

Asset Structure and Profitability of Microfinance Banks: Evidence from Akwa Ibom State, Nigeria

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ABSTRACT

This study examines the relationship between asset structure and profitability in microfinance banking in Akwa Ibom State, Nigeria. It is prompted by the quest for empirical evidence of the link between asset classes and profits made by Microfinance Banks (MFBs). Data relating to income-earning assets and profits are obtained from selected registered MFBs in Akwa Ibom State, between 2007 and 2015. Descriptive and inferential statistical tools, including regression and correlation tests were used for data analysis. The results show that asset classes have varying effects on profits of MFBs, and that over eighty-eight per cent of the total variations in profits made by this category of banking can be explained by the combined effect of the asset structure. The study recommends that in order to maximise the returns on assets, MFBs should pay adequate attention to the mix and reward-to-variability ratio of their assets; and that in making asset allocations, preference should be given to loans and advances to take advantage of their positive influence on profits.

Keywords: Asset structure, profitability, microfinancing, microfinance banks

INTRODUCTION

The introduction of microfinance banking in Nigeria was primarily intended to support the economically active but poor citizens, and to develop capacities and savings culture in them, while contributing to the nation's gross domestic product (Idolor, 2010; Microfinance Banks Newsletter, 2009). The capacity to meet these objectives depends, to a greater extent, on the manner in which Microfinance Banks (MFBs) structure their assets. In financial theory, a bank's assets are those resources from which it receives income and profit. These resources include both financial and real assets, such as loans and advances, treasury bills, shares and bonds. The combination of both financial and real assets of an entity is otherwise referred to as asset structure or asset portfolio. According to Hataj (2013), optimal asset structure of banks is an interesting problem both from banks' management and regulatory perspective. MFBs acquire and dispose of financial and real assets in the course of their operations. These assets serve as value creation, and can affect their profitability, growth and survival (Nigeria Microfinance Newsletter, 2009). Accordingly, changes in these assets affect the value maximisation and goals attainment of the banks (Amadi and Eyo 1999; Onoh, 2002; Svetlana, 2011). This implies that the

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judicious allocation of funds among assets is one of the fundamental strategic management decisions a bank must take to ensure long term sustainability growth. Microfinance banks encounter a wide array of risks in their asset allocation decisions. They are exposed to financial risks since the variety of their assets are by definition, as complex as those available in the commercial banks. Banks' assets are risky resources, which can be divided into high-risk, high-yield assets and low-risk, low-yield assets (Nnanna, 2003; Bron, 2009; Alexiou and Sofoklis, 2012). The main task in decision making relating to this type of assets is to compare the estimated risk differentials of various asset classes to ensure prudent mix. This is necessary in order to ensure a balance between liquidity, earnings and safety.

In commercial banks, asset and liability management is normally carried out by a committee of trained and experienced staff because it involves both operations management and treasury activities (Ledgerwood, 1999; Ndibe, Igbokwe, Dauda and Abdulazeez, 2013). The committee functions involve setting policies and guidelines to establish the risk tolerance of the banks. The committee determines the asset structure of the bank and makes appropriate recommendations to the Board of Directors. In the event of the bank exceeding its risk limit in the course of operations, the committee intervenes to ensure that the level of risk is in line with expected returns, and consistent with broad objectives of the bank. Most MFBs do not have financial and operational capacity to create a committee. In this wise, asset structure decisions would likely be taken by staff with little or no training in asset-liability management.

Olasupo, Afolami and Shittu (2014) observe that MFBs, especially in Nigeria have not been very profitable. A recent target examination of all MFBs in Nigeria carried out by the Central Bank of Nigeria (2012a) discloses that out of 820 MFBs examined, 224 or 27% were found to be “terminally distressed” and “technically insolvent” and had closed shop for at least six months. This resulted in the withdrawal of operating licences of 224 MFBs in September 2010. This situation is a major threat to the achievement and sustainability of microfinance objectives of credit delivery and poverty alleviation in the country. In the quest to explain banks' performance, a number of studies have examined the relationship between asset structure and profitability of commercial and merchant banks (Amadi and Eyo, 1999; Adebisi, 2010; Amedu, 2010; Svetlana, 2011; Umar, 2012).

However, the case of specialised banks, including MFBs attracts little or no research attention over the years. To the best of our knowledge, most of the available studies on the subject focused primarily on conventional commercial banks, with the policy conclusions being used in directing or benchmarking the affairs of MFBs. This generalisation may not only be inappropriate, but can be misleading in establishing policies meant for the growth of MFBs in Nigeria. Considering the operational peculiarities and specialised roles expected of MFBs in Nigeria, to cater for the financial needs of some segment of the society to alleviate poverty, through the empowerment of micro and small entrepreneurs, policies meant for commercial banks may not be effectual in the actualization of MFBs' goals. In this wise, this study is designed to examine the relationship between the income earning assets and profits of MFBs. Within such a framework, appropriate policies on assets allocation for MFBs can be articulated as part of the decision support system.

The Concept of Micro-financing

The concept of microfinance is not new. Historically, savings and credit groups are said to originate from India (Arinde, 1998). It is referred to as "Chit funds" in India, "susus" in Ghana, 'Ajo' (Yoruba) or 'Akawo' (Igbo) and Adashi (Hausa) in Nigeria. It is also referred to as "tandas" in Mexico, "arisan" in Indonesia, "cheetu" in Sri Lanka, and "pasanaku" in Bolivia, where members undertake to contribute a specified or equal sum of money monthly or periodically to a common pool. The total amount contributed is handed over to one member or appropriated among some members until every member benefits in turn (Hollis and Sweetman, 1996; Arinde, 1998).

According to the Central Bank of Nigeria Guidelines (2012), microfinance is the provision of a broad range of financial services such as savings, loans, payment services, money transfers, and insurance to poor and low-income persons, households and their microenterprises. Microfinance services are provided by three types of institutions:

- i Formal institutions, such as Microfinance Banks and Commercial Banks,
- ii Semi-formal institutions, such as Multi-purpose Cooperative Societies;
- iii Informal institutions such as Village Savings, Credit Associations and Money Lenders.

The creation of formal microfinance institutions for the provision of microfinance services to those traditionally neglected by the development finance institutions is not also a recent development. The fundamental principle upon which microfinance operations is built is the provision of small loans (typically without collateral) and accepting petty savings deposits. The underlying logic is that it is good not to despise small beginnings, a phenomenon some refer to as thinking big, but starting small. In an attempt to trace the evolution of microfinance, Hollis and Sweetman (1996), give perhaps the best account of the Irish Loan Fund System, which provided small loans to the rural poor with no collateral, initiated in the early 1700s by Dean Jonathan Swift. According to the authors, Swift provided £500 in the 1720s to be lent to 'poor artisans of Dublin' in loans of under £10 each for short periods. The idea began slowly but by the 1840s had become a wide spread institution of about 300 funds all over Ireland, with several thousand families being relieved in the space of a few years. Today, although the Irish Loan Fund System has undergone several modifications and legislative reforms, the fundamental principle cannot be changed, with many countries including the World Bank sponsoring similar schemes. By the same token, various types of formal credit institutions have emerged in Europe and other societies, including Nigeria (Hollis and Sweetman, 1996). These institutions are popularly known as Credit Unions, Savings and Credit Co-operative Societies, Peoples' Bank and Microfinance Banks.

In Nigeria, Microfinance banks are licensed and supervised by the Central Bank of Nigeria to deliver microfinance services. The Revised and Supervisory Guidelines for Microfinance Banks in Nigeria, empowers three categories of microfinance banks for microfinance services in Nigeria, namely: unit microfinance bank; state microfinance banks; and national microfinance banks, each having the minimum paid-up share capital of twenty million naira (N20.0 million); one hundred million naira (N100.0 million); and two billion naira (N2.0 billion) respectively (CBN, 2012b). These banks can amongst others perform

the following services based on their licensing regime: accept different kinds of deposits such as savings, time, target and demand from individuals, groups and associations. They can provide credit to their customers including formal and informal self-help groups, individuals and associations. Also, they can provide loan disbursement services for the delivery of credit programmes of government agencies, and invest their surplus funds in worthwhile investments, such as treasury bills fixed deposit accounts with correspondent banks. Microfinance clients are typically self-employed, low-income entrepreneurs in both urban and rural areas. Microfinance clients, as observed by Onoh (2002), are often traders, street vendors, small farmers, service providers (hairdressers, cart pushers), artisans and small producers, such as black-smiths and seamstresses. Their activities provide income (often from more than one activity) for the individuals and their house-holds. Although they are often poor, they are generally not considered to be the 'poorest of the poor'. These micro-entrepreneurs require credit for business expansion and access to other financial services like insurance (usually provided through informal network of family and friends).

According to Ogwu (2016), there are estimated 37 million economically active poor in Nigeria operating microenterprises and small businesses. Most of them do not have access to adequate financial services. To meet this substantial demand therefore, microfinance practitioners are expected to adopt a long-term perspective in their funding plans and capacity building of users of microfinance services. This has given rise to the various discussions on microfinance. Microfinance has evolved as an economic development approach intended to benefit low-income people. This is because in addition to financial intermediation, many of the early providers of micro-credit provided both credit and social intermediation services such as group formation, capacity building for group development, capacity building programs in health, sanitation and social empowerment (such as self-confidence), and training in financial literacy and management capabilities among members of a group. Their ability to provide these integrated services and effectively play their intermediation role profitably, will depend on the management and the efficiency with which their assets are combined.

Asset Structure and Profitability

The concept of asset structure is central to the planning and evaluation of the relative magnitudes and quality of items (assets) in the statement of financial position of an entity. In the context of a bank, the basic idea behind asset structure is that the quality of assets held in a bank constitutes one of the primary criteria for assessing the earnings capacity and its relative liquidity position. Every bank operates a statement of financial position in which the assets of the bank are stated. These assets are classified into non-earning and earning assets. Non-earning bank assets, otherwise referred to as primary reserves, include special-purpose deposits with the Central Bank of Nigeria, which may not earn any interest but must be set aside in line with the directives of the monetary authorities. They also include demand deposits with local and foreign correspondent banks, vault cash and cash on transit from other banks as well as other credit balances with other banks. It is desirable that a bank hold non-earning assets in addition to earning assets as a precautionary measure

against illiquidity, and the need to strike a balance between liquidity, earnings and safety. In the contrast, banks would prefer holding only earning assets in their portfolio of assets as a probable way of maximizing profits. Earning bank assets on the other hand, are those that yield returns, and are classified into secondary reserves and loans and advances. Secondary reserves include treasury bills and treasury certificates. They are interest bearing, with varying tenors and yields. Unlike non-earning assets, earning assets are profitable and tend to suffer little or no depreciation in value at maturity or at the point of being converted into cash. Loans and advances, on the other hand, relate to short, medium and long term facilities granted by the banks to their customers.

In terms of the relationship between asset structure and profitability of microfinance banks, the most frequently explored issues are the importance of profitability in the evaluation of firms' performance and how profitability can be affected by other economic factors (Lev, 1983; Davidson and Dutia, 1991; Ngerebo, 2002 and Ekpo, 2015). Profitability is one of the most important objectives of an entity because of the agency and trusteeship role it performs in organizations (Jensen and Meckling, 1976). Profitability is concerned with maintaining or increasing the firm's earnings through attention to cost control, pricing policy, turnover, asset management, and capital expenditures. Every financing activity in an enterprise involves expected positive returns. The performance of a bank to a great extent depends on its management and the efficiency with which its investment in assets is structured; and performance is a function of profitability and growth overtime.

Due to the importance of profitability, Burns (2001) stresses that the aim of a business is not only to generate sales, but also profits. Microfinance banks are profit oriented, with assets in their books. Low profitability contributes to under-capitalization, because it leads to lower retained earnings, and heavy reliance on external capital. However, profitability has been said to be affected by many factors such as type of products (bank facilities), degree of competition and firm size (Burns, 2001).

The judicious allocation of funds on a portfolio of bank assets to maximize the expected returns from each asset can be explained within the framework of modern portfolio theory or mean-variance analysis. The principal idea about portfolio theory is the assessment of risk and return, such that the risk and returns evaluation are not carried out exclusively on a particular asset as against the relative contribution to the portfolio's overall risk-return payoff. According to Markowitz (1952), it is possible for different portfolios to have varying levels of risk and return. But the decision maker must decide how much risk he can handle and then allocate (or diversify) his or her portfolio. Markowitz theory therefore, suggests that for a bank to ensure optimal allocation of funds among assets (financial and real assets), it should make an effort to reduce the portfolio risk by holding a combination of assets that are perfectly positively correlated. That is to say, banks can reduce their exposure to individual asset risk by holding diversified asset structure. Asset allocation can also be explained in terms of macro models. According to Amadi and Eyo (1999), we can use the Pool-of-funds model, the Asset Allocation (or conversion of funds) model and the Management Science model to explain asset allocation patterns. The Pool-of-funds model requires managers to pool all the funds of the bank from various sources such as demand,

savings and time deposit, as capital funds. The pooled funds are allocated to the bank assets after identifying the liquidity and profitability requirements. The Asset Allocation Model (AAM) is premised on the need to allocate available funds to assets of the type and maturity appropriate to the velocity or turnover of these funds. The Management Science model employs sophisticated models to analyze the complex inter-relationships among various components of the balance sheet and income statements. It utilizes linear programming model which incorporates the asset management problem in its analysis. It also incorporates both profitability and liquidity constraints. Thus, the model can be used to test the sensitivity of management decisions to changes in the banking environments.

In all, the application of modern portfolio theory or asset allocation models in asset structure decisions does not replace the role of an informed asset management committee of banks or the bank manager's expertise; the models can best serve as complementary tools for decision making.

For several years researchers have tried to understand how banks manage their statement of financial position (otherwise referred to as balance sheet), and allocate funds to assets of various classes (Stoughton and Zechner, 2007; Danielsson, Jorgensen, De-Vries and Yang, 2008; Thakor, Mehran and Acharya, 2010). The need for understanding this decision process is not met and the quest is unending. Indeed, maximization of shareholders' value, which is at least in legal theory, the best objective a firm should pursue, could be considered an optimal criteria for optimal allocation of funds on corporate assets. Other useful criteria have been suggested by eminent scholars, such as the maximization of income (Thakor, Mehran and Acharya, 2010); maximization of risk-adjusted profit (Stoughton and Zechner, 2007); and risk-constrained profit (Danielsson, Jorgensen, De-Vries and Yang, 2008).

According to Hataj (2013), optimization-based approach to banks' asset structure can be applied in various theoretical and practical contexts. It can be integrated as an integral part of asset-liability management decision process (Kusy and Ziemba, 1986; Adam, 2008). As observed by Paries, Halaj and Kok (2016), many optimization-based models incorporate income into their asset structure considerations. Amadi and Eyo (1999), in their empirical examination of the relationship between the profits of merchant banks and the pattern of asset allocation found that merchant banks in Nigeria shift funds to unspecified assets in order to enable them engage in activities which are at variance with stipulations of monetary authorities. The authors therefore, concluded that considering the importance of Asset-Liability management in the realization of banks' objectives, bank managers, to whom the assets and liabilities are entrusted, ought to know the most optimal mix of such assets and the most efficient allocation of bank funds so as to increase their profits.

In a related study, Nwankwo (1991) outline certain factors that should guide bankers in allocating funds to the various asset categories. These are prudence and transactions demand, legal requirements, maintaining a high degree of liquidity, and the need to earn sufficient income. Also, based on Svetlana (2011) research, banks need to pay attention to their balance sheet for effective financial risks management. All financial

institutions take risks to make money, but an effective risk management guarantees appropriate balance between risk and reward. Alexiou and Sofoklis (2012) argued that asset-liability management requires that attention be paid to each asset category to address their peculiar problem for improved profits. As MFBs diversify their funding sources, sound asset and liability management is critical to help them access and manage financial risk. The current global financial crisis highlights the importance of good asset and liability management. As funds become increasingly scarce and expensive, asset management becomes ever more important. While increased borrowing can help MFBs increase their returns, it also exposes them to greater risk.

METHOD

This study is empirical in nature. It employed secondary data for all necessary analysis. To represent asset structure, the study focused on income earning assets. These were investment in fixed deposits, investment in treasury bills, and loans and advances. Profit after tax was used for profitability measure. The relevant data were obtained from the annual financial reports of selected MFBs in Akwa Ibom State for the period 2007 to 2015. The choice of this period was to cover period when microfinance banks commenced operations in the state. Regression and correlation models were used to establish the relationship between income earning assets of MFBs and profitability, and to ascertain whether any relationship exists between the variables. The population of study comprised all MFBs operating in Akwa Ibom State as at 31st December, 2015; which total is eight in number. Based on assumed relationship between asset structure and profitability, Regression models were specified for empirical investigation and analysis. The model for this study is expressed in a functional form as follows:

$$PMFB = f(IFD, ITB, LAD)$$

Where:

PMFB	=	Profit of Microfinance Banks
IFD	=	Investment in Fixed Deposit
ITB	=	Investment in Treasury Bills
LAD	=	Loans and Advances

The model was restructured into linear multiple regression equation as follows:

$$PMFB = b_0 + b_1IFD + b_2ITB + b_3LAD + e$$

Where: b_i ($i = 0, 1, 2, \dots$) are the model coefficients denoting the effect of the respective asset classes on MFBs' profitability; e , is the error variable. IFD , ITB and LAD are independent variables measured by the value of income earning asset categories.

RESULTS AND DISCUSSION

The aggregated data relating to income earning assets and profits of MFBs between 2007 and 2015 were analyzed using the multiple regression model. This was to establish the relationship between the independent variables (investment in fixed deposits, treasury bills and loans and advances) and the dependent variable (profits). The results on table 1

indicate that investment in fixed deposits, treasury bills and loans and advances (asset structure) will jointly increase the profits of MFBs. Analysis yielded f-ratio of 19.749, which was found to be significant at 0.05 alpha level. A co-efficient of multiple regression of (R) 0.968 and adjusted multiple regression square (R^2) of 0.889 were observed. This indicates that 88.9% of the total variation in profits of MFBs is explained by the combined effect of the asset structure or portfolio. This is to say that investment in fixed deposits, treasury bills and loans and advances jointly contribute about 88.9% of the profits made by MFBs. The results on table 2 show that the independent variables (investment in fixed deposits, treasury bills and loans and advances) had significant relative influence on profits of MFBs. Loans and advances had the highest influence ($B = 2.709$; $t = 5.861$; $p = <.004$); followed by investment in treasury bills ($B = -1.866$; $t = -4.231$; $p = <.013$); and lastly investment in fixed deposits ($B = -1.306$; $t = -5.355$; $p = <.006$). The results of correlations on table 3 show that loans and advances ($r=0.693$; $r^2=0.48$) is able to explain about 48% of the variation in profits of MFBs, whereas investment in treasury bills ($r=0.622$; $r^2=0.387$) explains about 38.7%, while investment in fixed deposits ($r=-0.169$; $r^2=0.028$) can only explain about 2.8%. From foregoing findings, the fitted model is:

$$PMFB = -421.201 - 75.678IFD - 205.098 ITB + 20.642 LAD.$$

The results imply that the inclusion of investment in fixed deposits, treasury bills and loans and advances in the model is significant, and that they are statistically related to the profitability of MFBs. From the fitted model, the profitability of MFBs is expected to decrease by | 75,678,000 for each unit increase in investment in fixed deposits while holding investment in treasury bills and loans and advances constant. This means that investment in fixed deposits has a negative effect on profitability of MFBs. Also, the profitability of MFBs is expected to decrease by | 205, 098,000 for each unit increase in investment in treasury bills while holding loans and advances constant. Thus, investment in treasury bills has a negative effect on profitability of MFBs. On the other hand, the profitability of MFBs is expected to increase by | 20,642,000 for each unit increase in loans and advances while holding investment in fixed deposits and treasury bills remains constant. In this wise, Loans and advances have a positive effect on profitability of MFBs.

The results confirm the findings of Amadi and Eyo (1999) and Svetlana (2011). Although the earlier studies were based on conventional commercial banks, the findings have proved that the assets available in MFBs collectively affect their profitability like those available in the commercial banks. Additional support for this result can be found in Alexiou and Sofoklis (2012) who argue that asset-liability management requires that attention be paid to each asset category considering their peculiar nature and returns on investment. These results have shown a deeper level of implications of the asset components in the portfolio and the statistical tests which indicated a negative impact of some assets on profits. Interestingly, the findings of negative impact of investment in fixed deposits and treasury bills on profits do not come as a surprise as the majority of the sampled banks did not invest in either of the investment options. Moreover, apart from the smaller number of MFBs that invested in these investment options, the amounts actually invested were relatively insignificant. The implications of these findings to the management and regulators of MFBs

are compelling. First, most of the selected banks did not invest in treasury bills and fixed deposit. They concentrated their investments in loans and advances, probably because of the perceived differences in returns compared with other investment options. This violates the requirement of Section 9.1(a) of the Guidelines for MFBs in Nigeria which states that all MFBs shall be required to maintain not less than 5 percent of their deposit liabilities in treasury bills. Second, the findings confirm the need to adequately address MFBs' orientation and attitude in the pursuit of their objectives. The findings of Amadi and Eyo (1999) that merchant banks shift their funds to unspecified assets contrary to CBN directives are in conformity with these results. Third, it behooves the regulators of MFBs to encourage the integration of asset allocation models in their regulatory provisions in line with international best practices. The existence of such provisions would equally attract public confidence for the microfinance institutions, as it would safeguard them against the allocation of funds on unproductive purposes.

CONCLUSION AND RECOMMENDATIONS

From the foregoing, it can be seen that asset-liability management of banks has long attracted the attention of researchers. Most of the previous studies were designed with emphasis on conventional commercial banks. Little attention was given to the specialized financial institutions, whose objectives are peculiar and somewhat different from those of conventional commercial banks. This is a major limitation in the knowledge of asset-liability management of microfinance institutions, as policy conclusions meant for conventional commercial banks may not be quite appropriate in their development.

The empirical findings of this research show that there is a significant positive relationship between asset structure and profitability of MFBs. From the results of our first test, we found that asset structure contributes about 93.7% to the profitability of MFBs. The second test results also buttress the first with the evidence that investment in fixed assets, investment in treasury bills and loans and advances contribute to MFBs' profits. based on these findings, we make the following recommendations:

- i. The management of MFBs should invest a greater percentage of their funds on loans and advances as it would guaranty both profitability and survival. In this regard, MFBs that prefer to speculate on the Stock Exchange and invest a greater part of their funds in unspecified assets which are at variance with regulatory requirements would be taking undue risk.
- ii. Each MFB should set up a technical cell or committee with trained staff to formulate schemes for funds allocation and asset planning. Moreover, expertise should be developed among the management staff on investment/portfolio management.
- iii. The Central Bank of Nigeria should play a more active role in advising MFBs in managing their funds, in appraising their asset structure, and in making proper end-use of credit for improved profit.
- iv. Finally, future research needs to be done in this area to improve the results of the study; by incorporating non income earning assets in the model and increasing the number of observations.

Table 1: ANOVA summary showing the combined effects of independent variables (asset portfolio) on profits

Source of Variation	df	Sum of Squares	Mean Square	f-ratio	p-value (sig.)	Reg. Analysis
Regression	3	23081327	7693775.906	19.749	0.07 ^b	R=.968
Error	4	1558332.468	389583.117			R ² =.937
Total	7	24639660.19				Adj. R ² =.889

Source: Regression Results (2016)

Table 2: Relative effect of independent variables on profits

Model	Coefficients ^a		Standardized Coefficient BETA	t-ratio	p-value
	Unstandardized Coefficient B	Std. Error			
Constant	-421.201	360.431		-1.169	0.307
Invf	-75.678	14.133	-1.306	-5.355	0.006
Invt	-205.098	48.480	-1.866	-4.231	0.013
LAD	20.642	3.522	2.709	5.861	0.004

a. Dependent Variable: PMB. **Source:** Regression Results (2016)

Table 3: Correlations Matrix

		PMFB	IFD	ITB	LAD
PMFB	Person Correlation	1	-.169	.622	.693
	Sig. (2-tailed)		.690	.100	.057
	N	8	8	8	8
INVf	Person Correlation	-.169	1	-.137	.326
	Sig. (2-tailed)	.690		.747	.431
	N	8	8	8	8
INVT	Person Correlation	.622	-.137	1	.853**
	Sig. (2-tailed)	.100	.747		.007
	N	8	8	8	8
LAD	Person Correlation	.693	.326		1
	Sig. (2-tailed)	.057	.431	.853**	.0078
	N	8	8	8	18

** Correlation is significant at the 0.01 level (2-tailed). **Source:** Regression Results (2016)

REFERENCES

- Adams, A.** (2008). *Handbook of asset and liability management: From models to optimal return strategies*. The Wiley Finance Series. John Wiley and Sons.
- Adebisi, A.** (2010). Capital adequacy and capital issues in Nigerian banks. *Nigerian Journal of Securities and Finance*, 15(1), 49-65.
- Akwaeze, G. C.** (1985). Practical steps on raising business finance from Banks. In: *CBN Annual Report and Statistical Bulletin*, (Various Issues, 1987-1996), p.56.
- Alexiou, C. and Sofoklis, V.** (2012). Determinants of bank profitability: Evidence from the Greek banking sector. In: *Economic Annals*, 182, 93-118.
- Amadi, S. N.** (2008). The experience of microfinance banks' operations in their operational locations. Paper presented at sensitization workshop on microfinance banking in Kano State, 8 July. p. 6.
- Amadi, S. N. and Eyo, B. O.** (1999). Asset structure and corporate profitability: A multivariate analysis. *Journal of Investment and Management Studies*, 1(1), 1-5.

- Amedu, S.** (2010). Global financial market meltdown and the Nigerian stock market crash of 2008: Any lessons for market players and regulators? *Nigerian Journal of Securities and Finance*, 15 (1), 99-138.
- Arinde, O. W.** (1998). The growth and development of the cooperative movement in Northern Nigeria, 1946-1966. *Nigerian Journal of Agricultural Education*, (1), 173-177.
- Bron, K.** (2009). Asset and liability management for deposit-taking microfinance institutions. *CGAP Foot Notes*. Retrieved from www.cgap.org
- Burns, P.** (2001). Financial characteristics of small companies in the UK. *Journals of Operations Management*, 1(6), 42-58.
- Central Bank of Nigeria** (2012a). Guidelines and procedures for the establishment of microfinance banks in Nigeria. CBN- Research Department Occasional Paper No. 16.
- Central Bank of Nigeria** (2012b). Revised and supervisory guidelines for microfinance banks in Nigeria Available at: www.cbn.gov.ng (assessed, April 12, 2016).
- Danielsson, J., Jorgensen, B. N., De-Vries, C. G. and Yang, X.** (2008). Optimal portfolio allocation under the probabilistic VaR constraint and incentives for financial innovation. *Annals of Finance*, 4(3), 345-367.
- Davidson, W. N. and Dutia, D.** (1991). Debt, liquidity and profitability problems in small firms. *Journal of Small Business and Entrepreneurship*, 16(1), 53-64.
- Ekpo, N. B.** (2015). Financial management practices and growth performance of micro, small and medium enterprises in Akwa Ibom State, Nigeria. Unpublished Ph.D Thesis, University of Uyo, Nigeria.
- Ezeuduji, F. U.** (1997). Merchant banking in Nigeria: Growth, performance, problems and prospects (Practical approach to definition of distressed banks). *NDIC Quarterly*, 3(3), 12-15.
- Hataj, G.** (2013). Optimal asset structure of a bank, bank reactions to stressful market conditions. European Central Bank, Working Paper Series No. 1533.
- Hilbers, P., Krueger, R. and Marina, M.** (2000). New tools for assessing financial system soundness. *Journal of Finance and Development*, September, pp. 52-55.
- Hollis, A. and Sweetman, A.** (1996). The evolution of microcredit institutions: the Irish loan funds, 1720-1920. Available at: <http://www.epas.utoroto.ca:8080/wpa/wpa.html> (Accessed: June 02, 2016).
- Idolor, E. J.** (2010). Financial management practices of microfinance banks: Evidence from Benin City, Nigeria. *European Journal of Social Sciences*, 18(1), 7-17.
- Jensen, M. C. and Meckling, H. W.** (1976). Theory of the firm: managerial behavior, agency cost and ownership structure. *Journal of Financial Economics*, 3, 305-360.
- Kusy, M. I. and Ziemba, W. T.** (1986). A bank asset and liability management model. *Operations Research*, 34, 3.
- Ledgerwood, J.** (1999). Microfinance handbook: an institutional and financial perspective. Washington DC: World Bank.
- Lev, B.** (1983). Some economic determinants of time series properties of earnings. *Journal of Accounting and Economics*, 5(1), 31-48.
- Loser, C. M. and Guerguil, M.** (2000). The long road to financial stability. *Journal of Finance and Development*, March, pp. 7-12.
- Markowitz, H.** (1952). Portfolio selection. *Journal of Finance*, 7, 17-99.
- Microfinance Banks Newsletter** (2009). GTZ undertakes performance evaluation of 24 microfinance banks in Nassarawa, Niger and Plateau States, *CBN publication*, 9, 10-11.
- Ndibe, L., Igbokwe, A., Dauda, A. and Abdulazeez, D.** (2013). The trends analysis of asset and liability of microfinance banks. *European Journal of Business and Management*, 5, 1.
- Ngerebo, T. N.** (2002). *Corporate financial management*. Port Harcourt, Nigeria: The Blueprint Limited, pp 9-42.
- Nnanna, O. J.** (2003). Today's banking risks and current regulatory and supervisory framework. Bullion: A publication of the Central Bank of Nigeria, 27(3), 30-44.

- Nwankwo, G. O.** (1991). Bank management, principles and practice. Malhouse Press Ltd., Ikeja, Lagos, pp.32-39.
- Ogwu, S. M.** (2016, June 02). New survey reveals 37m MSMEs in Nigeria. *Daily Trust*, p.5.
- Olasupo, M. A., Afolami, C. A. and Shittu, A. M.** (2014) Outreach and financial sustainability of MFBs in Southwest Nigeria. *International Journal of Economics and Finance*, 6(2), 24-39.
- Onoh, J. K.** (2002). *Dynamics of money, banking and finance in Nigeria – An emerging market*. Astra Meridian Publishers, Aba. pp. 327-348.
- Orji, S.** (2012). Microfinance banks, CBN and a case for the poor. *African examiner Newsletter*, p.6.
- Paries, M. D., Halaj, G. and Kok, C.** (2016). Bank capital structure and the credit channel of Central Bank asset purchases. Working Paper series, European Central Bank.
- Stoughton, N. M. and Zechner, J.** (2007). Optimal capital allocation using RAROC(TM) and EVA(R). *Journal of Financial Intermediation*, 16(3), 312-342.
- Svetlana, S.** (2011). Approaches to determining optimal asset structure for a commercial bank. *World Academy of Science, Engineering and Technology*, 53, 625-631.
- Thakor, A. V., Mehran, H. and Acharya, V.** (2010). Regulating bank leverage when there is rent seeking and risk shifting. Federal Reserve Bank, New York, Working Paper Series No. 643, 1-46 Available at: <https://www.newyorkfed.org/research> (Accessed: June 12, 2016).
- Umar, S. H.** (2008). The experience of microfinance banks operation in their operational locations. Paper presented at sensitization workshop on microfinance banking in Kano State, February 4-6.