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Okoli Margaret Nnenna (Management Technology, Federal University Of Technology, Owerri, Imo State, Nigeria)

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Author(s)

Okoli Margaret Nnenna
Management Technology, Federal University Of Technology, Owerri, Imo State, Nigeria
E-mail: ndimegnne@yahoo.com

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Abstract:

The paper examines the determinants of bank net earnings defined as profit after tax and deductibles in selected banks in Nigeria. Data used were extracted from balance sheets and income statement accounts and analyzed with the Ordinary Least square regression model. The results confirmed that customer's deposits and reserves all impacted positively on the net earnings but only one bank's customers deposit was statistically significant. Also the reserves of two banks were significant. Other variables like loan and advances was negatively related to net earnings contrary to a prior expectation but one bank's loan and advances was statistically significant. Lastly, bad and doubtful debt has the negative expected sign with two banks being statistically significant. Overall the fit of the model was good. It was therefore recommended that banks should be prudent in advancing loans to their customers.

Introduction

A lot of attention has focused on the performance of the banking sector in recent times, prompting a large literature on the role played by management of resources in determining bank performance. Furthermore, the major structural changes that took place in the banking sector in recent years are also an added impetus for the attention. These developments pose great challenges to financial institutions, in our case Nigeria, as the environment in which they operate changes remarkably, a fact that consequently impacted on bank performance. Despite this situation the financial intermediary role of banks is still crucial in financing economic activities in general. Since the banking sector is the backbone of the Nigerian economy and plays an important financial intermediation role, its health is crucial to the health of the general economy at large. Given this position, it is therefore necessary that knowledge of the underlying factors that influence its performance is essential not only for managers of the banks but also for numerous stakeholders such as the Central Bank of Nigeria, bankers association, government and other financial authorities. Knowledge of these findings would also be helpful to regulatory authorities and bank managers in formulating going-forward policies for the improved profitability of Nigerian banks. A sound and profitable banking sector is able to withstand negative shocks and contribute to the stability of the financial system.

This paper therefore seeks to diagnose the earning performance of some banks in Nigeria by exploring the determinants factors of the bank's net earnings which is specified as profit after deductions. As Golin (2001) pointed out, adequate earnings are required to enable banks maintain solvency, to survive and prosper in a competitive environment. This present study contributes to existing literature by emphasizing empirical evidences of factors that affect bank's net earnings. Evidences of literature verifying the profitability of banking sectors is extensive. Most of them use the more conventional measures of profitability like return on assets (ROA), return on equity (ROE) and other financial ratios. But this study will utilize balance sheet and income statement account items of the respective banks. This is a point of departure of this study from others. By

employing data from balance sheet and income statement accounts, the study intends to trace the factors that determine the banks net earnings during the ten year period of 2000-2009. This period is characterized as a time of significant reforms in the country's banking sector. Extensive studies abound on profitability of banking sectors in developed countries, but in developing countries such studies are still scanty.

Hypothesis

To test the model, a hypothesis is proposed and stated in the null form as thus:

Ho: Customers deposits, reserves, loans and advances, bad and doubtful debt have not significantly affected the bank's net earnings.

The plan of this paper is as follows: section 2 reviews related literature and is followed by section 3 that outlines the data and methodology. Section 4 reports the empirical findings. Finally section 5 concludes.

Literature Review

There is no doubt that better quality management of resources is a sine qua non for contributing to bank's performance as evidenced by many studies that have focused on the United States banking system (DeYoung and Rice 2004) Stiroh and Rumble (2006) and banking systems in the western and developed countries (Kosmidou et al 2007; Athanasoglou et al 2007). Contrarily, bank performance in developing economies has received less attention. Heffernan and Fu (2008) exploring the performance of domestic and foreign banks in Thailand during the period 1995-2005, revealed that all banks reduced their credit exposure during the crises years and have gradually improved their profitability during the post-crises years. At the same time, results showed that foreign bank profitability is higher than the average profitability of the domestic banks, even though the gap eventually closed during the post-crises period indicating that the financial restructuring program has yielded some positive results. Hefferman and Fu (2008) evaluating the performance of different types of Chinese banks during the period 1996-2006 suggest that economic value added and the net interest margin do better than the more conventional measures of profitability, namely

return on average assts (ROAA) and return on average equity (ROAE). Tracing the determinants of bank's interest margins and profitability using bank level data for eighty countries from 1988 to 1995, Dermiguc Kent and Huizinga (1999) suggest that a large ratio of bank assets to GDP and a lower market concentration ratio lead to lower margins and profits. The findings further revealed that foreign banks have higher margins and profits than domestic banks in developing countries, while the opposite prevails in developed countries. Neely and Wheelock (1997) using per capital income suggest that this variable exerts a strong effect on bank earnings. Seballos and Thomas (1993) observed that failed banks had a significantly higher ratio of loans to assets, a significantly higher ratio of non-performing or bad loans to total assets. In other words, banks that failed tend to hold riskier portfolios with higher default rates and losses than institutions in the non-failed category. Hancock (1989) examined the effect of interest rates and other components of monetary policy on bank profitability and the position of financial services in a deregulated environment. She observed that prior to deregulation of American financial services, profits were relatively more responsive to rates on time deposits and borrowed money than on loans. After deregulation the reverse was the case. Uchendu (1995) is another work that has solely used Nigerian data for his empirical analysis. Using data covering 1970 – 1993, and a total of 60 commercial banks as sample size, he employed three different measures of profitability namely interest earnings, rate of return on assets and rate of return on capital as the dependent variables. His profit function had six explanatory variables and these include, interest rates (savings or lending or their spread), exchange rate, commercial banking systems reserve, concentration ratio used to measure the influence of the three banks on the industry. The impact of reserves on profits was positive and significant for the interest earnings and rate of return on capital but not significant when return on assets was employed as the dependent variable.

Enendu (2003), studying the determinants of commercial bank interest rate spread in a liberalized financial system using empirical

evidence from Nigeria between 1989 and 2000, showed that macroeconomic and monetary policy/financial regulation factors were more important determinants of commercial bank's interest spread than bank level factors. He further stated that inflation rate, GDP, financial deepening, cash reserve requirement, risk and non interest expenses were the most important factors that affected commercial banks' profitability during the period.

Nevertheless, it has been clearly observed that net interest income constitute a reasonable percentage of banks earnings. Whether banks make profit or not, therefore depends on the management of the interest rate risk involved.

Data and Methodology

Data Sources

The study utilizes yearly data on selected banks. The data were sourced from balance sheet and income statements of the respective banks. The period spans over ten years from 2000-2009. Three banks were investigated and made up of the following: First Bank Plc, Guaranty Trust Bank and United Bank for Africa. The choice of the selected banks is based on the criterion that they are all quoted in the Nigerian stock Exchange. The analysis is based on secondary data.

The goal of this study is to examine the contributions of selected bank performance variables on bank performance using net earnings as dependent variable. To achieve this, the ordinary least square regression model was utilized to investigate the effects of customers' deposits, reserves, loan and advances, and bad and doubtful debt on the bank's net earnings.

Estimation model is specified in the following functional form:

$$NE=f(CD,RS,LA,BD) \qquad (1)$$

Econometrically, the above equation can be stated as follows:

$$NE=a_o+a_1CD+a_2RS+a_3LA+BD_4+\varepsilon \qquad (2)$$
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Where a_o ....a_4 are coefficients,

NE = Net Earnings or Net profit of the bank

CD = Customers deposits in the form of savings demand and time deposits and other such liabilities.

RS = Reserves

LA = Loan and advances, part of banks asset given to customers as credit facility.

BD = Provision for bad and doubtful debt, a proxy for loan default.

ε = Error term

We shall designate First Bank as Bank A, Guarantee Trust Bank as Bank B and United bank of Africa as Bank C.

The sign of CD, RS and LA are expected to be positive because they are assets and believed to earn profit for the banks; therefore should add positively to net earnings. Contrarily, bad and doubtful debt should have a negative sign because almost all bad and doubted debts are considered non-performing and are eventually written off as losses.

Before the regression analysis, stationary tests for the variables were performed using the Augmented Dickey-Fuller (ADF). Economic theory requires that variables be stationary before application of standard economic techniques. This is to avoid misleading results.

The result of the stationary tests are presented below:

Table-1: ADF- (Stationarity) test for the variables

Variables	ADF-statistic	Critical value	Decision rule
NE	-5.271309	1% =-4.582648 5% =-3.320969 10%=-2.801384	Stationary at 1st difference
CD	-5.022557	1% =-4.582648 5% =-3.320969 10%=-2.801384	Stationary at level
RS	3.336260	1% =-4.582648 5% =-3.320969 10%=-2.801384	Stationary at level
LA	4.102855	1% =-4.582648 5% =-3.320969 10%=-2.801384	Stationary at level
BD	-3.723775	1% =-4.582648 5% =-3.320969 10% =-2.801384	Stationary at level

Notes: One lag of NE is used. The variables are defined as follows: NE stands net earnings, CD stands for customer's deposit, RS stands for reserves, LA stands for loans and advances, and BD stands for bad and doubtful debt-a proxy for loan default.

The stationarity test revealed that all the variables except the dependent variable-net earnings (NE) were stationary at levels.
The net earnings are therefore differenced once in order to perform the stationarity test. After differencing net earnings once, all the variables were confirmed to be stationary. It follows that the dependent variable-NE is lagged and integrated at order one.

To provide an empirical insight into the relationship between net earnings and customer's deposits (CD), reserves (RS), loans and advances (LA) and bad and doubtful debt (BD), an ordinary least square regression model is specified. The results of the OLS tests are reported in Table 2.

Table-2: Regression Results

Variables	Bank A	Bank B	Bank C
Constant	13881.16 (1.976702)	48.81902 (-0.295203)	-961.2303 (-0.328516
CD	0.026679 (0.723052)	0.012935 (2.906796)**	0.019258 3.422378)
RS	0.156389 (2.902028)**	0.554325 (11.13849)**	0.435680 (1.700906)
LA	-0.104543 (-1.428707)	-0.013808 (-6.488480)**	-0.032823 (-1.075144)
BD	- 0.140648 (-0.699790)	- 0.262874 (-9.569789)**	-0.671658 (-2.950677)**
R-squared	0.773314	0.999574	0.980230
Adjusted R-squared	0.591966	0.999233	0.964415
S.E. of regression	6163.087	277.4657	2407.717
Sum squared resid	1.90E+08	384936.0	28985494
Durbin-Watson stat	0.469548	2.706485	0.637155
Mean dependent var	13757.50	10646.10	9518.100
S.D. dependent var	9648.286	10016.13	12763.51
F-stat	4.264247	2930.748	61.97837
Prob(F-statistic)	0.071765	0.000000	0.000190

Note: t-values are in parenthesis. ** indicates significance at 5%

Emirical Findings

The following facts associated with net earnings and the independent variables emerged. The net earnings are regressed on customers deposit, reserves, loan and advances, and bad and doubtful debt- proxy for loan default.

The estimated results show that for each of the banks, the impact of customers deposit is positively related to the volume of net earnings. The expected sign of CD is positive. It indicates that the higher the amount of the customer's deposits, the higher the net earnings. However, while "Bank B" is statistically significant, the values for "BANK A" and "BANK C" are statistically insignificant as depicted by their t-values.

The implication of this is that while customer's deposits determine the net earnings for "BANK B" it is not so for the other two banks.

Next is the reserve factor. Again this variable has a positive sign, showing a positive relationship between it and the net earnings for all the banks, meaning that as these variables increase the net earnings also increases. The sign is in line with bank theory that as reserves increases, net earnings will also increase. The result also contains a statistically significant reserve term with an associated t-statistics of 2.902 and 11.138 for "BANK A" and "BANK B" respectively and insignificant for "BANK C". Hence for the model, reserves affect the net earnings in "BANK A" and "BANK B" but not for "BANK C".

Turning to loans and advances, result shows that for "BANK A" and "BANK C", loans and advances are statistically insignificant at the 5% level of significance meaning that it does not impact net earnings on these banks. On the other hand "BANK B" is significant at the 5% level of significance with a t-statistic of 6.488. Theory stipulates that increases in loans and

advances are associated with higher net earnings; hence the expected sign should be positive. However, its negative coefficients for all the banks, shows an inverse relationship. As loans and advances increases, net earnings decreases and vice verse.

Lastly, in the impact of bad and doubtful debt to net earnings the negative relationship is observed. All the sampled banks exhibit negative coefficients. This suggests that bad and doubtful debt reduces net earnings. This is in agreement with a prior expectation. However, "BANK B" and "BANK C" are statistically significant with t-values of 9.567 and 2.950 respectively while "BANK A" is insignificant. Loans and advances make no contribution to the net earnings of the banks. They are eventually written off as losses if not collected.

In addition to the above, the regression estimates of the model in the down part of Table 2 were also analyzed. It was observed that the overall performance of the model was good for the three banks. The R^2 (77.3) and adjusted R^2 (59.1) for "BANK A", R^2(99.9) and adjusted R^2(99.9) for "BANK B", and R^2(98.0) and adjusted R^2(94.4) for "BANK C" were very much above average and tending to 1. The Durbin Watson statistics were fairly substantial.

Summary And Conclusion

The determinants of bank net earnings in selected Nigerian banks have been investigated. Net earnings were defined as profit after taxation and all deductibles. Data for the analysis were obtained from balance sheets and income statement accounts. The results indicate that all the variables except net earnings were stationary at levels. The net earnings were stationary at first difference. The positively related customer's deposits in all the selected banks were observed but only one bank was statistically significant. Reserves also exhibited a positive relationship while two of the banks were significant. More so the empirical result showed that loans and advances were all negatively related to net earnings contrary to a prior expectation; one bank was however significant. Further more bad and doubtful debt had the expected sign in all the banks implying

an inverse relationship. Two banks were statistically significant. Overall the fit of the model was good as attested by the R^2 and adjusted R^2.

The study therefore recommended that banks should be prudent in their lending to their customers. Bad and doubted debt showed the worst results among the variables. It impacted negatively to net earnings increasing while net earnings decreases.

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