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Asset Quality Correlates and Financial Performance of Commercial Banks in Nigeria

Bale, Innocent B
Doctoral Candidate, Department of Accounting, University of Port Harcourt, Nigeria
Ironkwe Uwoama. I
Senior Lecturer, Department of Accounting, University of Port Harcourt, Rivers State, Nigeria
Akani, Fyneface. N
Senior Lecturer, Department of Accounting, University of Port Harcourt, Rivers State, Nigeria

Abstract:
In this study, we examine asset quality correlates and financial performance of commercial banks in Nigeria within the panel data framework using yearly data for a period of eleven years from 2005 to 2016. A sample of 15 commercial banks are used including Access Bank, Diamond Bank, Eco bank, Fidelity Bank, First Bank, First City Monument Bank, Guarantee Trust Bank, Skye Bank, Stanbic IBTC, Sterling Bank, United Bank for Africa, Union Bank, Unity Bank, Wema Bank and Zenith Bank. Capital adequacy ratio is the dependent variable while loan loss provisions and non-performing loans both serve as explanatory variables. Bank deposit base and total assets are used as control variables. When the three conventional panel data methods (pooled regression, fixed effects and random effects methods) are estimated, the results show that both fixed effects and random effects models have specification problems while the pooled regression is well-behaved. Based on the results of the pooled regression model, there is evidence that non-performing loans and loan loss provisions both have in significant relationship with bank profitability. However, while the effect of non-performing is negative, the effect of loan loss provisions is positive. There is also evidence that and total assets and deposit base have highly significant relationship with bank profitability. Again, while total asset exhibits positive relationship, deposit base exhibits negative relationship.

Keywords: *Non-performing loans, loan loss provisions, ROA, pooled regression model*

1. Introduction

The contributions of the financial system to the growth of any economy has been copiously documented in the literature obviously because of the compelling macroeconomic importance of banks and other financial institutions to the development of any viable economy (Schumpeter, 1911; Bagehot, 1873). The pivotal roles of the banking sector to the growth of the Nigerian economy underscores the need to periodically evaluate the safety and soundness of the banking system to guarantee sustainable delivery of their core functions which borders critically on stimulating productive activities in the economy essentially through financial intermediation (Ali, 2013; Oluitan, 2013; Ogiriki & Andabai, 2014; Ozurumba & Anyanwu, 2015). Banking institutions in this connection mobilise deposits from the surplus segment of the economy and lend to the deficit segment on agreed terms and conditions.

The essence of prudential regulations of banks is to ensure that the financial institutions are constantly resilient, sound and sufficiently stable to perform their intermediary functions to the economy. Against this backdrop and based on the recommendations of the Basel Committee for Banking Supervision (BCBS) Bank regulators shifted from the traditional models of supervision to Risk-based supervision of financial institutions particularly after the 2009 financial crisis (Ashraf, Arshad & Hu, 2016) in a bid to strengthen the institutions against financial shock and prevent distress (Aspal & Nazneen, 2014).

One of the innovations from the Basel Accord (1988) is the introduction of diagnostic tools   called 'Financial Soundness Indicators' (FSIs) which provides red alerts on the health of deposit taking institutions globally. According to Navajas and Thegeya (2013), FSIs functions a set of macroeconomic policy tools that provide warning signals on financial institutions vulnerability and predicts imminent danger facing deposit-taking institutions; and in so doing protects the entire financial system from potential shock emanating from the diverse exposure. Essien and Doguwa (2015) posit that FSIs when combined with stress-test used by monetary authorities act as veritable tools for monetary systems stability which spotlights the strengths and or weaknesses in financial institutions (vulnerabilities).

The recent economic recession in Nigeria which has impoverished households and business enterprises will seemingly deepen loan defaults cross Nigerian banking sector and deposit money banks (DMBs) in particular. Studies have

shown that during a recessionary period, financial institutions are evidently more vulnerable to credit risk (Beatty & Liao, 2011; Laeven & Majnoni, 2003) due largely to the general slump in productive activities and shortage of funds which potentially amplify loan defaults and impairment of banks' credit portfolio (Panetta, Angelini, Albertazi, Columba, Cornacchia, Di Cesare, Pilati, Salleo & Santini, 2009; Beatty & Liao, 2009; Floro, 2010). A recessionary period is characterised by slow economic activity and technically a period of negative growth in a country's Gross Domestic Product (GDP). The primary motivation for this study is the concern that given the present economic recession in Nigeria viz a viz the spiralling demand for bank loans; deposit money banks might run into crisis if proper credit risk management strategies are not adopted to moderate potential deterioration in their credit portfolio. On the flip side, if banks resort to decline loans in order to avoid defaults; such action will result in credit contraction, which will further deepen the economic crisis and prolong the downswing with its systemic consequences on the economy (Bouvatier & Lepetit, 2008).

Extant studies relating to the subject matter in Nigeria focused on loan loss provisioning and earnings management (Ozili, 2015; Ali, 2015; Ahmed, Mohammed, & Adisa, 2014). Others investigated the effects of non-performing loans on credit or on the performance of financial institutions (Hussain, 2015; Aminu, Dogarawa, & Sabari, 2014; Yahaya, Lamidi, Kutigi & Ahmed, 2015). The perspective of the present study is to examine the effect of Loan-Loss Accounting variables on risk-based soundness indicators which are imperative for financial system stability of which deposit money banks play prominent role in Nigeria. Certainly, this study will bridge the void in accounting research literature and contribute substantially to the burgeoning narrative and add to the stash of knowledge in accounting, management, banking and finance.

The rest of the study is organized into four sections as follows: The next section is the literature review, section 3 contains data, methods and models, section 4 contains analysis and discussion and section 5 concludes the study.

2. Literature Review

2.1 Theoretical Foundation

2.1.1. Loan Loss Accounting and Credit Expansion

Scholars have argued with empirical evidence that non-performing loans and its consequential loss provisions affect banks' lending behaviour (Bouvatier & Lepetit, 2014; Soedarmono et al., 2017). Their argument is premised on the fact that the value of accounting profit is grossly affected by accounting provisions emanating from loan impairments which ultimately affect credit expansion decisions of financial institutions. Non-performing loans have been established to have negative effects on profitability and liquidity. This is because interest on loans is usually recognised on cash basis while interest on non-performing credit does not increase current income. More so, provision expenses are usually charged against income statement and have a reduction effect on current earnings and profitability. The accounting treatment for interest on non-performing loans is to capitalise it as part of the outstanding loan amount and while the unpaid loan interest is held in suspense as "interest in suspense". Unpaid loans therefore have stripping effect on the cash-flow and indeed banks' liquidity.

In totality, loan delinquency and defaults have disparaging effect on banks portfolio quality and discourages further lending resulting in credit contraction particularly in emerging economies (Bouvatier & Lepetit, 2012). Other studies focused on the impact of loan loss provisioning on lending pro-cyclicality. In other words, how does loan loss provisioning affect banks' lending behaviour with respect to fluctuations in the economic cycle (Olzak, 2012). To curb this trend particularly in the aftermath of the global financial crisis, the Basel Committee on Banking Supervision and Accounting Standard setters; Financial Accounting Standards Board (FASB) and International Accounting Standards Board (IASB) have respectively developed regulatory and accounting standards aimed at addressing the trending bank lending pro-cyclicality due to loan loss provisioning (BIS, 2008; BCBC, 2009, 2010; FASB, 2010; IASB, 2010). The main aim of the changes in the regulatory frameworks is to strengthen regulatory capital and adequate provisioning practice in the banking institutions due to the pervasive importance and efficacy of loan-loss provisioning in stemming financial systems crisis (Beatty & Liao, 2009; Olzak, 2012).

2.1.2. Loan Loss Provisioning and Profitability Nexus

Earnings and profitability is the resultant effect of the excess of income over sundry expenses. Interest income which originates from credit portfolio is ostensibly the highest income spinner for banks amongst other amalgam of income sources and is also highly susceptible to default risk which attracts provision expenses and other incidental costs. This fundamentally creates relationship between loan-loss provision and bank profitability measured by return on asset (ROA), return on equity and interest margin. Loan-loss provision is an accrual charged against profit which reduces net profit and perhaps the main reason behind the manipulation of provisions for earnings management (Anandarajan, Hasan & McCarthy, 2006; Beatty et al. 1995; Laeven & Majnoni, 2003).

Most of the banking literatures consent to the allusion that bank profit increases when loan portfolio increases but decreases when consequential provision for the non-performing elements increase and vice versa (Trujillo-Ponce, 2012). Norden and Stoain (2013) contend that increases in loan-loss provisions reduces bank profit but increases reserves against expected credit-losses while a decrease in loan-loss provision increases the inevitable option that unforeseen loses will be

absorbed by bank capital or shareholders fund. The danger in this option is that if the residual capital fund slides below the regulatory capital requirement, the bank might face the risk of insolvency.

2.1.3. Nexus between Asset Size and other Bank Specific Variables

Bank asset-size has been spotted as one bank-specific variable that seemingly have influence on commercial banks financial indicators. Asset-size in this context is defined as the value of total assets stated in the bank's Statement of Financial Position. It is also one of the criteria for measuring a systematically important financial institution.

On the premised of the size related importance of some financial institutions, Financial Stability Board (FSB) been the international body established as the aftermath of the global financial crisis (2007 to 2009) at the London summit by G20 countries and saddled with the assignment of monitoring global financial systems developed special approach to prevent these so-called 'global systematically important financial institutions' (G-SIFIs) from future financial shocks. A systematically important financial institution is an institution (insurance company, banks or other financial institutions) whose failure is likely to trigger crisis capable of disrupting the entire financial system and the real economy in general (CBN, 2014). These institutions referred to colloquially as "too big to fail", are important hence special attention is given to prevent their failure to avert is contagion effect on the financial system. Factors specified by BCBS for assessing banks as systematically important include: asset size, interconnectedness, complexity, substitutability and cross-jurisdictional activities (CBN, 2014). CBN and NDIC employ indicator-based measurement style to categories banks as SIBs which include asset-size, substitutability, complexity and interconnectivity. SIBs are expected to maintain Higher Loss-Absorbency (HLA) with a capital adequacy of 15% against 10% capital adequacy ratio for national /regional banks (CBN, 2014).

There have been some raging arguments in the literature with respect to the disparate implications of 'asset-size' on functional indicators of financial institutions and performance rating in particular. Bank regulators in Nigeria have also along this line of reasoning disaggregated commercial banks into large, medium and small banks; national, regional and international banks as well as domestic systematically important banks dichotomy (CBN, 2014). Some scholars posit that asset-size provide veritable economies of scale for the bank which in turn enhances profitability (Regehr & Sengupta, 2016; Clark, 1986). This argument stems from the premise of 'relative efficiency hypothesis' which holds that larger banks make more profit than smaller banks on the basis of their superior efficiency amongst other conspiracy of factors (Clark, 1986; Chang, Nieh & Peng, 2011). Others contend that asset-size provides ample latitude for portfolio diversification along the lines of product, sector and regional spread. This in the view of the authors help to minimize risk and the attendant losses thereby enhances profitability. Extant studies provide mixed reports with regards to the effect of asset-size on bank profitability.

2.1.4. Deposit Base and Risk Ratios Nexus

Deposits are the largest liabilities held by commercial banks to fund their assets. It is equally cheaper than other sources of fund and can easily be mobilized under simple terms and conditions (Ahmet & Hasan, 2011). Deposit liabilities are routinely transformed from its liquid form (cash) to illiquid income generating assets which consequently upon transformation, elicit different kinds of risk. The assumption that most income generating asset of banks are funded through the deposit source underlie a seemingly linear relationship between deposit liabilities and profitability of commercial banks. This does not suggest that deposit liability is the single determinant of bank profit because studies have shown that other bank-specific and macroeconomic variables also influence earnings and profitability (Alshatti, 2016; Osuagwu, 2014;Swamy, 2013).

The assumption that deposit base contributes significantly to profitability equally tend to suggest that movements in components of capital adequacy ratio (CAR) will also be influenced by deposit liability dynamics. Contrary to this supposition, Irawan & Anggono (2015) reported after a study in Indonesia that there is a negative correlation between bank deposits and capital adequacy ratio. Similarly, Olariwaju & Akande(2016) and Alkhouri (2012) also showed evidence that deposit has negative impact on profit and capital adequacy due to high cost of intermediation and loan loss provisions.

Deposit liabilities' is evidently the major source of funding bank risk asset portfolio or lending and the assets quality is assessed based on loan performance status. This essentially underscores the risk implications of loan-to-deposit ratio which measures management efficiency in the utilisation deposit liabilities in credit extension. A high ratio indicates liquidity risk while low ratio signals excess liquidity. Efficient asset and liability management balances the coefficients to mitigate the risk (Ajibola, 2016). Since loan growth depends largely on deposit there is therefore the likelihood that such growth will trigger nonperforming loans which will negatively affect asset quality (Al-Khouri, 2012)

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2.2. Empirical Studies

Trujillo-Ponce (2012) examines factors that determines profits for Spanish banks from 1999 to 2009 He finds that specific variables such as high proportion of loans in total assets, high deposit ratio (liquidity), high capital ratios, low credit risk and good efficiency contribute to Spanish banks unparalleled profitability. He finds that Spanish banks were less affected by the 2007 to 2009 global financial crisis because they adopted dynamic provisioning also known as statistical or generic provisioning prior to the crisis.

Lata (2014) studies the impact of non-performing loans on the profitability of commercial banks in Bangladesh. The results indicate that non-performing loans as well as its growth have a significant negative impact on the profitability, measured by non-interest income.

Samad (2015) empirically examine the factors that determine bank profitability in Bangladesh. Using data covering from 2009 to 2010. While the dependent variable is average return on assets (ROA), the independent variables are liquidity risk, credit risk and credit quality, operational efficiency, bank size and capital efficiency. Macroeconomic variables such as economic growth and inflation rate are also included in the model. The results indicate that all bank specific variables apart from bank size have significant positive impact on profitability while GDP, inflation rate and bank size has no impact.

Chimkono, Muturi and Njeru (2016) examine the effect of non-performing loans and other bank variables on bank profit in Malawi from 2008 to 2014 using correlation analysis. The results indicate that non-performing loan ratio, efficiency ratio and average lending rates all show significant effect on profitability while cash reserve ratio shows insignificant relationship with bank profit.

Jolevski (2017) uses correlation regression analysis to test the relationship between non-performing loans and profitability indicators among commercial banks in Macedonia for the periods 2007 to 2015. Their proxy for profitability was return on assets and return on equity. The findings show a significant negative correlation between the two proxies of profitability and the explanatory variable (non-performing loans).

Tariku and Madhusudhana (2017) investigate the effect of non-performing loans on the profitability of commercial banks in Ethiopia. They use capital adequacy ratio and non-performing loans as proxies for the explanatory variable while return on equity is used as a measure of profitability. The results indicate that capital adequacy ratio have a negative impact on profitability while the effect of non-performing loans is positive.

Akter and Roy (2017) in an attempt to proffering solutions to the problem of nonperforming loans that engulfed banking sector in Bangladesh investigate the impact of nonperforming loans on profitability of banks listed on Dhaka Stock Exchange from 2008 to 2013. The dependent variable is net interest margin while the explanatory variables arethe ratio of classified loans to total loans, bad debts, loan to deposit ratio and interest margin. The results show some evidence of high non-performing loan in the banks' credit portfolio which in turn shows significant negative effect on profitability.

Eyup, Niyazi and Nurcan (2017) investigate the extent to which nonperforming loans affect profit of commercial banks in Turkey for the period from 2005 to 2016. The data consist of quarter time series on55 banks which translate to 1805 observations. The dependent variables are ROA and ROE while the ratio of non-performing loans to total loans and provision for non-performing loans are the explanatory variables. The control variable is the ratio of bank equity to assets. They find that there is a negative and significant relationship between the two metrics of profitability and the explanatory variables.

Vihn (2017) examines the impact of nonperforming loans on profitability and bank lending behaviour for 34 commercial banks in Vietnam for the period from 2005 to 2015 using the generalised method of moment (GMM) technique. The results show among other things that there is a significant negative relationship between nonperforming loan and profitability.

In Nigeria, the study by Osuagwu (2014) seek to ascertain bank specific determinants of profitability of commercial banks using an unbalanced panel data for the period 1980 to 2010. The study uses return on equity, return on assets and net interest margin as dependent variables, and the ratio of demand deposits to deposit, the ratio of non-performing loans to total loans, the ratio of non-interest income to operating profit, the ratio of total deposits to total loans, the ratio of total loans to total assets, the ratio of operating expenses to total assets and the opportunity cost of holding reserves all as explanatory variables. Inflation, and exchange rate are used as control variables. He finds that credit risk is a significant determinant of bank profit along with other internal factors. He also finds that exchange rate is a significant determinant of profitability when measured by ROE and net interest margin but not a significant determinant of profit when measured by ROA.

Adebisi and Matthew (2015) examine the impact of non-performing loans on the profitability of commercial banks in Nigeria for the period from 2006 to 2012 using regression analysis. They find that   there is no relationship between non-performing loans and return on asset of commercial banks in Nigeria. The result however indicated a significant relationship between non-performing loans and return on equity.

Hussain (2015) investigates the effect of non-performing loans on the performance of commercial banks in Nigeria using Union Bank Plc as a case study. The study covers a period from 2008 to 2013. The proxy for bank performance is return on assets while the main explanatory variables are non-performing loans, measured as the ratio of non-performing loans to total loans and the ratio loan provision to total loan. Based on regression analysing, he finds that non-performing loans has negative influence onbank performance.

Etale, Ayunku and Etale (2016) investigate the impact of non-performing loans on bank performance in Nigeria from 1994 to 2014 using multiple regression analysis. Their proxy for bank performance is return on capital employed while substandard loans, doubtful loans (DOL) and bad loans are all used as the explanatory variables. From their findings, there is evidence that high non-performing loans have negative effects on the performance of banks in Nigeria.

Ugoani (2016) adopted the explorative and descriptive research design to investigate the effect of non-performing loans on profitability of commercial banks in Nigeria. From his population of 20 deposit money banks he selected 3 commercial banks through the judgemental sampling technique. He used data from the main regulatory authorities' annual reports (CBN and NDIC). He found that non-performing loans recorded negative association with profitability indices for the period 1990 to 2011.

Ozurumba (2016) investigates the relationship between non-performing loans and profitability of commercial banks in Nigeria between the periods of 2003 to 2013 using ordinary least squares method and ratio analysis. Nonperforming loans, loan loss provisions and loans and advances are all used as the explanatory variables while return on assets and return on equity both are used as the metrics for the dependent variable. He finds that there is an inverse relationship between non-performing loans, loan loss provisions and the two dependent variables. On the contrary, there is a positive relationship between loans and advances and the dependent variables.

More recently, Ojo and Somoye (2017) investigate the impact of commercial banks nonperforming loans on financial development in Nigeria for the periods from 1981 to 2012. The ratio of credit to private sector to GDP is used as proxy for financial development while the explanatory variables are non-performing loans to bank assets, commercial banks interest rates, liquidity ratio and the level of inflation. They find a long run relationship between financial development and the explanatory variables. The study is particularly relevant because non-performing loans is also an explanatory variable in the present study.

3. Methodology

3.1. Data

We use panel data collected from fifteen commercial banks for a period of eleven years from 2005 to 2016. The selected commercial banks include Access Bank, Diamond Bank, Ecobank, Fidelity Bank, First Bank, First City Monument Bank, Guarantee Trust Bank, Skye Bank, Stanbic IBTC, Sterling Bank, United Bank for Africa, Union Bank, Unity Bank, Wema Bank and Zenith Bank. Our dependent variable is return on assets while loan loss provisions and non-performing loans both serve as explanatory variables. The control variables are deposit base and total assets which is used as a proxy for size. All data are sourced from the annual reports and accounts of the selected commercial banks for different years. The analysis is based on E Views 9 econometric software package.

3.2. Empirical Strategy

Conventionally, empirical analysis within the panel data framework is based on three competing methods; namely, pooled regression, fixed effects and random effects methods. The difference between these methods lies in the assumption made on the cross-sectional heterogeneity usually associated with panel data. While the pooled method ignores the heterogeneity parameters with the assumption that they are irrelevant in the panel data model, the fixed effects and the random effects methods both have reversed assumptions. Both incorporate heterogeneity parameters in the panel data model as relevant factors. Although, choosing the best method for a given panel dataset is an empirical decision which is usually based on some prescribed tests such as Likelihood Ratio and Hausman tests, we use simple residual tests to select the preferred method.

Our empirical model is given by:

$$ROA_{it} = \alpha + \lambda_i + \beta_1 LLLP_{it} + \beta_2 LNPL_{it} + \beta_3 LASSETS_{it} + \beta_4 LDEB_{it} + \epsilon_{it} \qquad (1)$$

where; ROA = return on assets, $LLLP$ = log of loan loss provisions, $LNPL$ = log of non-performing loans, $LASSETS$ = log of total assets and $LDEB$ = log of deposit base. Further,α = the regression intercept,λ_i = the bank-specific latent parameter that captures cross-sectional heterogeneity or unobservable differences in the selected commercial banks, $\beta_1, \beta_2, \beta_3,$ andβ_4 = slope coefficients that capture the main relationships being studied andϵ_{it} = the error terms. In panel data, there are two dimensions: (1) cross-sectional and (2) time series dimensions. While the cross-sectional dimension is represented by the subscript i, the time series dimension is represented by the subscript t. We assume that the relationships in our model are constant both cross-sectionally and across time, hence, no subscript is attached to the $\beta's$.

4. Analysis and Discussion

4.1. Results

Table 1 shows the estimation results for three panel data models; pooled regression, fixed effects and random effects models. Panels A, and B show model estimates and model selection statistics respectively.

From panel A of table 1, the results are largely similar for different models, except for the estimated beta for LNPL which is negative for both pooled regression (beta = -0.070) and random effects (beta = -0.041) methods but positive forfixed effects method (beta = 0.094). However, it is not significant for all models. For LLLP, the estimated coefficient is positive with very high probability across models, indicating that loan loss provision and return on assets are positively but insignificantly related. For the control variables, while the coefficient on LASSETS is consistently positive and highly significant, indicating a positive relationship asset size and ROA, the coefficient on LDEB is consistently negative and highly significant, indicating that deposit base and ROA are negatively related.

From panel B, we can see that the three models significantly explain the variations in bank performance, with the F-statistic being highly significant for all cases. The Adjusted R-squared indicates that the proportion of the total variation in ROA that is accounted for by the joint influence of the explanatory variables is 8%, 16% and 9% for pooled regression model, fixed effects model and random effects model respectively. Thus, the fixed effects model appears to fit our panel data much

better than both pooled regression and random effects models. However, given that the Durbin-Watson statistic is approximately 2 for the pooled regression model (DW = 2.048) but substantially higher than 2 for both fixed effects (DW = 2.447) and random effects (DW = 2.250) models, one can confidently say that the pooled model is more well-behaved than its competitors in terms of the estimated residuals. As it is well known, a Durbin-Watson statistic that is higher or lower than 2 indicates the presence of negative or positive autocorrelation in the model. The superiority of the pooled model is formally confirmed by the Breusch-Pagan LM residual diagnostic test which is associated with a relatively high *p*-value for the pooled regression model (*p*-value = 0.1206)compared to both fixed effects (*p*-value = 0.0422)and random effects models (0.0808). Thus, the null hypothesis of no serial correlation is not rejected for the pooled model but rejected for the fixed effects and random effects models at 5% and 10% levels respectively. Conclusively, therefore, we can say that the pooled regression model outperforms both fixed effects and random effects models.

1 Variable	2 Pooled	3 Fixed Effects	4 Random Effects
Panel A: Model Estimates			
Constant	-12.87057 (0.0647)	-11.76642 (0.2903)	-12.01393 (0.1433)
LNPL	-0.070802 (0.8605)	0.094549 (0.8892)	-0.041077 (0.9324)
LLLP	1.225466 (0.2907)	0.819331 (0.6335)	1.104983 (0.4120)
LASSETS	27.07687 (0.0000)	37.11322 (0.0000)	31.38205 (0.0000)
LDEB	-26.86389 (0.0000)	-37.03790 (0.0000)	-31.27918 (0.0000)
Panel B: Goodness of Fit Statistics			
R-squared	0.104694	0.249470	0.111720
Adj. R-squared	0.083873	0.163967	0.091062
F-statistic	5.028257 (0.0007)	2.917666 (0.0001)	5.408168 (0.0003)
Durbin-Watson	2.048151	2.447606	2.250181
Breusch-Pagan LM	122.1853 (0.1206)	131.2679 (0.0422)	125.8677 (0.0808)

Table 1: Results for Pooled, Fixed Effects and Random Effects Models; ( ) Contains P-Values

4.2. Discussion of Findings

First, we find evidence that the pooled regression model performs better than both fixed effects and random effects models. This is based on simple residual diagnostic tests which show that both random effects and fixed effects models suffer specification problems while the pooled model is well-behaved. This may be interpreted as suggesting that bank-specific factors such as management styles, management culture etc. are irrelevant factors for our panel data model and thus, should be ignored. Therefore, commercial banks in Nigeria are largely homogenous in terms of the relationship being studied.

Focusing on the results for the preferred pooled regression model in column 2 of table 1, we can confidently say that non-performing loan and return on assets are negatively related. This implies that an increase in non-performing loans (NPL) would reduce the profitability of commercial banks in Nigeria. Although, this relationship is insignificant, the result is consistent with our expectation apriori. This result largely agrees with most of the previous studies including Adebisi and Mattew (2015) Ugoani (2016), Ozurumba (2016) and Vihn (2017). Thus, for commercial banks to increase their current level of profitability and perhaps, increase the value of their shareholders, the level of bad loans or non-performing or impaired loans must be significantly reduced.

Further, our results show evidence that loan loss provisions and bank profitability are positively but insignificantly related. This is contrary to our expectation apriori and most of the previous studies.

The results of the preferred model also show that both asset size and deposit are significant explanatory factors for bank performance. However, while the effect of asset size is positive as expected, the effect of deposit base is negative. Although, the negative effect of deposit base is inconsistent with our expectation apriori, it however, agrees with the findings of Al-Khouri (2012) who argues that since loan growth depends largely on deposit, there is therefore the likelihood that such growth will trigger nonperforming loans which will negatively affect asset quality. On the contrary, the positive effect of asset size is also consistent with most of the previous studies.

5. Conclusions

In this study, we examine asset quality correlates and financial performance of commercial banks in Nigeria within the panel data framework using yearly data for a period of eleven years from 2005 to 2016. A sample of 15 commercial banks are used including Access Bank, Diamond Bank, Ecobank, Fidelity Bank, First Bank, First City Monument Bank, Guarantee Trust Bank, Skye Bank, Stanbic IBTC, Sterling Bank, United Bank for Africa, Union Bank, Unity Bank, Wema Bank and Zenith Bank. Capital adequacy ratio is the dependent variable while loan loss provisions and non-performing loans both serve as explanatory variables. Bank deposit base and total assets are used as control variables. The major conclusions are:

When the three conventional panel data methods (pooled regression, fixed effects and random effects methods) are estimated, the results show that both fixed effects and random effects models have specification problems while the pooled regression is well-behaved. Based on the results of the pooled regression model, there is evidence that non-performing loans and loan loss provisions both have insignificant relationship with bank profitability. However, while the effect of non-performing is negative, the effect of loan loss provisions is positive. There is also evidence that and total assets and deposit base have highly significant relationship with bank profitability. Again, while total asset exhibits positive relationship, deposit base exhibits negative relationship. All in all, our objectives are largely achieved.

6. References

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