

ANALYSIS OF BANKS FINANCIAL PERFORMANCE IN A LIBERALIZED BANKING ENVIRONMENT: A STUDY OF FIVE SELECTED BANKS IN NIGERIA.

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ABSTRACT: *The very essence of this research was to assess the financial performances of banks in a liberalized banking environment using an ordinary Least Square (OLS) method of regression analysis to analyze five selected banks in Nigeria. The time series properties of the variables were investigated by conducting a unit root test to determine the stationarity status of the data using annual series data spanning from 2001 – 2010. The analysis was further extended to cointegration and error correction modeling (ECM) technique in order to test for the stationarity status of the data by conducting a unit root test using the Dickey–Fuller (DF) and Augmented Dickey–Fuller (ADF) test. The objective of this research among others is to find out the effect of the nominal lending rate, the exchange rate and the credit volume on banks financial performances in terms of their profitability. The data sources were mainly from a ten year financial summary of the banks selected and CBN Statistical Bulletin, various years. From the empirical evidence made from the study so far, it was discovered that the nominal lending rate and the total credit had a positive impact on the profit of the five selected banks under review. Only exchange rate has a negative significance which is contrary to the other variables studied. The overall submission was that the variables employed are statistically significant as over 98 percent of them were explained at the long run. The researcher, therefore, recommends that to improve banks financial performance, the banks need a good regulatory environment that will enable them to expand their scope of business but strictly within the financial service industry and also good corporate governance that will allow for transparency and minimize fraud in the bank.*

KEYWORDS: *Financial performance, Liberalization, Total credit, Interest rate, Exchange rate.*

INTRODUCTION

Banks are germane to the economic development of a nation through the financial services they provide. They occupy a significant place in the economy of every nation as the prime movers of its economic life. The efficient and effective performance of the banking industry over time is an index of financial stability in any nation. The extent to which banks extends their credit to the public for productive activities accelerates the pace of a nation's economic growth and its long

term sustainability (Kolapo, Ayeni and Oke, 2012). The financial system of any economy plays an important role in stimulating economic growth and development of a nation because it channels funds to various economic agents that need them for economic uses. The intermediation role of the banks is said to be a catalyst for the economic performance and growth. This function is of utmost important to any economy that intends to be viable with respect to economic growth and development because it creates links between the surplus and the deficient units of an economy (Osabuohein and Duruji, 2005). This explains why it becomes necessary to formulate policies for the sector and why it is therefore not surprising that their operations are perhaps the most heavily regulated of all businesses. In varying degrees, these policies are aimed at achieving macro-economic objectives, stability, efficiency, and soundness of the financial system (Adeusi and Familoni, 2004). Structural adjustment program was one of the major economic reforms or policies that was embarked upon by various countries especially in the developing nations in 1986, with the aim of rectifying the prevailing macro-economic and structural imbalances in the economy so as to restructure and diversify the productive base of the economy, lessen dominance of unproductive investments and to achieve fiscal and balance of payment viability (Adeusi, Azeez and Olanrewaju, 2012). Financial liberalization became a hallmark of the financial sector reforms since it is one of the conditionalities for the structural adjustment program (SAP). Prior to the liberalization of the various sectors of the economy, the financial sector had been the most heavily regulated. According to Ghosh (2005), financial liberalization refers to measures directed at diluting or dismantling regulatory controls over the institutional structures and activities of agents in different segments of the financial sector. Oloyode and Afolabi (2004) in their opinion stated that the financial sector liberalization as the hallmark of the new policy and reform could be best ascribed to a two main factors. The first was predicated on the primary role of the financial sector in the national economic development; while the second factor could be related to historical evolutions of the financial system in developing economies.

Oladipo (2000) defined financial liberalization as less administered interest rate structure, more competition among financial intermediaries, more market-based activity, more openings to cross border capital flows and less financial repression. Financial Liberalization is the deliberate and systematic removal of regulatory control, structures and operational guidelines which may be considered inhibitive to orderly growth, competition and efficient allocation of resources in the financial system. Financial liberalization which is also known as the financial sector liberalization or financial deregulation is viewed by McKinnon as the “only game” in town as far as successful economic development is concerned (McKinnon, 1973). The concept of liberalization has not witnessed a general accepted definition since very many scholars have made several attempts to define the concept (Akinmelegun, 2004). In Nigeria, financial sector reforms began with the deregulation of interest rates (Obamuyi, 2009). Prior to this period, the financial system operated under financial regulation and interest rate were said to be repressed (Obamuyi, 2009). The relevance of the financial sector is justified by the fact that they not only provides the intermediation used in pooling funds from savers but at the same time redirects

them to investors. It also provides the payment system that facilitates trade and exchange. The financial system also provides a platform for the working out of the monetary policies which provides macroeconomic stability for all economic agents (Adegbite, 2005). The importance of Nigerian banks is also exemplified by their prominence in the Structural Adjustment Program (SAP) embarked upon by the nation in July 1986. Prior to the institution of the structural adjustment program in Nigeria, the Nigeria financial system faced interventionists' policies and virtually all the sectors of the economy were strictly regulated. There were statutory interest rate ceilings, directed credits, accommodation of government borrowing, exchange rate controls and informal modes of intermediation (Umejiaku, 2011).

Jerome et al, (2003) in their submission, revealed that in the context of the structural adjustment program (SAP) that took place in July 1986, Nigeria undertook a broad program of financial liberalization. Interest rates and entry into the banking system was liberalized, and credit allocation quotas were also loosened. This led to the quick entry of many new players into the banking system, especially merchant banks. Therefore the main focus of this study is to evaluate the performances of banks in a liberalized banking environment, using first bank of Nigeria Plc as a focal study. This research is divided into five segments. Chapter one is the introductory part which is meant to set the stage for the entire research work, chapter two reviewed related literatures and works of scholars in similar research areas, the research design and analysis is presented in chapter three, chapter four examines the analysis and interpretation of results while the summary, conclusion and recommendation concludes this research.

REVIEW OF RELATED EMPIRICAL LITERATURES

Despite the size and policy relevance of finance and accounting literatures that has studied the effect of liberalization on banks and other sectors in Nigeria; the empirical evidence has been largely unexplored in Nigeria. McKinnon-Shaw (1973) financial repression theory states that financial repression impacts adversely on economic growth through high negative effects on the quality and quantity of real capital accumulation. According to them, the remedy to financial repression is embedded in its conceptual framework, "financial liberalization" or "financial deregulation". This theory corroborates the work of Ahmadu (2013) which states that the abolition of financial market distortions imposed on the government of developing nations will enhance capital accumulation, financial system development, availability of non loanable funds, and in turn, more and better. The theoretical base of this study is the McKinnon-Shaw financial repression theory. Financial repression according to McKinnon-Shaw is said to exist when governments tax and otherwise distort the domestic financial market, keeping real returns on financial assets low and shifting the nexus of decision making on credit allocation from the market to the government.

Obamuyi (2009) used a single equation model to investigate the relationship between interest rate liberalization and economic growth in Nigeria. This approach was also employed in Adofu

(2010) and Amassomma (2011) when they separately investigated the impact of interest rates liberalization on Agricultural productivity in Nigeria. According to them, the relationship between interest rates and economic growth is indirect since the interest rate affects the economy by first of all affecting savings and investment and savings. While Obute et al (2012) investigated the interest rate liberalization and economic growth relationship by taking into consideration the transition mechanism through which interest rate affects economic growth. Ghosh (2005), in his view opined that financial liberalization refers to measures directed at diluting or dismantling regulatory controls over the institutional structure, instructions and activities of agents in different segments of the financial sector. These measures according to him can relate to either internal or external regulations.

Felicia (2011) used regression analysis to investigate the determinants of commercial banks lending behaviour in Nigeria. The study discovered that commercial bank deposit have the greatest impact on their lending behaviour. Rasheed (2010) used error correction modeling (ECM) to investigate interest rates determinants in Nigeria. The study found out that as the Nigeria financial sector integrates more with global market, return on foreign asset will play a significant role in the determination of domestic interest rates. Bakoulas et al., (2002) examined the impact of exchange rate fluctuations on the volume and variability of trade flows and they concluded that exchange rate volatility discourages expansion of volume of trade thereby reducing its benefits. Eichengreen and Lablang, (2003) carried out a research on twelve countries over a period of 120 years and found strong inverse relationship between exchange rate stability and economic growth. They concluded that the results of each estimates strongly depend on time period and the sample. Schnabel (2007) identified robust evidence through panel estimation that the exchange rate stability is associated with more growth in the European monetary unit (EMU) periphery. The evidence according to him is strong for emerging Europe which has moved to more stable environment.

According to Chandrasekhar (2004), financial liberalization typically includes some or all of the following measures in varying degrees: the reduction or removal of controls on the interest rates or rates of return charged by financial agents, the withdrawal of the state from the activities of financial intermediation with the conversion of the development banks to conventional banks and the privatization of the publicly owned banks, on the ground that their presence is not conducive enough for the dominance of market signals in the allocation of capital. Lewis and Stein (2002), in their opinion stated that the consequences of financial liberalization as a result of the introduction of the structural adjustment program into the Nigerian economy in 1986 was the quick entry of many new players into the banking system especially merchant banks that specialize in foreign exchange operations. According to them, the number of banks tripled from 40 to nearly 120 in the years following the liberalization exercise, employment in the financial sector doubled and the contribution of the financial system to the gross domestic product almost tripled. Henry (2004) viewed external stock market liberalization as “a decision by a country’s government to allow foreigners to purchase shares in that country’s stock market. Chandrasekhar

(2004) also defined internal stock market liberalization as the easing of conditions for the participation of both firms and individual investors in the stock market by diluting or doing away with listing conditions, by providing freedom in pricing of new issues, by permitting greater freedoms to intermediaries, such as brokers, and by relaxing conditions with regards to borrowing against shares and investing borrowed funds in the market. Obamuyi (2009) studied the relationship between interest rate and economic growth in Nigeria. The study employed co-integration and error correction modeling techniques and revealed that lending rate has significant effect on economic growth. The study then postulated that investment friendly interest rate policies are necessary for promoting economic growth needs to be formulated and properly implemented. Albu (2006) studied trends in the interest rate, investment and GDP growth relationship. The study used two partial models to examine the impact of investment on GDP growth and the relationship between interest rate and investment in the case of the Romanian economy. Roger and Ferguson (2009) studied financial consolidation and their study was concluded with an extensive evaluation of the potential effects of financial consolidation on the efficiency of financial institution's competition among such firms and the credit flow of households and small businesses.

Obute, (2001) in his analysis and evaluation of the effects of the Nominal and Real Rate of interests from 1960-1981, observed that the real interest rate in Nigeria for the past decades were negative thereby confirming the studies of McKinnon and Shaw (1973) which said that the real interest rate over the period has been financially repressed from 1960 to the early 1980's. Dey and Flaherty (2004) examined the empirical link between stock market liquidity and liberalization using parametric correlation and found a very significant relationship of 0.85.

METHODOLOGY AND RESEARCH DESIGN

The research design adopted in this study is a quasi-experimental. This design, however, relates to the setting up of a particular type of an experiment in which one has little or no control over the allocation of the treatments or other factor being studied. The key difference in this empirical approach is the lack of random assignment. Another unique element often involved in this experimentation method is the use of time series analysis. This research design is also useful considering the fact that the researcher intends to analyze a time series data spanning from 2001 to 2010. The first stage in creating a quasi experimental design is to identify the variables. The independent variable will be the x-variable, the variable that is manipulated in order to affect a dependent variable. The predictable outcome is the y-variable. In a time series analysis (as applied in this study), the dependent variable is observed over time for any changes that may take place. One of the merits of this design is that it minimizes threat to external validity as natural environments do not suffer the same problem of artificiality as compared to a well controlled laboratory setting. Finally, this design is efficient in longitudinal research that involves longer time periods which can be followed up in different environments. However the

objective of this study is to analyze empirically the financial performance of banks in a liberalized banking environment.

Model Specification

The empirical analysis of bank financial performance in a liberalized banking environment will be accomplished using regression analysis which can be explicitly or implicitly stated based on a theoretical framework of endogenous models (King and Levine, 2004). Thus, the level of performance of banks in a liberalized banking environment is assumed to be influenced by several variables as ‘y’ which represents the Profit Before Tax (PBT) and ‘x’ which include among others, the Nominal Lending Rate (NLR), the Exchange Rate (ER), the Total Credit (TC). If these assumptions are right, then a multiple linear regression analysis could be adopted and specified thus;

$$Y = f(x) \dots\dots\dots (1)$$

Where;

Y is the dependent variable and is represented as the proxy for the bank’s annual profit before tax (bank’s financial performance); and

X is the independent variable, and a vector of factors arising from the deregulated banking environment.

More specifically, equation (1) could be written in a non stochastic implicit form as;

$$PBT = f (NLR, ER, TC) \dots\dots\dots (2)$$

Where;

PBT is the profit of the bank before tax;

NLR is the Nominal Lending Rate;

ER is the Exchange Rate

TC is the Total Credit and;

Therefore, we could rewrite equation (2) in its stochastic explicit form based on the above functional relation as:

$$PBT = b_0 + b_1 NLR + b_2 ER + b_3 TC + U_t \dots\dots\dots (3)$$

Where;

All variables are as previously defined

b_0 is the regression constant

b_1 , b_2 and b_3 are the parameter coefficients; and

U_t is the stochastic error term.

Transforming equation (3) to the natural logarithm, we obtain:

$$\ln PBT_t = b_0 + b_1 \ln NLR + b_2 \ln ER + b_3 \ln TC + U_t \dots\dots\dots (4)$$

Where;

$\ln PBT$ is the natural logarithm of the dependent variable; and

$\ln NLR$, $\ln ER$ and $\ln TC$ are the natural logarithm of the independent variables.

Thus, the transformed log linear equation (4) will be estimated using the Ordinary Least Square (OLS) regression method. The use of the log-linear method improves the validity of the estimates. This method also reduces, if not completely removes the heteroscedasticity errors,

which may result from unscaled magnitudes on both sides of the equation (Amadi and Osaro, 2000).

Data Requirements and Sources

The data set for this study constitute the annual time series data spanning from 2001 - 2010. The selection of this period was informed by the era of bank consolidation in Nigeria and from the fact that the banking sector has already been liberalized even before this period. However, the study will make use five selected banks in a liberalized banking environment. They are as follows: First Bank of Nigeria Plc, Access Bank, Citi bank, First City Monument Bank and Standard Chartered Bank. The variables under consideration include the bank's financial performances which were represented by the bank's annual Profit Before Tax (PBT) and this constitutes the dependent variable. The independent variables are the Nominal Lending Rate (NLR), Exchange Rate (ER) and Total Credit (TC) which were proxied by factors arising from the deregulated banking environment. Banks profit before tax was obtained from the Statement of Accounts of the various banks used in this study for a period of ten years (2001-2010). The rest of the data were obtained from, CBN Statistical Bulletin, various years.

Presentation of Data and Empirical Results

The various diagnostic results were presented using the appropriate statistical tool. It is, therefore, noteworthy to state that the regression results were obtained using the Econometric View Package (E-view 6.0) software. To improve the validity of the results, all variables employed in this study were transformed into log-linear. Tables 1 below show a summary of the short run empirical result of the performances of Nigerian banks in a liberalized banking environment.

Table 1: Summary Analysis of Financial Performance of Five Selected Banks in a Liberalized Banking Environment:

Banks	R ²	Adjusted R ²	D.Watson Stat.	F. Statistics	Probability	Results
FBN Plc.	0.846597	0.736793	2.064836	72.75843	0.0000	Significant
ACBN Plc.	0.728438	0.648374	1.785338	24.85642	0.000635	Significant
FCMB Plc	0.719537	0.658663	1.956472	7.877392	0.00000	Significant
SCBN Plc	0.849832	0.76986	1.693727	9.463783	0.00000	Significant
CBN Plc	0.589839	0.445272	2.007848	46.89643	0.009773	Significant

Source: Author's Computation from Regression Result.

Note: FBN Plc: First Bank of Nigeria Plc.

ACBN Plc: Access Bank Nigeria Plc.

FCMB Plc: First City Monument Bank Nigeria Plc.

SCBN Plc: Standard Chartered bank Nigeria Plc.

CBN Plc: Citi Bank Nigeria Plc.

Tables 1 above, displays a summary of the results of short run regression result of banks' financial performances in a liberalized banking environment in selected five consolidated banks in Nigeria. As specified in the methodology, the results were obtained using the Ordinary Least Square (OLS) method of estimation. From the empirical evidence, we can infer that the coefficients of the variables, standard error and the values of t -statistic have been shown. Other important statistical tools revealed include; the coefficient of determination (R^2) which tests the goodness of fit which is considered high in this study, the adjusted R- square, the Durbin-Watson statistic, the Akaike information and Schwartz criterion and the overall statistical significance of the entire regression plane - the F-statistic. All results were obtained empirically and the test conducted at five percent level of significance, which determines whether to accept or reject the null hypotheses as postulated in chapter one. At a glance, the estimated model using the regression results of table1 as presented, gives credit to equation (5) as stated below:

$$\text{PBT} = 45.76288 + 237.8723\text{NLR} - 23.67932\text{ER} + 4.795248\text{TC} \dots\dots\dots (5)$$

(6.050467) (3.500576) (-4.947187) (8.489223)

$$R^2 = 0.846597$$

$$\text{DW} = 2.064836$$

$$\text{F-test} = 72.75843; \text{ and}$$

$$\text{P (F-test)} = 0.000000$$

The values in parentheses are the asymptotic t-values. Also, note that the empirical results presented above are those of First Bank of Nigeria Plc. The same could be done in the empirical results of other banks used in this study as follows:

Empirical Results for Access Bank Plc:

$$\text{PBT} = 24.56372 + 78.34262\text{NLR} + 142.6267\text{ER} + 22.67871\text{TC} \dots\dots\dots (6)$$

(3.643300) (3.161061) (2.514431) (8.833433)

$$R^2 = 0.728438$$

$$\text{DW} = 1.785338$$

$$\text{F-test} = 24.85642; \text{ and}$$

$$\text{P (F-test)} = 0.000635$$

Empirical Results for FCMB Nig Plc:

$$\text{PBT} = 127.7668 + 56.56737\text{NLR} + 4.785325\text{ER} + 8.462267\text{TC} \dots\dots\dots (7)$$

(2.263914) (2.875266) (7.054027) (1.256580)

$$R^2 = 0.719537$$

$$\text{DW} = 1.956472$$

$$\text{F-test} = 7.877392; \text{ and}$$

$$\text{P (F-test)} = 0.000000$$

Empirical Results for Standard Chartered Bank Nig Plc:

$$\text{PBT} = 231.6743 + 56.98847\text{NLR} + 7.673283\text{ER} + 1.574883\text{TC} \dots\dots\dots (8)$$

(3.191425) (8.463019) (11.85517) (27.76005)

$R^2 = 0.849832$
 $DW = 1.693727$
 F-test = 9.463783; and
 $P(F\text{-test}) = 0.000000$

Empirical Results for Citi Nig Plc:

$$PBT = 53.77832 + 0.027227NLR + 59.78363ER + 16.76373TC \dots\dots\dots (9)$$

(2.173004) (0.035650) (-8.870943) (1.739466)

$R^2 = 0.569839$
 $DW = 2.007848$
 F-test = 46.89643; and
 $P(F\text{-test}) = 0.009773$

Note: That the values in the Parenthesis are the asymptotic t-values.

Evaluation of the Empirical Results

From the empirical results, total credit variable is yet highly significant as the calculated $t^* > t$ (refer to equation 5), we therefore, reject the null hypothesis and conclude that there is a significant relationship between total credit and bank financial performance in Nigeria. The F-test is a test of joint influence of the estimated parameters at 4 percent degree of freedom for the numerator and approximately 23 percent degree of freedom for the denominator.

Since the calculated F value is equal to 72.75843, much higher than the theoretical value of 2.8, the joint influence of the variables are highly statistically significant. The Durbin-Watson Statistics (D-W) is a test of serial or autocorrelation among the residuals. This is also conducted at 5% level of significance. Since the calculated D-W is 2.06 and it falls within the region of acceptance of the null hypotheses, we conclude that there is little or no auto correlation among the variables in the model.

DISCUSSIONS AND FINDINGS

The econometric analysis of this study suggests that the overall diagnostic test of the stochastic properties of the model has a very high goodness of fit. The Augmented Dickey-Filler (ADF) statistic rejects the null hypothesis of normal distribution of the residuals at the 5% significance level. Generally, the explanatory power of the equation of the VAR model as reflected in the coefficient of determination (R^2) and F statistic is quite high and statistically significant as over 98% of the explanatory variables were explained at the long run. This implies that only an infinite decimal of 2% was unexplained by the explanatory power. From the empirical evidence, it can be observed that besides its lag, the NLR variable was statistically significant at the conventional levels of significance. This is, however, not surprising because its coefficient has a positive sign. Similarly, the coefficient of exchange rate has a negative sign, suggesting

insignificant nature of the variable. This, however, contradicts with the last variable credit volume that exert positive signs at both the short and the long run.

As can be observed, almost all the variables are statistically significant and the signs of the variables were properly placed as expected. For instance, the coefficients of NLR, TC all have a positive sign as expected. This implies that an increase in total credit leads to a rise in banks financial performance in Nigeria. Overall, the results of the long-run relationship between the proxies of liberalized banking environment and banking performance in Nigeria are rather similar to the result of the short run as contained in Table 1. The inverse relationship between exchange rate variation and banks financial performance is rather not surprising since economic theory suggests that. This empirical evidence seems to contradict with the recent study of Obute, (2009) who in evaluating the nominal and real rate of interest from 1960 to 1981 found that the real interest rate in Nigeria for the past decades were negative. The analysis of his results concludes that nominal lending rate has a negative influence on the banks' financial performance within the periods under study.

In this chapter, the models developed in chapter three were estimated using appropriate statistical and econometric tools. The results of the overall diagnostic test obtained by OLS technique were presented in this chapter for possible policy suggestion. The analysis opens with the unit root tests, cointegration, error correction mechanism and indeed, the econometric analysis of banks financial performance in a liberalized banking environment in Nigeria.

Analysis of Unit Root Tests

Following Engle and Granger (1987) procedure, we start with the test for the order of integration of the variables, which appear in our model. To characterize the time series properties of the variables of interest, the Dickey-fuller (DF) and Augmented Dickey-Fuller (ADF) tests are employed. Adopting the simple econometric relationship of random walk with drift, the ADF test is based on the following equation:

$$\Delta X_t = a + \beta X_{t-1} + u_t \dots \dots \dots (10)$$

Under the null hypothesis of a unit root, the co-efficient of x_{t-1} will not be statistically different from zero (i.e. $\beta = 0$). If there is no unit root, the series X_t is said to be stationary in level or integrated of order zero (denoted as $1(0)$). If there is a unit root, but differencing the series once makes it stationary, then it is said to be integrated of order one (denoted as $1(1)$). The result of the unit root test is presented in Table 2. In addition to testing for the unit root, equation (6) will be established if there is a drift ($a=0$). The error term U_t , should be white noise. If, X_t is a first order autoregressive process (AR (1)), then the single lagged value of the variable will be sufficient to ensure this condition. If the process is not AR (1), then additional difference terms will need to be added to equation (6) to make U_t white noise, hence; the Augmented Dickey Fuller (ADF). The ADF test is therefore based on the equation (11) as stated below:

$$\Delta X_t = a + \beta X_{t-1} + \sum_{i=1}^p \gamma_i \Delta X_{t-i} + \Delta U_t \dots \dots \dots (11)$$

The null hypothesis of non-stationary is rejected if the t-statistic is less than the critical t-value (i.e. if estimated $\hat{\alpha}$ is significantly negative). The critical values adopted in this study are adopted from Charemza and Deadman (1997). Thus, using DF test, all variables are regarded as non stationary at their levels since each reported t-statistic is not smaller than the 5% critical t-value of -3.45. Similarly, using ADF, the null hypothesis of non-stationary is accepted for all the series investigated in levels. The ADF critical t-value is -4.67. In general, the results of this test as shown in Table 2 are consistent with the presence of a unit root in each of the variables, investigated.

However, this result is followed by testing whether first differencing makes the variables stationary. In order words, for each variable, we tested the null hypothesis that the variables are 1(1). The results, however, confirm that differencing once in all the variables is all that is required to bring these variables to stationary.

Table 2 Unit Root Results for the variables

Variables	Dickey-Fuller (DF)	ADF T-Statistic	Order
LPbt	-6.5637	-5.5637	1(1)
LNlr	-5.9762	-5.8763	1(1)
LEr	-6.9875	-7.8643	1(1)
LTc	-3.4452	-5.7653	1(1)

Source: E-views Computer result

Note: The 5 and 10 percent values of ADF are 6.5637 and 5.8763 respectively.

Analysis of Cointegration Result

Following our findings in the unit root results, that all the variables of our interest are of 1(1), we therefore, test for possible co-integration among these variables. Adopting Engle and Granger two step method, we first estimated the long run relations among these variables by Ordinary Least Square (OLS) and test for Stationarity of the residuals. Here, we test whether a postulated equality in the long run relationship between the banks financial performance in a liberalized banking environment and the nominal lending rate gives a stationary error. Again, DF and ADF tests were employed to test for cointegrated variables. The results of Cointegration tests are reported in Table 3 below:

Table 3: Johansen's Cointegration Result for Model of Pbt

Date: 06/01/14Time: 10:21am

Sample (adjusted): 2001 - 2010

Included observations: 11 after adjusting endpoints

Trend assumption: Linear deterministic trend

Series: Pbt Nlr Er Tc

Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test

Hypothesized	Trace	5 percent	1 Percent	
No. of CE(s)	Eigen value	Statistic	Critical value	Critical value

None**	0.853227	122.6644	162.35	158.32
At most 1	0.678386	121.8773	160.82	144.35
At most 2	0.797733	52.7537	92.57	82.66
At most 3	0.653667	64.3663	72.85	54.92
At most 4	0.785363	62.8353	71.63	65.38
At most 5	0.699763	52.7633	65.97	60.23

*(**) denotes rejection of the hypothesis at the 5% (1%) level

Trace test indicates 1 cointegrating equation(s) at both 5% and 1% levels

Source: E-views Computer result

Given the DF and ADF 5% critical t-values of -6.09 and -7.62 respectively, variables in the cointegration regression as reported in Table 3 are said to be cointegrated (i.e. both NLR and other exogenous variables cointegrates with bank financial performance in Nigeria). However, not all the variables in the model are cointegrated given the DF and ADF 5% and 1% critical values. Thus, the number of Cointegrating vectors obtained from both Trace Statistic and the maximum Eigen values did not vary markedly according to the Vector Auto Regression (VAR) orders.

In analyzing the short run model with an error correction mechanism as reported in Table 4, we adopt the Engle-Granger representation and employ an error correction dynamic specification as:

$$\Delta \text{PBT}_t = X_0 + X_1 Z_t + \Delta X_2 (\text{PBT}-Z)_{t-1} + U_t \dots \dots \dots (12)$$

Where Z is the vector of variables that cointegrate with PBT variable as reported in Table 3. Since NLR and other variables cointegrate with PBT, equation (12) can be written as:

$$\Delta \text{PBT}_t = X_0 + X_1 \Delta \text{NLR}_t + X_2 \Delta \text{R}_t + X_3 \Delta \text{C}_t + X_4 \Delta \text{CM}_{t-1} + U_t \dots \dots \dots (13)$$

Where:

ECM_{t-1} is the lagged time series of residuals from the cointegrating vector.

Equation (13) incorporates a corrective mechanism by which previous disequilibria in the relationship between the level of Profit before Tax and the levels of NLR, ER, and TC are permitted to affect the current change in banks financial performance in Nigeria. This way an allowance is made for any short run divergence in PBT from the long run target. Thus, this estimated form of equation (13) gives credit to Table 4 as seen below:

Result of Error Correction Model

The estimated results of Table 4 reports the initial over-parameterized error correction of banks' financial performance in a liberalized banking environment as governed by nominal lending rate, exchange rate variation and credit ceiling in Nigeria. All the variables were lagged equally in this model. The result of parsimonious model as reported in Table 4 indicates model parsimony. We can, therefore, prefer the lower Schwartz Criterion (SC) and Standard Deviation. Thus, this result clearly shows a well defined error correction term ECM, and indicates a feedback of 148% of the

previous year's disequilibrium from the long run profit before tax and the lending rate expansion of banking activities in Nigeria. The implication of this is that the exchange rate, credit ceiling and banks' profit growth rate maintain the banks' profit margin equilibrium through time. The effects of these disequilibria error corrections is not only large, but also have negative signs as expected. The strong significance of the coefficient of ECM_{t-1} supports our earlier assertion that PBT indeed co-integrates with other exogenous variables in the model especially in a deregulated banking environment in Nigeria.

Table 4: Parsimonious Error Correction Model

Dependent Variable: D (Lg (Pbt))

Method: Least Squares

Date: 06/01/14 Time: 05:54pm

Sample (adjusted): 2001 - 2010

Included observation: 11 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Probability.
C	112.6476	32.68522	3.446438	0.0000
D(LgInNlr(-1)))	6.773528	0.257372	12.88633	0.0001
D(Lg(InNlr(-2)))	23.62818	6.262571	3.726	0.0543
D(LgEr(-1)))	5.866388	0.678273	10.58272	0.0563
D(Lg(Er(-2)))	-24.54763	12.65378	-1.939944	0.0945
D(Lg(Tc(-1)))	0.883840	1.905095	0.463935	0.0000
ECM(-1)	-1.478987	3.760523	-0.342062	0.0000
R-squared	0.975672	Mean dependent var.		234.5272
Adjusted R-Squared	0.867628	S.D. dependent var.		194.7252
S.E. of regression	0.747272	Akaike info criterion		112.4537
Sum squared resid.	82.56373	Schwartz criterion		112.5723
Log likelihood	-64.66267	F-Statistic		22.56373
Durbin-Watson Stat	2.166272	Probability (F-Statistic)		0.000000

Source: E-view computer results

Hence, equation (13) is then reduced to a parsimonious equation through the elimination of insignificant terms and the imposition of constraints that hold a reasonable approximation. This imposition leads to the estimation of equation (13) using the over-parameterized Error Correction Mechanism (ECM).

Econometric Analysis of Bank Financial Performance in Nigeria

The econometric analysis of this study suggests that the overall diagnostic test of the stochastic properties of the model has a very high goodness of fit. The Augmented Dickey-Filler (ADF) statistic rejects the null hypothesis of normal distribution of the residuals at the 5% significance level. Generally, the explanatory power of the equation of the VAR model as reflected in the coefficient of determination (R^2) and F statistic is quite high and statistically significant as over 98% of the explanatory variables were explained at the long run. This implies that only an

infinite decimal of 2% was unexplained by the explanatory power. From the empirical evidence, it can be observed that besides its lag, the NLR variable was statistically significant at the conventional levels of significance. This is, however, not surprising because its coefficient has a positive sign. Similarly, the coefficient of exchange rate has a negative sign, suggesting insignificant nature of the variable. This, however, contradicts with the last variable credit volume that exert positive signs at both the short and the long run.

As can be observed, almost all the variables are statistically significant and the signs of the variables were properly placed as expected. For instance, the coefficients of NLR, TC all have a positive sign as expected. This implies that an increase in total credit leads to a rise in banks financial performance in Nigeria. Overall, the results of the long-run relationship between the proxies of liberalized banking environment and banking performance in Nigeria are rather similar to the result of the short run as contained in Table 4. The inverse relationship between exchange rate variation and banks financial performance is rather not surprising since economic theory suggests that. This empirical evidence seems to contradict with the recent study of Obute, (2009) who in evaluating the nominal and real rate of interest from 1960 to 1981 found that the real interest rate in Nigeria for the past decades were negative. The analysis of his results concludes that nominal lending rate has a negative influence on the banks' financial performance within the periods under study.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

In this study, our major task is to empirically investigate the banks financial performance in a liberalized banking environment in Nigeria using a selected five banks. To actualize the objectives of this study, we developed a model in the light of recent development in the methodological econometric modeling using the Ordinary Least Square (OLS) technique of estimation and the analysis of time series data spanning from 2001-2010.

Generally, the empirical findings suggest that the equation of the PBT model as reflected in the coefficient of determination (R^2) and F-statistic is quite high and statistically significant as about 98 percent of the explanatory variables were explained at the long run. This means that only about 2 percent were unexplained. Only one variable in the model, that is; the exchange rate is negative though statistically significant at its level. This, however, contradicts with the signs of other coefficients in the model such as NLR and TC which possessed positive signs and is statistically significant with the endogenous variable. The value of Durbin-Watson statistics is approximately 2.0, which shows that there is little or no auto-correlation among the variables. Thus, the overall estimates presented in this study suggest that an increase in the nominal lending rate and credit ceiling, among other things, will bring about a rise in banks financial performance in Nigeria.

CONCLUSION

The adoption of financial liberalization reforms have been a very laudable initiative given the extent of financial repression that was prevalent prior to these reforms and the stifling effects of repression on both the financial sector itself and on the economy as a whole. Since the introduction of the Structural Adjustment Program in 1986, the Nigerian financial sector has been experiencing tremendous growth. This in turn positively influenced the rate of Nigeria's economic growth during the period under review. Investigations into the impact of financial liberalization on the financial performance of banks show that the banking sector was affected by factors such as Exchange rates, Interest rates and Total credit. Despite the influence of the aforementioned factors however, the study shows that financial liberalization has significant impact on the financial performance of the studied banks. This to a very large extent shows that the financial sectors are achieving relative stability which is a veritable indicator of economic development. Another pertinent observation made from the survey of the bank's financial performance in a liberalized banking environment has shown that substantial and sustained private sector credit expansion is necessary if Nigeria is to achieve reasonable targets for improvement of banks' profitability which is a shorthand indicator of a wide range of improvements in financial growth. Growth cannot occur without finance, and Nigeria's financial sector needs to grow substantially, both in absolute volume and in relative terms as a proportion of the Gross Domestic Product. In Nigeria, the expansion of finance is constrained not mainly by the outright non-availability of finance to the business sector; rather the binding constraint in the expansion of finance is the unwillingness of companies to borrow, because of the non-affordability of the very high prevailing interest rates and a high inflation rate. Improved financial sector liquidity and stability will in no small measure go a long way in boosting shareholders and investors' confidence in the financial sector; and this will invariably enhance the efficiency of the banking sector.

Recommendations

From the analysis so far, the researcher is of the view that the following recommendations be put forward;

- To improve banks financial performance, the banks need a good regulatory environment that will enable them to expand their scope of business but strictly within the financial service industry. With a good regulation, supervision and corporate governance, unnecessary cost and expenses will be cut down and the profit will increase.
- The banks should put in place good corporate governance that will allow for transparency and minimize fraud in the bank. The shareholders should have the responsibility to choose their directors, which will in turn choose members of management that will run the affairs of the banks.
- The Nigerian banks and its regulators should recognize the peculiar operating environment, and develop a viable indigenous financial service industry, which will integrate seamlessly with the

traditional banking system. In this regard, most of the money outside the government purview will be brought back and the government monetary policy will achieve its set objective.

REFERENCES

- Adegbite O.E. (2005). *Financial Sector Reforms and Economic Development in Nigeria: The Role of Management*. Being a Paper Delivered at the Inaugural National Conference of the Academy of Management Nigeria at Abuja, Nigeria Titled: Management: Key to National Development. Nov 22-23. At Rock view Hotel Abuja.
- Adeusi, S.O, Azeez B.K and Olanrewaju H.A (2012). Effect of Financial Liberalization on the Performance of Informal Capital Market. *Research Journal of Finance and Accounting*. 3(6):63-78.
- Adeusi, S.O, and Familoni J.A, (2004). *Effect of Non-Regulation of the Informal Capital Market in Nigeria on the Nation's Economic Development*. Proceedings of the Annual National Conference of the Nigeria Society for Financial Research (NSFR), Department of Business Administration, University of Lagos, November 10th-12th.
- Adofu, I., Abula, M. and Audu, S.I. (2010). An Assessment of the Effect of Interest Rate Deregulation in Enhancing Agricultural Productivity in Nigeria. *Current Research Journal of Economic Theory*. 5(2):82-86
- Ahmadu, A. (2013). Does financial Liberalization Matters for SME Financing in Nigeria? *International Journal of Business and Management Tomorrow (IJBMT)* 3(1).
- Albu, L. (2006). Trends in Interest Rate Investment and GDP Growth Relationship. *Romanian Journal of Economics*. 3 (4), 42p.
- Amassoma, J.D., Nwosu, P.I and Ofere, A.T. (2011). The Nexus of Interest Rate Deregulation, Lending Rate and Agricultural Productivity in Nigeria. *Current Research Journal of Economic Theory*.
- Bakoulas. J.T, Baum, C, and Caglayan, M. (2002). Exchange Rate Effect on the Volume and Volatility of Trade Flows. *Journal of International Money and Finance*. 21(1):481-486
- Chandrasekhar, C.P, (2004). *Financial Liberalization and Macro Economics of Poverty Reduction*. Draft Thematic Summary of Financial Liberalization for Asia Pacific Program on the Macro-Economics of Poverty Reduction. 1-15
- Dey, M.K. and Flaherty, M. (2004). Turnover and Return in Global Stock Market. *Department Of Accounting and Finance Journal, Morgan State University, Baltimore*. 1(1) 5-10.
- Eichengreen, B and Lablang, D. (2003). Exchange Rates and Cohesion. Historical Perspective and Political Economy Considerations. *Journal of Common Market Studies*. 41(1):797-822.

- Felicia, O.O. (2011). Determinants of Commercial Banks Lending Behaviour in Nigeria. *International Journal of Financial Research*. 2(2): 1-12.
- Ghosh, J. (2005). The Economic and Social Effects of Financial Liberalization. A Primer of Developing Countries. *DESA Working Paper No4*.
- Hassan, I. and Marton, K. (2003). *Banking in Transition Economy. Hungarian Evidence*. In Clerk, Cull, and Shirley, Empirical Studies of Bank Privatization: An Overview. World Bank Conference on Privatization, Nov. 20-21, 2003.
- Henry, P. (2004). Stock Market Liberalization, Economic Reform and Emerging Market Equity Prices. *Journal of Finance*. 55 (2), 529-563.
- Jerome, A, Beck, T and Call, R. (2003). *Bank Privatization and Performance: Empirical Evidence Nigeria*. Presented at World Bank Conference on Bank Privatization, Nov. 20th-21st.
- King, R. and Levine, C. (2004). Financial Indicator and Economic Growth, in a Cross Section of Countries. *PRE Working Paper No. 819, Washington: World Bank*.
- Kolapo, T.F, Ayeni, R.K and Oke, M.O. (2012). Credit Risk and Commercial Banks Performances in Nigeria: A Panel Model Approach. *Australia Journal of Business and Management Research*. 2(2):31-38.
- Lewis, P. and Stein, H, (2002). *The Political Economy and Financial Liberalization in Nigeria*, In Clerk, Cull and Shirley. Empirical Studies of Bank Privatization. 20-21p.
- McKinnon, R. I. and Shaw, K. (1973). *Money and Capital in Economic Development*. Brookings Institute, Washington, New York.
- Obamuyi, T.M (2009). An Investigation of Relationship between Interest Rate and Economic Growth in Nigeria (1970-2006). *Journal of Economics and International Finance*. 1(4):093-098.
- Obute, C, Adryorough, A and Itodo, A.I. (2012). An Assessment of the Impact of Interest Deregulation on Economic Growth in Nigeria (1964-2009). *Journal of Business and Organizational development*. 4(1).
- Obute, M. L. (2001). The Effect of Liberalization on the Banking Activities in Nigeria. *CBN Economic Review*. 14 (4), 55 – 60.
- Oladipo, O.S. (2000). Financial Liberalization and Savings: a Critical Analysis. *First Bank of Nigeria Plc Bi-Annual Review*. 8(17).
- Oloyode, J and Afolabi, B (2004). The Impact of Financial Liberalization on Economic Growth. *Proceedings of the Annual National Conference of the Nigerian Society for Financial Research (NSFR)*. Department of Business Administration, University of Lagos. November 10th-12th
- Osabuohain, S.C and Duruji, M (2005). *Impact of Recent Regulatory Financial Mechanisms on Informal Financial System in Nigeria*. A Paper Presented at the National Conference on

Informal Financial Sector and Sustainable Development in Nigeria. University of Ado-Ekiti. June 8-10.

Rasheed, O.A. (2010). Interest Rate Determinants in Nigeria. *International Research of Finance and Economics*. 2(3):1-12.

Roger, W. and Ferguson, J.R. (2009). *Understanding Financial Consolidation*. A Paper Presented at the Conference of Federal Reserve Bank of New York.

Schnabel, G. (2007). Exchange Rate Volatility and Growth in Small Open Economies at the EMU Periphery. *European Central Bank Working Paper Series No.773*.

Umejiaku, R.I. (2011). Financial Reform and Financial Development in Nigeria: A Graphical Analysis. *African Research Review*, 5 (3). 247-260.