faulkender,
- Anane, G.K., Cobbinah, P.B. & Manu, J. K. (2013). Sustainability of small and Medium Scale Enterprises in Rural Ghana: The role of microfinance institutions. *Asian Economic and Financial Review*, 3(8), 1003-1017. Anupam, B., Rodolphe,
- Ashgate Publishing: Aldrshot. Romano, C. A., Tanewski, G. A & Symmios, K. X. (2001). Capital Structure Decision Making: A Model for Family Business. *Journal of Business Venturing*, 16(3), 285-310. 119
- Asiimwe, E. (2019). Effect of mobile banking on the financial performance of commercial banks in Hoima district (Doctoral dissertation, Kampala International University, College of Economics and Management).
- Audu, M.L., & Achegbulu, J.O. (2011). Microfinance and Poverty Reduction: The Nigeria Journal of Business and Management. 3 (1), 220-227.
- Awojobi, O.N. (2014). Empowering women through microfinance: Evidence from Nigeria. Retrieved from: <https://www.ajbmr.com/articlepdf/aus-29-195i04no/a3.pdf>. Assessed 4/5/2018.

- Baabdullah, A. M., Alalwan, A. A., Rana, N. P., Kizgin, H., & Patil, P. (2019). Consumer use of mobile banking (M-Banking) in Saudi Arabia: Towards an integrated model. *International Journal of Information Management*, 44, 38-52.
- Babagana, S. (2010). Impact Assessment of the Role of Microfinance Banks in Promoting Small and Medium Enterprises Growth in Nigeria. *International Journal of economic Development Research and Investment*, 1(1), 42-53.
- Babajide, A. (2012). Effects of microfinance on micro and small enterprises (MSEs) growth in Nigeria. *Asian Economic and Financial Review*, 2(3), 463-477.
- Bowa, C. M. (2015). Effect of bank capitalization on liquidity of commercial banks in Kenya (Doctoral dissertation, University of Nairobi, Nairobi, Kenya). Retrieved from <http://erepository.uonbi.ac.ke/handle/11295/93270>
- Brau, J. C., & Woller, G. M. (2004). Microfinance: A Comprehensive Review of the Existing Literature. *Journal of Entrepreneurial Finance and Business Ventures*, 9(1).
- Brooks, C. (2008). *Introductory Econometrics for Finance* (2nd ed.). New York: Cambridge University Press. <https://doi.org/10.1017/CBO9780511841644>
- Brown, T. E., Boon, E., & Pitt, L. F. (2017). Seeking funding in order to sell: Crowdfunding as a marketing tool. *Business Horizons*, 60(2), 189-195.
- Bucher, M., Dietrich, D., & Hauck, A. (2018). Implications of bank regulation for loan supply and bank stability: A dynamic perspective. *The European Journal of Finance*, 25(16), 1527-1550.
- Cai, C. W. (2018). Disruption of financial intermediation by FinTech: a review on crowd funding and blockchain. *Accounting & Finance*, 58(4), 965-992.
- Calem, P. S., & Rob, R. (1996). The impact of capital-based regulation on bank risk-taking: A dynamic model. *Finance and Economics Discussion Series*, 1996(12), 1-47.
- Cull, R., Demirgüç-Kunt, A., & Morduch, J. (2006). Financial Performance and Outreach: Aglobal analysis of leading Microbanks. *Policy Research Working Paper Series 3827*, the World Bank (Reprinted in *The Economic Journal*, 117, 107-133).
- Cuypers, I. R., Hennart, J. F., Silverman, B. S., & Ertug, G. (2021). Transaction cost theory: Past progress, current challenges, and suggestions for the future. *Academy of Management Annals*, 15(1), 111-150.
- D., Kenyon, N., & Barluenga-Badiola, M. (2003). Performance indicators for microfinance institutions: Technical guide. MicroRate and Inter-American Development Bank, Washington, DC.
- Dada, R. M. (2014). Commercial banks' credit and SMEs development in Nigeria: An Empirical review. *International Journal of Research (IJR)*, 1(8), 305-320.
- De Bruyne, B. (2008). Summary of social performance indicators survey. The role of investors in promoting social performance in microfinance, 25-31. de Sousa-Shields,
- Donou-Adonsou, F., & Sylwester, K. (2016). Financial development and poverty reduction in developing countries: New evidence from banks and microfinance institutions. *Review of Development Finance*, 6, 82-90. doi:10.1016/j.rdf.2016.06.002
- Dorfleitner, G., Leidl, M., & Reeder, J. (2012). Theory of social returns in portfolio choice with application to microfinance. *Journal of Asset Management*, 13(6), 384-400. doi:10.1057/jam.2012.

- Drissi, S., & Angade, K. (2019). Islamic financial intermediation the emergence of a new model. *European Journal of Islamic Finance*, (12).
- Ede, U. S. & Elikwu, M. I. (2018). Specialised institutions (microfinance banks) and business revolution in Nigeria. A paper presented at the 7th International Social and Management Science Research Conference, Kaduna State University, 9th-10th May 2018.
- Gaiha, R., Thapa, G., & Annim, S. K. (2012). Microfinance and poverty—a macro perspective. *World Development*, 40(8), 1675-1689.
- Gajure, D., & Pradhan, S. R. (2012). Concentration and Competition in Nepalese Banking. *Journal of Business, Economics and Finance*, 1(1).
- Galema, R., Lensink, R., & Spierdijk, L. (2011). International diversification and Microfinance. *Journal of International Money & Finance*, 30(3), 507-515.
- Gathu, R. M., & Njenga, P. (2021). Effect of Mobile Banking on the Performance of Co-operative Bank of Kenya. *Journal of Finance and Economics*, 9(5), 193-200.
- Genchev, E. (2012). Effects of market share on the bank's profitability. *Review of Applied Socio-Economic Research*, 3(1), 87-95.
- Ghalib, A. (2009). Measuring the Impact of Microfinance Intervention: A Conceptual Framework of Social Impact Assessment. IARC Working Papers Series no. 24/2009, Impact Assessment Research Centre, University of Manchester.
- Gibson, T. & Vander Vaart, H. (2008). Defining SMEs: A less imperfect way of defining small and medium enterprises in developing countries. Brookings Global Economic and Development, Brookings. 116
- Gichuki, J. A. W., Njeru, A. & Tirimba, O. I. (2014). Challenges facing micro and small enterprises in accessing credit facilities in Kangemi Harambee Market, Nairobi city,
- Hall, G., Hutchinson, P. & Micheals, N. (2000). Industry Effects of the Determinants of Unquoted SMEs Capital Structure. *International Journal of the Economics of Business*, 7(3), 297-312.
- Hameedi, K. S., Al-Fatlawi, Q. A., Ali, M. N., & Almagtome, A. H. (2021). Financial performance reporting, IFRS implementation, and accounting information: Evidence from Iraqi banking sector. *The Journal of Asian Finance, Economics and Business*, 8(3), 1083-1094.
- Harelimana, J. B. (2017). Impact of mobile banking on financial performance of Unguka microfinance bank LTD, Rwanda. *Global Journal of Management and Business Research*.
- Hermes, N., Lensink, R., & Meesters, A. (2011). Outreach and Efficiency of Microfinance Institutions. *World Development*, 39(6), 938-948.
- Holmes, S., & Kent, P. (1991). An empirical analysis of the financial structure of small and large Australian manufacturing enterprises. *Journal of Small Business Finance*, 1(2), 141-154.
- Kalunda, E.N. (2015). Financial inclusion, bank stability, bank ownership and financial performance of commercial banks in Kenya. Nairobi: University of Nairobi.
- Kamande, E. G. (2017). The effect of bank specific factors on financial performance of commercial banks in Kenya. Retrieved July 2017, from <http://respository.seku.ac.ke/handle/123456789/3057>
- Kar, A. K. (2012). Does capital and financing structure have any relevance to the performance of microfinance institutions? *International Review of Applied Economics*, 26(3), 329-348.

- Karamoy, H., & Tulung, J. E. (2020). The effect of financial performance and corporate governance to stock price in non-bank financial industry. *Corporate Ownership & Control*, 17(2), 97-103.
- Karlan, D., & Zinman, J. (2011). Microcredit in theory and practice: Using randomized credit scoring for impact evaluation. *SCIENCE*, 332(6035), 1278-1284.
- Kiiru, J. M. (2007). Microfinance, entrepreneurship and rural development: Empirical evidence from Makueni district, Kenya. Paper presented at the Global Poverty Research Group (GPRG) Conference: Oxford University, UK March 18th.
- Karugu, C., Achoki, G., & Kiriri, P. (2018). Capital adequacy ratios as predictors of financial distress in Kenyan commercial banks. *Journal of Financial Risk Management*, 07(03), 278-289.
- Kathuo S., Rotich, G., S & Anyango, W. (2015). Effect of mobile banking on the financial performance of banking institutions in Kenya. *Strategic Journal of Business & Change Management* 2(98), 1440 – 1457
- Krauss, N., & Walter, I. (2009a). Can Micro.nance Reduce Portfolio Volatility? *Economic Development & Cultural Change*, 58(1), 85-110.
- Kumar, A., Dhingra, S., Batra, V., & Purohit, H. (2020). A framework of mobile banking adoption in India. *Journal of Open Innovation: Technology, Market, and Complexity*, 6(2), 40-56.
- Kumar, V. (2016). Evaluating the financial performance and financial stability of national commercial banks in the UAE. *International Journal of Business and Globalisation*, 16(2), 109.
- Kwakwa, O. M. (2014). Determinants of performance of commercial banks in Ghana (Master's thesis, Kwame Nkrumah University of Science and Technology, Accra, Ghana). Retrieved from <https://www.semanticscholar.org/paper/Determinants-of-performance-of-Comercial-Banks-in-Kwakwa/edbf1123374d8f5dd59467b0f01278a193d4a093>
- Lotto, J. (2018). The empirical analysis of the impact of bank capital regulations on operating efficiency. *International Journal of Financial Studies*, 6(2), 34-55
- Ledgerwood, J., & White, V. (2006). Transforming microfinance institutions: providing full financial services to the poor: World Bank Publications.
- Leikem, K.(2012). Microfinance: A Tool for Poverty Reduction? Senior Honours Projects. Paper 300. [Online] Available at: <http://digitalcommons.uriedu/srhonorsprog/300> [Accessed January 20, 2014] 117
- Leland, H. E. (1998). Agency costs, risk management, and capital structure. *The Journal of Finance*, 53(4), 1213-1243.
- Letenah, E. (2009). Performance analysis of sample microfinance institutions of Ethiopia. *International NGO Journal*, 4(5), 287-298.
- Lislevand, C. J. (2012). *The effect of capital structure on microfinance institutions performance*. Unpublished MSc thesis, University of Agder.
- Littlefield, E., & Rosenberg, R. (2004). Microfinance and the Poor. *Finance and Development*, 41(2).
- Malaquias, R. F., & Hwang, Y. (2019). Mobile banking use: A comparative study with Brazilian and US participants. *International Journal of Information Management*, 44, 132-140.

- Malaquias, R. F., & Silva, A. F. (2020). Understanding the use of mobile banking in rural areas of Brazil. *Technology in Society*, 62, 101260.
- Malenya, W. M & Kiruiki, P (2017). Characteristics of microfinance banking services and financial inclusion in Kenya. *Strategic Journal of Business and Change Management*. 4 (4), 512- 527.
- Malimi, K. (2017). The influence of capital adequacy, profitability, and loan growth on nonperforming loans a case of Tanzanian banking sector. *International Journal of Economics, Business and Management Studies*, 4(1), 38-49.
- Malkamaki, M., & Wanjau, K. (2006). Tackling the'frontiers' of microfinance in Kenya: the role for decentralized services. *Small Enterprise Development*, 17(3), 41-53.
- Malkin, E. (2008). Microfinance's success sets off a debate in Mexico. *New York Times*, 4. 142
- Mandel, J. T., Donlan, C. J., Wilcox, C., Cudney-Bueno, R., Pascoe, S., & Tulchin, D. (2009). Debt investment as a tool for value transfer in biodiversity conservation. *Conservation Letters*, 2(5), 233-239.
- Melese, N., & Laximikantham, N. M. (2015). Determinants of banks liquidity: Empirical evidence on Ethiopian commercial banks. *Journal of Economics and Sustainable Development*, 6(15), 36-46.
- Mersland, R., & Øystein Strøm, R. (2009). Performance and governance in microfinance institutions. *Journal of Banking & Finance*, 33(4), 662-669.
- Moruf, O. (2013). Evaluation of the Nigerian Microfinance Banks Credit Administration on Small and Medium Scale Enterprises Operations. *International Review of Management and Business Research*, 2(2), 505-517.
- Mostak, M. A., & Sushanta, M. K. (2015). Is financial inclusion good for bank stability? International evidence. *Journal of Economic Behavior & Organization*, 157, 403-427.
- Moussa, M. (2015). The determinants of bank liquidity: Case of Tunisia. *International Journal of Economics and Financial Issues*, 5(1), 249-259.
- Mugane, M. (2020). Mobile Banking Services Effect On Financial Performance On Commercial Banks In Kenya (Doctoral Dissertation, Kenyatta University).
- Mugenda, A., & Mugenda, O. (2013). *Research methods: Quantitative and qualitative approaches*. Nairobi, Kenya: ACTS Press.
- Mulualem, G. (2015). Analyzing financial performance of commercial banks in Ethiopia: CAMEL approach. Retrieved from <https://etd.aau.edu.et/handle/123456789/4549>
- Muriithi, J. W. (2014). The effect of non-performing loans on liquidity risk of commercial banks in Kenya. Retrieved from erespository.uonbi.ac.ke.
- Muriu, P. (2011). *Microfinance Profitability: What explains the low profitability of African microfinances?* PhD thesis, Birmingham Business School, University of
- Ntow, G. M., & Laryea, A. E. (2012). A financial performance comparison of foreign vs. local banks in Ghana. *International Journal of Business and Social Science*, 3(21), 82-87. Retrieved from http://ijbssnet.com/journals/Vol_3_No_21_November_2012/9.pdf
- Nyaundi, D. N. (2015). The effects of capital adequacy requirements on liquidity of commercial banks in Kenya (Master's thesis, University of Nairobi, Nairobi, Kenya). Retrieved from <http://erepository.uonbi.ac.ke/handle/11295/95047>

- Obasi, N. J., Chukwuka, O. I. & Akwawa, U. A. (2014). Impact of microfinance lending on economic growth of third world nations: Study of Nigeria. *International Journal of Business, Economics and Management*, 1(8), 201-215.
- Ogboru, L.P. 2007. An evaluation of funding arrangement for Small and Medium Scale Enterprises (SMEs) in Nigeria. A study of St Clements University. British, West Indies.
- Ojelabi, R.O., Jooda T.D & Adeniran, J.O (2015). Influence of Microfinance Bank on Small and Medium Scale Enterprises Growth in Osun State, Nigeria. *International Journal in Management and Social Science*, 3(1), 447-458.
- Okello Candiya Bongomin, G., Munene, J. C., Mpeera Ntayi, J., & Akol Malinga, C. (2018). Financial intermediation and financial inclusion of the poor: Testing the moderating role of institutional pillars in rural Uganda.
- Okpara, G.C., (2010). Microfinance banks and poverty alleviation in Nigeria. *Journal of Sustainable Development in Africa*, 12(6): 177-191. [View at Google Scholar](#)
- Oleka, D.C (2008). Development Finance: Money and Capital Market, Financial Management and Investment. Enugu: Hipuks Additional Press Co 2008.
- Olowe F.T, Moradeyo O.A & Babalola O.A (2013). Empirical Study of the Impact of Microfinance Bank on Small and Medium Growth in Nigeria. *International Journal of Academic Research in Economics and Management Sciences*, 2 (6), 21-29.
- Olusanya S.O., Sufian, B. J. & Temi O.A. (2014). Can Microfinancing Improve Small and Medium Scale Enterprises in Lagos State, Nigeria, *OSR Journal of Economics and Finance (IOSR- JEF)*, 3 (3), 49-56.
- Ongore, O. K., & Gemechu, B. (2013). Determinants of Financial Performance of Commercial Banks in Kenya. *International Journal of Economics and Financial Issues*, 3(1).
- Rose, PC & Hudgins. SC. (2010). Bank Management & Financial Services (8th ed). New York: The McGraw Hill Companies.
- Ratnawati, K. (2020). The influence of financial inclusion on MSMEs' performance through financial intermediation and access to capital. *The Journal of Asian Finance, Economics and Business*, 7(11), 205-218.
- Ravallion, D. & Datta, G. (1996) How Important to India's Poor is the Sectoral Composition of Economic Growth? *World Bank Economic Review* 10(1), 1-25.
- Ravallion, D. & Datta, G. (1996). Issues in Measuring and Modeling Poverty. *The Economic Journal*, 106(3), 1328-1343.