Mr. M. A. AJAYI
Dept of Acct/Fin

ISSN 1115-960X

Ilorin Journal of Business and Social Sciences (IJBSS)

Volume 12, Nos. 1 , 2007

PUBLISHED BY

THE FACULTY OF BUSINESS AND SOCIAL SCIENCES,
University of Ilorin,
P. M. B. 1515, Ilorin , Nigeria.

Printed by:
T. A. OLAYERI
Printers & Publishers
16, Opo-Malu Road, Ilorin.
Tel: 08028626296, 08060775636
E-mail: taoppublishers@yahoo.com
printerpublishertao@gmail.com

IJBSS VOLUME 12 NO 1 2007

Articles Pages

The Determinants of Loan and Advances in the Financial System: An Empirical Evidence from Nigerian Commercial Banks.

AJAYI, M. A.

Department of Accounting and Finance, University of Ilorin, P.M.B. 1515, Ilorin Nigeria.

Abstract:
This study examined four major determinants of Loan and Advances in the Nigerian financial system that's the liquidity ratio, capital base, bank deposit and lending rate. The study covered a period of thirty seven years banking in Nigeria from 1970 to 2006. The secondary data collected from Central Bank annual reports of various years were analyzed to confirm the appropriate relationship between the commercial banks' loan and advance (dependent variable) and the determinants (independent variables). A multiple regression analysis was carried out to determine the relationship between both the dependent and independent variables. While the results show that there is inverse relationship with liquidity ratio and interest rate on one hand, it confirms that there exist a positive relationship between dependent variable [i.e. loan and Advance] and capital, likewise bank deposit. The various test carried out were F- test and student t- test which were significant for the regression analysis at 1% degree of freedom. The study thus recommended that the new capital base policy of the monetary authority is in the right direction and will boost the industry likewise the lending rate needs be moderated to reflect market forces in its real sense.

Introduction

The fundamental role of banks in the economy has been to intermediate funds between surplus and deficit economic units. In the process of carrying out this primary task, banks have found themselves performing a number of functions which include: the mobilization of savings, stimulation of investment and economic growth, assistance in resources allocation, boosting of international trade and promotion of the payment system (Nwankwo, 1991). Nevertheless, the method and procedures of carrying out these functions have varied widely over the years and among the various economies. Obviously, banks perform two major functions viz: Banking and development functions. The banking function include acceptance of various types of deposits, which consist of savings, time deposit, issuing debentures, receiving money or collecting proceeds of banking instrument. Others are remittance of funds, provision of safe deposit facilities, maintaining various types of accounts with other banks, investing surplus funds in suitable instruments, provision of credit to customers especially (the small and medium scale entrepreneurs who are operating within the banks geographical territory). Banks also participate in other sophisticated financial activities such as foreign exchange transactions and international businesses.

Similarly, developmental functions of bank includes the promotion of grassroots development in productive areas such as trading, financing of micro-business, agriculture and provision of financial advisory services, which seek to improve the banking habits of Nigerians.

According to Ekundayo (1996), the monetary policy environment has been very unstable and this has adversely affected the performance of banks especially, the issuance of stabilization securities. This leads to liquidity crisis in the banking industry and massive withdrawal of deposit by government agencies and other public sector institutions from commercial and merchant banks.

Although the number of services a modern commercial bank offers has increased immensely; as at 1990, it was estimated to be over 150 different banking products (Soyibo, 1992) which indicate an increase competition among Nigeria banks. The level of the risk taking, which is a fundamental nature of banking, remains unchanged. It is inherent in maturity transformation, another fundamental feature of banking. While other sources exist, the main sources of investable fund remain bank deposits, loan and investment as the main outlet (Nwankwo, 1991).

The financial condition of banks gradually worsened due to the prevailing economic recession, consequent upon the poor implementation of the economic reform programmes. This manifested in high rate of distress in the banking sector that were only 8 banks between 1988 and 1991, but by 1993 increased to 28, 55 by 1994 and 60 by 1995. The rate of growth in the banks distress is quite ominous as over fifty percent of the banks have become infected by it, while most of them can best be described as "terminally ill" (Wilfred, 1998).

Furthermore, the financial system experienced a high macroeconomic instability such as massive depreciation of the naira which was ₦ 8.03/$1 in 1991, but depreciated to ₦ 22.05/$1 in 1993. In 1995 it was ₦ 81.02/$1 and in 2003 was ₦ 133/$1(CBN annual report 2005).

The environment, which may be endogenous or exogenous, national or international, affects the effectiveness and efficiency of any financial system. These could be coupled with the institutional, legal, regulatory or even political, social or economic which are very volatile.

This study analyzed the transformation role of commercial banks as the banking sector exchange their deposit mobilized for loan and advances taken by their respective credit worthy customers. The study further considers the relationship between the main asset of the bank as measured by their loan and advance and the main liability of the bank as measured by their deposit. Moreover, the relationship between loan and advances of commercial banking in Nigeria and the other factors such as liquidity ratio, lending rate and capital base were examined. However, this later relationship will reflect the effect of monetary policy on the lending activities of the commercial banks in Nigeria.

Conceptual Clarification

The spread of liability management and the related growth in financial market is the greater diversity in bank liabilities and assets, and the resulting increased risk exposure through maturity mismatches or maturity transformation borrowing short and lending long, but is invariably risky.

Wilson (1987) defined asset and liability management

> As comprises a series of techniques whereby, on one hand, holding of remunerative assets (loans, advances and investment of various kinds) are funded (or financed) by related (but not necessarily matched) liabilities and, on the others, liabilities may be accepted in advance of commitments and these liabilities subsequently deployed in the acquisition of remunerative assets.

Therefore, Asset and liability management is the primary focus of bank funds management. It deals with the acquisition of funds (liability management) and the allocation of funds (Assets management), the basic objective being maximization of profitability consistent with liquidity, solvency and regulatory constraints. The events in 1980s presented a different environment, which was, characterized by serious payment difficulties encountered by a number of heavily-indebted developing countries such as Nigeria, Ghana etc. This development led Banks to sowing more long-term funds including increasing their capital liabilities. The securitization and increased off-balance sheet business through which they expanded their business and earned free incomes without increasing balance sheet footings was as a result of the change in the environment. The balance sheet management approach is expected to adequately address the dynamic changes in the balance sheet.

It is worth noting that, the balance sheet does not tell the whole story. The Asset and liabilities of the balance sheet only indicate the "on balance sheet items" at a point in time. The precise quality of the items listed can be appropriately assessed by physical examination of loan and other books or account of the bank and the quality of the management control system, including the organization and structure of commitment and monitoring systems. The balance sheet does not include off-balance sheet activities which include loan substitute instruments such as guarantees and study letters of credit, performance bonds, and warranties and other short term i.e. self-liquidity trade-related contingent liabilities.

The management of bank liquidity has resulted into several theories over the years. Five of these may be identified. They are: the liquid asset theory, the commercial bill theory, the shiftability, the anticipated income and liability management theories.

Nwankwo (1991) defined capital adequacy "as the amount of capital that can effectively discharge the primary capital function of preventing bank failure by absorbing losses. As these losses are related to the risks which banks undertake as a natural corollary of their efforts to serve the legitimate credit needs of the community. Adequate capital was seen as providing the ultimate protection against insolvency and liquidation arising from the risks inherent in banking.

However, the weight of scholarly research is overwhelming to the effect that the level of bank capital has not been related to the incidence of bank failure and has not established the level of bank capital as a material factor in determining whether or not banks survived. Benston (1972), argued that a related large number of banks that failed were severely undercapitalized.

Generally speaking, the statutory requirements concerning minimum initial capital requirements, capital/deposit and capital/ loan ratios affect capital adequacy. A newly established bank has to satisfy the statutory minimum capital requirement of the licensing authority; and has to satisfy additional capital requirement as appropriate to expand, for instance, to open a number of new branches. The bank capital may be considered adequate when the bank controls the risks in its portfolio and maintains a level of capital sufficient to reduce possible losses and insolvency to an acceptable minimum. That's the least amount necessary to inspire and sustain confidence in the bank.

Conclusively, the level of capital perceived to be adequate at one time may not be adequate at another time. It has to change and be adjusted over time as the risk characteristics and the competitive environment in which banks operate change and as the global capital market and economic condition change.

Olekah (2001) argued that in relating Minimum Rediscounting Rate MRR to other rates in Nigeria, it was observed that its influence on other interest rate was rather weak, because inter-bank rate was slow in responding to changes in MRR which he suggested that may be due to rigidity of the financial system in Nigeria. However, the lending rate of commercial bank is usually influenced by the direction of the CBN rediscount rate.

Moreover, Ekundayo 1996 consider the management of monetary policy in Nigeria to be quite worrisome. He argued that liquidity crisis in banks following the consistent issuance of stabilization securities up till 1994 contributed to the poor financial condition of many banks. From this point of view, one could consider the environment being unfavourable for the banks to improve performance in their fund mobilization strategies and fund utilization in Nigeria.

The massive withdrawal of deposit by government agencies and other public sector institutions from commercial and merchant banks in 1989 was worrisome. This triggered off distress syndrome in the financial sector. Finally, there are two sides of the issue of regulation and development. Some research find them positive while others find them detrimental. There are instance where regulation and deregulation have achieved their objectives and instances where they have failed (Ekpenyong 1995). Some researches conducted in Nigeria, Soyibo (1992); Ojo, 1991; 1994, Nwankwo 1990 etc, indicated that: the important aim of monetary stability in Nigeria has not been attained especially after 1987. For example, between 1988 and 1993, monetary growth was far in excess of targets and resulted in large exchange rate and persistent inflationary pressure Federal Government deficit kept rising; interest rate and inflation kept rising and there was excess liquidity building up caused by rising Federal Government fiscal deficit.

There is also the argument to show that "pervasive" controls introduced in the Nigeria economy since the late 1960's were counter productive. For example, restrictive controls on the financial system tended to reduce innovations. The administratively fixed low interest rate discouraged saving in financial assets thus limiting supply of loanable funds. The low lending rates induced excessive demand for credit resulting in rationing and misallocation of funds. While this argument is quite persuasive, there is also the other side to it. Massive sets of regulations introduced between 1986 and 1993 introduced several innovations as bank and other financial institutions come out with several new products

Methodology

The population of the study consists of all Commercial Bank sub sector of the Nigeria financial system licensed and operating in Nigerian economy between 1970 and 2006. The Commercial Banks were selected from the banking sector because it has a wider geographical coverage than any other financial institutions in the banking sector and Commercial Bank control over 70% of asset and liability of the banking sector of Nigeria financial system.

The secondary source of data was used in this research work. The data was obtained from Central bank's annual report and financial statement and statistical bulletin of Central Bank and annual report of some selected Commercial banks.

The decision to use the regression analysis was borne out of the fact that the analysis could produce some interesting indications on the isolated action[s] of each of the explanatory variable. As well as some confirmation in such a way that would assist us in interpreting the result of the models.

Furthermore, to estimate the model, a multiple regression analysis is used in order to reflect the explanatory nature of the variables. And to verify the validity of the model, two major evaluation criteria were used: (i) The *a-priori* expectation criteria which is based on the signs and magnitude of co-efficient of the variables under investigation; and (ii) Statistical criteria which is based on statistical theory which in other words is referred to as the First Order Least Square Test consisting of the R-square R^2, the F-statistic and the t-test. The R-square R^2 is concerned with the overall explanatory power of the regression analysis, the F-statistic is used in testing the overall significance of the regression analysis and the t-test is used in testing the significant contribution of the independent variables (Oyeniyi, 1997).

A multiplicative model in multiple regression given by:

LA = F TD, LR, CA, MLR 1

$LA = bo\ TD^{b1}\ LR^{b2}\ CA^{b3}\ MLR^{b4}$ 2

When transformed in a multiple linear regressions equation, equation 2 becomes

$Log\ LA = Log\ bo + b_1 Log\ TD + b_2 Log\ LR + b_3 Log\ CA + b_4 Log\ MLR$ 3

LA = Commercial bank loan and advances

TD = Commercial bank total deposit

LR = Commercial bank Liquidity Ratio

CA = Commercial bank capital base.

MLR = Commercial bank lending rate

bo, b_1, b_2, b_3 and b_4 are parameter estimates

The Log of the variable was taken because of the following reasons:

(1) So that all observations in each variable will have the equal weight.

(2) To avoid serial auto correlation since the data covered a long period of 27 years

(3) To prevent multi-corronearity among variables

Drawing from the model, our-a-priori expectations or expected behavior of the independent variables on the dependent variable in the model are:

$bo = 0, b_1 > 0, b_2 < 0, b_3 > 0, b_4 < 0$

Result and Discussion

In this analysis, it was verified, using the following tests: F-test, Correction Coefficients and Durbin-Watson Statistic at 5 percent level of significant as presented in Table 1. that at 5% level of significance two tail test; the 't' statistical test for all the parameters revealed that the t-cal is greater than t-tabulated. The t-tabulated is ± 1.96 compare to 2.990, -3.369, 2.453, and -3.005 t-tabulated for each of the parameters b1, b2, b3 and b4 respectively. [See table 1 below]. This implies that the parameters estimated are statistically significant in the model determination and that they are significant as explanatory variables in the model's determination for the line of best fit.

Furthermore, the sign of the parameter b2 and b4 confirmed the inverse relationship that exist between loan and advance on one hand and liquidity ratio and interest rate on other hand. This shows that as either of the 2 variables or both increase the level of loan and advance will drop and vice versa.

It is worth noting that the sign of Total Deposit and Capital Base's parameters also confirm a positive relationship between Capital Base, Total Deposit and loan and advance, an increase in capital or deposit of a bank will improve its ability to lend more funds to its customers. Another statistical test carried out about the relationship is the F-test. The F-calculated was greater than F-Tabulated at both 95% and 99% confidence level. The F-calculated was 292.95 which is statistically significant even at 1% level of significance. The F-test confirms the stability within the model. The following can be inferred from the t-test and F-test carried out.

- That there is relationship between the dependent variable [Loan and advance] and independent variables total deposit, capital base, liquidity ratio and lending rate identified in this study.
- That as total deposit increase and/or total capital increase the total loan and advance will increase proportionately.
- That there exists an inverse relationship between liquidity ratio, lending interest rate and loan and advances.

The Durbin Watson test shows 2.280 values which is close to 2 and the 0.28 can be ignored since 2.28 is approximately 2. This further reveals that either

[a] There is an omission of one or more independent variables or

[b] Mis-specification of the mathematical form of the model.

Looking at the two reasons above, it is worth saying that there may have been an omission of the one or more independent variable s such as exchange rate, inflationary rate and other factors in the macro economic variables that affect the level of loan and advance.

The high positive correlation co-efficient [r =0.99] further reinforce the linear relationship between the variable. The R^2 of 0.979 or 98% show that, 98%

variation in the level of loan and advance can be explained by variations in the independent variables (i.e. total deposit, liquidity ratio, capital and lending rate).

DECISIONS

[1] The statistical significance of the linear relationship by the F-test and the t-test confirm that monetary policy instrument as determined by liquidity ratio and lending interest rate influence the level of loan and advance in Nigeria banking industry.

[2] Also this statistical significance further confirms that capital adequacy is very important for high level of performance the banking industry in Nigeria

Conclusion and Recommendations

It can be concluded from the above findings that Commercial banks in Nigeria are very efficient and effective in their transformation role i.e. converting their deposit to loan and advances, and that the monetary policy instruments of the monetary authority affect the performance of Commercial Banks through the use of interest rate and liquidity ratio because the parameters are statistically significant.

The existence of a very low auto-correlation shows that one or more independent variable is still missing in the model specification. Also the inverse relationship between the liquidity ratio, the lending interest rate and loan and advances were confirmed by the sign of the estimated parameters which were negative showing that a tight monetary policy will increase these variables on one hand, and contract loan and advance on the other hand and vice versa.

The research therefore recommends the following:.

- That the monetary authority, Central Bank of Nigeria should adjust the liquidity and rediscounting rate to favour an improved lending capacity for the commercial banks in Nigeria.
- That commercial banks are encouraged to source more mediums term deposit so that they can lend on a relatively longer period to the prospective investors who are customers of the banks.
- That the new minimum capital base of ₦25 billion required by the monetary authority is in the right direction and commercial banks must be vigorously persuaded to improve transformation role of the banking sector by attracting more capital than the minimum capital required.

Reference

Ade T O. and Adewunmi W. (1982) **Banking &Finance in Nigeria** U.K. Graham Burns, Leighton Buzzard/

Adewumi, O. (1981): ''Loan management in Nigeria Banks: A study of Efficiency of Commercial Bank's lending functions in a Developing Economy'' **(Unpublished Ph.D. Thesis, University of Wales)**

Agu, C.C. (1988): **Nigerian Banking Structure and performance** Nigeria, Africa-Fep publishers Limited.

Allardice, R. D. and Eleanor E. (1981): ''The Significance and measurement of Concentration'', **Business and Financial Review, Economic Perspectives**, Federal Reserve Bank of Chicago (March/April, 1981), pp. 3-5

Benson, G. J. (1974): ''Are larger Bank more Efficient?'' **The Banker.** (June 1974) pp.8

Bricker, E (1970): "An Economic Approach to Bank Competition," **Journal of Finance** vol. 25, No5 pp. 1133-1144

Bryan, W. R. (1972): ''The Determinants of Bank profit'', **Research Report** No. 8, American Bankers Association.

Curry, B. and George, K. D. (1983): "Industrial Concentration: A Survey'' **Journal of industrial Economics,** vol. 31, No.3, pp. 203-255

Central Bank of Nigeria **Annual Report and Finance Statement** of 1980 - 2006

C.B.N Briefs 2000

C.B.N **Statistical Bulletin** of 2000 and 2004.

Gerschekron, A. (1962): **Economic Backwardness in Historical perspective: A Book of Essays.** The Belkharp Cambridge, Mass.

Koutosoyiannis (1973): **A Theory of Economics**. London. London Macmillan Limited, modern.

Lewis, W. A. (1954): "Economic Development with Unlimited supplies of labour". **The Manchester School of Economics and Social Studies**; (May 1954), pp. 139-191

Macall, A. S. (1980): ''Economic of Scale, Operating Efficiencies and Organizational structure of Commercial Bank'' **Journal of Bank Research** Vol. 11, No2, pp. 95-100

Moulton, H.G. (1918): ''Commercial Banking and Capital formation'' **Journal of political Economy** Nov. 1918

Murray, J. D and While R.W (1980): ''Economics of Scale and Deposit-Taking Financial Institutions in Canada, A study of Britain Columbia Credit Unions'' **Journal of Money, Credit and Banking** Vol. 12, No1, pp. 58-70

Newlyn, W.T (1967): **Money in an African Context, London**: Oxford University Press.

Nwankwo, G.O (1991) **Bank Management: Principle and practice**: Lagos; Malthouse press.

Ojo, J. A. T. (1979): ''Economics of Scale in banking: The Nigerian Case ''**Saving and Development Quarterly Review** Vol. No.4, 1979 pp. 277-95

s

Ojo, J. A. T (1992): ''Financial Sector mal-adaptation and Nigerian's Economic Transformation problems'' **An Inaugural Lecture Delivered at the University of Lagos.**

Rowan, D. C. (1951): ''The Native Banking Boom in Nigeria'' **The Banker,** (Oct. 1951, pp.224-249)

Shepherd, W.G. (1964): "Trends of Concentration in American Manufacturing Industrial, 1947-1958", **Review of Economics and Statistics**, (May, 1964).

Soyode, A. and Oyejide, T.A (1975), "Branch Network and Economic performance: A case Study of Nigeria's Commercial banks"; **The**

Nigerian Journal of Economic and Social Studies, Vol. 17, No.2, pp. 119-33

Soyinbo, A. (1992): ''The Nigerian banking System in the Context of Policies of Financial Regulation and Deregulation'', Research paper No. 17, **African Economic Research Consortium Nairobi, Kenya**

Uzoaga, W.O (1981):_ **Monetary and Banking in Nigeria**. (Enugu: Forth Dimension)

Wilfred, I. (1998): "Merger and Acquisition in bank Distress' Resolution Nigerian **Journal of banking and Financial Issues** Vol.1, No1, pp 61-74.

APPENDIX I

Table 1: Regression Results of the Determinants of Loan and advances of Commercial Banks in Nigeria

Variable	Co-efficient estimate and t-value	
Intercepts (t)	2.532	(2.411)
Loan and Advance (t)	0.53	(2.990)
Total Deposit (t)	-0.581	(-3.369)
Capital Base (t)	0.468	(2.453)
Bank Lending Rate (t)	-1.115	(-3.005)
R	0.91	
R^2	0.90	
R^2 adjusted	0.87	
F	292.95	
D-W	2.28	
No. of observation	27	

t – value in parentheses