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Effect of Recapitalization on Banks' Financial Performance in Nigeria

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Abstract:

Recapitalization of banks has been considered the way forward of ensuring developing countries bank compete with the outside world (developed countries). This study examines the effect of recapitalization on banks' performance in Nigeria. Data were collected from audited financial report of the selected banks from 2000-2013. The analysis was carried out with the use of panel method. It finds out that there is negative relationship between banks performance and recapitalization. The study concluded that management needs to considered recapitalization as a way of ensuring optimal utilization and tax incentive for banks for the purpose of competing with outside world economy.

Introduction:

Banking sector has been and will always be the construct of developed and any developing countries. Banking industries play indispensable role in the economy of a nation based on financial intercession (through transmission savings from surplus sector of the economy to the property sector of that economy). Without banks and other financial institutions, process for saving and transaction will not only be incompetent but more importantly may lead to less than best resource distribution. An efficient and effective financial system is not only vital for the promotion of efficient intervention but also for the protection of depositors, commendation of healthy entity, maintenance of certainty in stability of the economic system, and protection against system risk and collapse. The degree of success of banks and other financial institution in performing the above function depends on the financial grass root of the banks. It is only through competent capital base that banks can regain balance and be on normal earning structure.

Professor Chukwuma Soludo the former governor of the central bank of Nigeria disclosed a 13 point reform agenda to banks chiefs on Tuesday July 6, 2004 was an upward review of banks' capital base from N2billion to N25billion (Jimmy, 2008). Explaining the need for recapitalization, he said that banks have not played their role effectively with their weak capital base and as such, the decision to raise the capital base of banks with the aim of concentration and integrate the banking system which was very necessary for the economy. According to him, "if we do not do anything today, several banks would go under and we will end up with more job losses; but with this measure, we will end up with more job savings than if we allow banks to go under". Speaking advance he said "we have a duty to be proactive and to strategically position Nigerian banks to be active players and not eyewitness in the confluence world".

The CBN's new policy was indeed bitter pills for many banks to swallow and in no time, heated debates both within and outside the financial circle began to surface over the attribute of the policy in relations to Nigerian banking system. Despite the live and cry of certain negatives quarters, the CBN's recapitalization

directives was not without its own fair share of supporters which included one of the former president of Nigeria, Chief Olusegun Obasanjo, who publicly supported the N25billion capital base for banks, the manufacturers association of Nigeria (MAN). Another view was expressed by the former president of ICAN, Mrs Ibironke Osiyemi, who said that the N25billion capitalization of banks and other CBN reform trait would encourage team work among banks, institute corporation governance and discourage one-man bank stockholding.

In the midst of the ranging storm, the CBN former governor preserved his stand that there is no going back on the issue of recapitalization. Despite being aware of the CBN's propitious disposition towards the change and incurring option, many banks opted initially for the capital to raise funds through public offers (IPO), while some other banks like assets bank, Diamond bank, Platinum bank and conciliatory bank adopted private alignment of their shares among the wealthy as the strategy to raise shareholders fund to an considerable level before looking for a bank to capture or merge with.

Literature Review:

The overview of recapitalization, bank performance, merger and acquisition and the Nigerian banking industry with relevant literatures on conceptual, empirical and theoretical framework on the linkage between mergers and acquisition and bank performance in Nigeria was covered in this chapter.

Conceptual framework on recapitalization

Recapitalization can be said to be restructuring banks debt and equity mixture, most often with the aim of making banks capital structure more stable according to Jimmy 2008. Recapitalization occurs when banks changes its capital unit. It is used to improve banks debt/equity ratio. It can also be defined to be the major change in the way a bank is being funded. This project concentrated on the effect of recapitalization on Nigerian banks which is merger and acquisition.

A merger (or an amalgamation) occurs when two or more companies moved their businesses and assets to a new company (or to one of themselves) and in consideration, their members receive shares in the transferee company. Merger as any amalgamation of the undertakings or any part of the undertakings or interests of two or more companies or the undertakings or part of the undertakings of one or more companies and one or more bodies corporate according to Section 590 of the CAMA (repealed).

Merger and Acquisition History in the Nigerian Banking Industry

Since 1892 the Nigerian banking industry has gone through different stages and phases ranging from changeovers, takeovers and buyouts.

a) First Stage: The Embryonic Phase

As at 1892 the African Banking Corporation with its headquarter in South Africa pioneered the Nigerian banking system in 1892 followed by the British Bank for West Africa' (now First Bank of Nigeria Plc) while Barclays Bank D.C.O. (now Union Bank of Nigeria Plc) and the British and French Bank (now United Bank for Africa Plc) were established in 1925 and 1949 respectively (Danjuma, 1993; Ebhodaghe, 1990; Ibru, 2006). In February 1933 the story of indigenous banking in Nigeria began with the establishment of the National Bank of Nigeria Limited and the Agbonmagbe Bank Limited (now Wema Bank Plc) in 1945 as well as the African Development Bank Limited, which later became known as African Continental Bank Plc in 1948. The establishment of these indigenous banks ushered in the era that saw the constant monopoly erstwhile enjoyed by the foreign owned banks challenged (CBN, 2008; Ebhodaghe, 1990).

b) Second Stage: The Expansion Phase

In 197 the chain in banking industry stepped up to stage two (2) which is the increase of the Nigerian banking sector to the Rural Banking Scheme, Peoples' Bank in 1989, and Community Banks (now Microfinance Banks) in 1990 to backup community development associations, cooperative societies, farmers' groups, patriotic unions, trade groups, and other local organizations, especially in rural areas to imbibe formal banking methods. Between 1985 and 1991, banks sprout from 40 to 120 (Agbaje, 2008; Bichi,1996; Ebhodaghe, 1990,1995; Mordi, 2004) due to the liberalization of the banking sector.

c) Third Stage: The Consolidation/Reform Stage

When the Nigerian eighty nine (89) banks shrunk to twenty five (25) in January1 2006 that was when the phase started. The consolidation exercise then required banks to raise their minimum capital base from N2 billion to N25 Billion, with December 31, 2005 as deadline (see table 2). This increase representing about 1,150% was to amongst other things encourage the consolidation of the banking sector to produce mega-

banks from the then existing 89 banks as most of them were just fringe players and financially unsound (Soludo, 2008). Other financial institutions included government-owned specialized development banks: the Nigerian Industrial Development Bank, the Nigerian Bank for Commerce and Industry, and the Nigerian Agricultural Bank, as well as the Federal Savings Banks and the Federal Mortgage Bank. Also active in Nigeria were numerous insurance companies, pension funds, and finance as well as leasing companies.

d) Fourth Stage:

Some researchers are yearning and calling for the fourth stage of only three banks; one of which will be indigenous while the rest two should come through Foreign Bank Penetration, FBP from the United States and Europe respectively, while this research have thirst only for management abstraction regarding merger and acquiring owing to the fact that this strategic integration was not without much success in the developed countries.

Overview of Recapitalization Trend in Nigeria:

Recapitalization in Nigeria came with every improvement to the Central bank Act 1958, the Central bank (correction) Decree No. 37 of 1998 which repealed the CBN (Amended) Decree No. 3 of 1997. The restrictive powers of the CBN were strengthened by the Banks and Other Financial Institutions Act 1991. In 1969, capitalization for banks was £1.5 million for foreign banks and £300, 000 for indigenous commercial banks (CBN Financial Publication, 1969). In 1979, when Merchant banks come on board in the Nigerian banking scene, the capital base was N2 million. As from 1988, there had been further increase in the capital base, particularly coupled with the reduction of the financial system and the introduction of structural adjustment programme (SAP) in 1996. the capital base for commercial banks was increased to N5 million in February 19888 while Merchant bank was restraint at N3 million in October of the same year, it was moved up to N10 million for commercial bank and N6 million for Merchant banks. In 1989, there was a further increase to N20 million for commercial bank and N12 million for merchant banks (CBN Financial Publication, 1979-1989). In recognition of the fact that well-capitalized banks would strengthen the banking system for effective monetary management, the monetary control increased the minimum paid-up capital of commercial and merchant banks in February 1996 to N50 million and N40 million from N20 million and N12 million respectively. Troubled banks whose capital fell below existing obligation were expected to adapt or face liquidation. Twenty-six of such banks comprising 13 each of both commercial and merchant banks were liquidated in January, 1998. Minimum paid up capital of merchant and commercial banks was raised to a uniform level of N500 million with effect from 1st January, 1997 and by December 1998, all existing banks were to recapitalize (CBN Financial Publication,1998). The Central Bank of Nigeria (CBN) brought into force the risk weighed measure of capital attribute recommended by the Basle committee in the United Kingdom of the Board of Bank for International Settlements (BIS) in 1990. Before then, capital adequacy was unhurried by the ratio of adjusted capital to total loans and advances outstanding in line with the United Kingdom Accounting Standards. In 1990 CBN introduced a set of prudential guidelines for licensed banks, which were laudatory to both capital adequacy obligation and Statement of Standard Accounting Practices. The prudential guidelines, among others, spelt out the criteria to be employed by banks for classifying non-performing loans. In 2001, when Universal banking was adopted in principle, the capital base was raised to N1 billion for existing bank and N2 billion for new banks. But in July 2004, the governor of the CBN declared the need for banks to increase their capital base to N25 billion and that all banks are anticipated to comply by December 2005 (CBN Financial Publication, 2001- 2004).

Factors Affecting the Efficiency of Banks:

There are several factors that affect the efficiency of banks as banks continue to play a vital role in discharging its responsibilities to the economy and to individuals at large. These factors are highlighted below by Carlos and Guglielmo (2012);

a) Foreign Ownership

Foreign entity might have an impact on costs by causative to the transfer of knowledge and economies of scale between banks belonging to the same group. Chiu et al. (2008), for example, tested this proposal on a sample of Taiwanese firms and reached the sentiment that group association can be beneficial, though this might be dependent on the size of the group. Other studies have also linked the success of group association to the type of market, firms with group association tending to outperform those without in competing

markets, since for the latter it is harder to gain new market shares (Khanna and Palepu, 2000; Ghemawat and Khanna, 1998; Cho, 2007; Griffith-Jones, 2007). Therefore it might be more profitable to join a foreign group, thereby sharing its resources and position to make up for external market failures (Khanna and Paleou, 2000). Meanwhile group affiliation here refers to mergers and acquisition.

b) Mergers and Acquisitions

Mergers and acquisitions between similar companies are known as horizontal mergers (Andrade, Mitchell and Stafford, 2001), and aim to improve cost performance and synergy through a larger market share. In the former case the merged companies reduce operating costs but keep the premises of the merged or acquired company (Garette and Dussauge, 2000).

c) Firm Size

It is often state that large firms might be more efficient, because they can use more specialized inputs, coordinate their resources better, and reap the advantages of economies of scale (Alvarez and Crespi, 2003) and make up for external market failures (Khanna and Palepu, 2000; Ghemawat and Khanna, 1998). Related studies also indicated that firm size has a positive impact on efficiency and decreases costs (Altunbas et al., 1997, Berger and Humphrey, 1991, Alvarez and Arias, 2003).

d) Banking consolidation

Banking combining aims to improve cost performance (Amel, Barnes, Panetta and Salleo, 2004) and therefore it may have a negative impact on bank's costs.

The Procedure for Mergers in Nigeria:

Preliminary Considerations

The formalities of a merger usually include the following steps. (Orojo, 2006, Fox and Fox 2004)

a) The company may execute a Memorandum of Understanding which spells out the understanding of the parties and "sets the stage for honest and confident negotiation and anticipates the future steps to be taken by the parties". This document is not subject to regulation by the Securities and Exchange Commission. The management of the acquiring and target companies will reach a preliminary agreement.
b) The Board of directors of both companies would then adopt a merger agreement. Both companies must notify their respective shareholders of the terms of the proposed merger and the shareholders must approve the transaction by majority vote.
c) Notification and voting materials usually are provided to shareholders of public companies as part of proxy statements required by statutory instrument. The proxy statements will include the terms of the merger, the consideration that will be offered to the target's shareholders and information about the two companies. These considerations may include stocks and shares or other securities in the acquiring company, debentures, or cash.
d) If the merger is approved by the required number of shares, the shareholders of the merging company will exchange their stocks for the pre-negotiated consideration. All shareholders must be entitled to receive equal consideration of each of their shares. However a choice of the form of consideration is sometimes permitted.

Research Methodology:

This chapter discusses the methods and procedures employed in carrying out the research. It also discusses the research design, study population, the data gathering method, the criterion for data collection, data analysis procedure and techniques and models used in the study.

To determine the relationship between bank performance and recapitalization in Nigeria, two simple definitional models were used to guide the analyses (Onaolapo and Ajala, 2013). These models are as follows:

ROA= f(ROE, NPR, CIR, BEPR, DY)

$ROA_{it}=\propto+\beta1ROE_{it}+\beta2\ NPR_{it}+\beta3\ CIR_{it}+\beta4\ BEPR_{it}+\beta5\ DY_{it}+\sum_{it}$

Where; ROA represent return on asset, ROE represent return on equity, NPR represent net profit ratio, CIR represent capital investment ratio, BEPR represents basic earnings per share ratio, D represents dummy variables,

Data Presentation, Analysis and Interpretation:

This chapter discuss about the variables, our findings which involve the use of descriptive statistic and empirical test result (selected and used) in analyzing the data for this section. A total of eight (8) banks were used to determine the effect of recapitalization on bank performance for the sample period of 2000 to 2013. An Ordinary least square technique was used in estimating the model (panel data) which tries to establish relationship between dependent and explanatory variables. The use of E-views 7 data analysis software was used to analysis our data (unbalanced data).

4.3 Descriptive Statistic

The descriptive analysis in this paper is based on data from eight banks over the period of 2000 to 2013.

Table 1: Summary Statistics

Variable	Obs.	Mean	Media	Std. Dev.	Skewness	Kurtosis	J.B	Min.	Max.
ROA	111	1.702856	2.396080	4.911162	-5.167282	38.31054	6260.575***	-36.36217	11.11546
ROE	111	16.74888	16.65156	20.99925	(1.033357)	7.788889	125.8221***	-86.626441	73.82108
NPR	111	14.22284	18.78009	35.33285	-3.277484	21.42685	1769.138***	-218.6424	100.0000
CIR	111	67.33936	71.03864	28.44177	-0.184177	4.238781	7.724965**	0.999987	165.8767
BEPR	111	12.98386	11.45944	6.118727	0.769306	4.287272	18.61283***	0.004381	34.94142

Source: Own calculation based on each banks financial statement data

Note: The summary statistic are calculated for the sample period of 2000-2013 for the total number of banks of eight.

P-value in parentheses;* significance at 10%; ** significance at 5% and *** significance at 1%.

The descriptive statistics (as shown in table 4) indicates that the mean for the yearly return on equity (ROE), return on assets (ROA), net profit ratio (NPR), cost-to-income (CIR) and basic earning power ratio (BEPR) are 16.7489, 1.7029, 14.2228, 67.3394 and 12.9839 respectively. The mean shows on average the value for each of the variables. This is the sum of our data for each variable divided by the numbers of observation. This calculated by:

$$\textbf{Sum of datas/Numbers of Observation}$$

For median, the ROA, ROE, NPR, CIR and BEPR for the selected banks over the years using the panel data are 2.3961, 16.6516, 18.7801, 71.0386 and 11.4594 respectively (see table 4) this indicate the middle of the data for each variable after arranging the data in ascending or descending order. The median is calculated, since our data are even numbers, by summing the two middle numbers and dividing it by two ($\frac{(a+b)}{2}$).

The maximum shows the highest value for each sample ROA, ROE, NPR, CIR and BEPR which are 11.1155, 73.8211, 100.0000, 165.8767 and 34.9414 respectively while the minimum indicate the lowest value for each variables as -36.3622, -86.6264, -218.6424, 0.9999 and 0.0044.

Standard deviation measures the variation that exits from the mean, A low standard deviation represent that data are close to mean while a high standard deviation indicate that data spreads over the large range of values. The spread of the sample series ROA, ROE, NPR, CIR and BEPR are 4.911162, 20.99925, 35.33285, 28.44177 and 6.118727 respectively. Standard deviation may also serve as measured of uncertainty. Table 3, shows that all our data are spread out over the mean with NPR and ROA has the highest and lowest standard deviation respectively.

Skewness is used to measure the probability distribution of a random variable. It can be positive, negative or zero. A negative skewness indicates that the left hand side is longer than the right hand side of the tail while a positive skewness means that the right hand side is longer the left hand side of the tail. In case of zero skewness, it means that the left and the right hand of the tail are even. Under skewness, using descriptive statistics, ROE, ROA, NPR, CIR and BEPR are -1.0334, -5.1673, -3.2775, -0.1842 and 0.7693 respectively shows the distribution of series around the mean. In our sample, the ROE, ROA, NPR and CIR indicate that the left tail is long while BEPR indicate a long right tail.

Kurtosis is the descriptor of the shape of or measures the peakedness of a distribution and for a normal distribution. If the kurtosis coefficient is three and above, it shows a high peak within a thin mid-range while the coefficient is less than three, indicates a low peak with a flat midrange on either side. In our study, we

find that ROE, ROA, NPR, CIR and BEPR are 7.788889, 38.31054, 21.42685, 4.238781 and 4.287272 respectively.

Jarque-Bera test is used test for goodness of fit whether the skewness and kurtosis match a normal distribution. It is used to test for the hypothesis that the variable are from a normal distribution. In using JB test, the null hypothesis states that 'skewness and kurtosis being zero, if the probability is less than the level of significance (critical value) we reject the null hypothesis and otherwise will accept. In table 4, the Jarque-Bera (JB) test shows 125.8221, 6260.575, 1769.138, 7.724965 and 18.61283 for ROE, ROA, NPR, CIR and BEPR respectively in the p-value for each variable is 0.000000. This indicates that the regression residual are normally distributed since without normality of t and f statistic, it may not follow t and f distribution.

Data Analysis and Interpretation:

The variables discussed in the previous section is analyzed and interpreted in this section. The analysis of the sample data are of Four parts; the correlation test (to describe the relationship between all the variables), and the empirical findings (the pooled regression model, the cross-section fixed effect and cross-section random effect using the variables) and the data computed for those variables from of different banks financial years for the period. The correlation statistics for the variables are described as follows:

Correlation:

Correlation coefficient is a number that describe the strength of relationship (which can be weakly or strongly) between variables and there direction (either positive, negative or zero relationship).

Table 2

ROA	1.000000					
ROE	0.766198	1.000000				
NPR	0.898630	0.711357	1.000000			
CIR	-0.112882	-0.065755	-0.174155	1.000000		
BEPR	0.082617	0.168052	-0.067128	-0.065345	1.000000	
DUMMY	-0.030084	-0.191129	0.095301	-0.189085	-0.454485	1.000000

Source: Own calculation based on each banks financial statement data

Table 5 gives correlation statistic of the main variables in the panel estimations used. The findings from our correlation analysis for the model 1(see table 5) indicates sign of and significance level in the subsequent panel estimate. A positive relationship indicates that as one variable increases the other variable tend to increase, while a negative correlation indicates as one increase the other decrease As of return on assets (ROA), which is significantly positively correlated with net profit ratio (NPR), return on equity (ROE) and basic earnings per share (BEPR) while a negative relationship means that upward movement in one variable brings about downward movement in the other variables. In the case of Cost to income ratio (CIR) and the dummy (DY) for the effect of recapitalization which are significantly negatively correlated with the bank performance. As expected, the cost to income and return to asset are negatively correlated based on the fact that expenses tend to affect profit. This is as a result, as expenses increases, profit decreases which in turn have effect on the equity of the firm. Finally, since there is no evidence of multicollinearity between the variables, so all the variables will be used together in the panel estimations and it is to note that correlation findings do not necessarily reflect causal relationships since they do not account for other explanatory factors that affect the dependent variable.

4.4.2 Empirical findings

For the regression of the model, it can be linearly expressed as shown below;

$$\mathbf{ROA_{it}} = \propto + \boldsymbol{\beta_1}\mathbf{ROE_{it}} + \boldsymbol{\beta_2}\mathbf{NPR_{it}} + \boldsymbol{\beta_3}\mathbf{CIR_{it}} + \boldsymbol{\beta_4}\mathbf{BEPR_{it}} + \boldsymbol{\beta_5}\mathbf{DY_{it}} + \boldsymbol{\mu_{it}}$$

Analyzing the above equation model using pooled regression method which are of linearly in the regression model, the result are expressed as follows:

ROA = -2.0022+ 0.0774BEPR + 0.1068NPR -0.0066CIR + 0.0476ROE – 0.0971DY

Standard error = (0.8407) (0.0351) (0.0081) (0.0068) (0.0137) (0.3270)

The pooled data regression model, it takes into account or estimate neither nor random effects. We can see (TABLE 6) that our intercept and the slopes are strongly significant except for CIR. The returns on asset of this regression are in percentage, so the slope of 0.0476, 0.1068, 0.0476, 0.0774 and 0.0971 correspond to the Return on Assets (ROA) premium of 47.6%, 10.68%, 47.6%, 77.4% and 97.1% per year. The f-statistic indicates that all the variables are jointly significant and that they explain 84% variation in ROA. Also, according to the Durbin-Watson Statistic, we can conclude that there is presence of autocorrelation. Also, since under the pool regression assumes that the intercepts are the same for each banks and for each year, it may be inappropriate assumption variable. The result in table 6 (pooled regression) is not fully explained because it does not take into account the real effect of recapitalization on banks performance.

2) Analyzing the above equation model using cross-sectional fixed effect method, the result of the regression model is linearly expressed as follows:

ROA =-2.2993 – 0.0926BEPR + 0.1025NPR – 0.0066CIR + 0.0499ROE – 0.1076DY

Standard error = (0.0175) (0.0374) (0.0091) (0.0078) (0.0158) (0.3732)

The result from the Panel estimates a shown in table 7 (see appendix) present a cross-sectional fixed effect with ROA being the dependent variable. As mentioned earlier, all regression including the dummy variable will be reported.

From the regression result (table 7), all our variables are significant (according to the p-value of the regression) at 5% and 10% level of significance except cost to income ratio and the dummy. Under the p-value ratio, ROE, NPR and BEPR is lesser than 5% level of significance for the variables which indicates the variables are statistically significant while for CIR and DY, the p-value indicates that the variable are not statistical significant.

The result of the equation indicates that the variables are in agreement with the expectation while others are not. Which indicates that some variable are positive while others are negative? From the equation above, all the variables (ROE, CIR, NPR, BEPR and DUMMY) are positively correlated to ROA.

From the regression result, the intercept or constant in the model for the value of $\propto$ is -2.2993 which mean if all the variables (ROE, NPR, CIR, BERP and DY) are held constant, ROA tends to remain at -2.14. ROA will vary positively up to the tune of -2.14 when all variable are held constant. Under the slope coefficient ($\boldsymbol{\beta_1 - \beta_5}$),$\boldsymbol{\beta_5}$(DY), a negative effect was found in the result 9.71% which indicate that bank recapitalization as a negative effect on the bank's performance using ROA, which is in accordance with the finding of .Since the DY measures the effect of recapitalization on bank's performance using ROA which was also in the accordance with the finding of Badreldin and Kalhoefer (2009) research measured by ROE.

A positive variation was found in ROE, NPR, CIR and BEPR, for ROE ($\boldsymbol{\beta_1}$) indicates that a change in ROE when other variables are constant will lead to a positive variation of 16.25 per cent on ROE. That implies that a unit increases in ROA leads to 16.25 decrease in ROE when other variable are constant ROA is negatively correlated to ROE because ROA account for debt, and according to Hiller et al. (2010), MM theory states that the value of firm tends to increase based on the level of debt incurred and this leads to lesser control of the shareholders of the banks. As for $\boldsymbol{\beta_3}$ (CIR), a positive variation was reported. Which indicates that if all other variables are constant when there is a percentage change in CIR, ROA tends to increase at a rate of 0.66%? CIR indicates a positive effect of ROA; a percentage change in CIR holding all other variables constant, ROA tends to increase at 0.66%. Under NPR, a percentage increase in NPR when other variables are held constant result to a positive increase in ROA at a rate of 10.25%. Similarly, a change in BEPR when other variables are held constant leads to positive increase in ROA by a rate of 9.26%.

In table 7, the f-statistic is 119.3248 which indicate that the variables (ROE, NPR, CIR, BEPR and DY) are jointly significant in explaining the effect of recapitalization on bank performance. Also under the p-value (f-statistic) since the p-value is less than 5% level of significant, it indicate that the explanatory variables have joint effect on profitability of the banks. The rejection of the null hypothesis is made based on the rule of f-statistic and p-value (f-statistic) rule (as stated above under fixed effect).

The DW test is used to test for the presence of autocorrelation. In the result the DW is 1.5490 which is equally less than the lower and upper DW of 1% level of significant. The value of the lower and upper value is 1.56 and 1.69respectively. Since it does not fall within the lower and upper value of DW table, it indicates that there is no auto-correlation in the model implies that the result is suitable for policy purposes.

According to Brooks (2008), Hausman test is used to test the random effect result against the null or alternate (fixed) effect result whether the random effect is being uncorrelated with the explanatory variables. The decision rule of rejecting the random effect result is when the p-value for the test (Hausman test) is less than 1% (level of significance), we reject the random effect result, but if the p-value is greater than 1% we accept the random effect result of the regression.

Under the T-ratio, to find out if the variables are statistically significant for each variable, we need to find $\mathbf{t}_{(\propto/2,\ n-k)}$ and we tend to reject the hypothesis if only the t-statistic $>\mathbf{t}_{\propto/2,\ n-k}$ assuming $\boldsymbol{\beta}_{'s}$ is equal to zero.

To calculate for the$\mathbf{t}_{(\propto/2,\ n-k)}$, using level of significance of 5%

Since we are using two tail test, and $\propto = 0.05$, n = 111 and k = 6

Then;

$$t_{0.05/2,111-6}$$
$$\mathbf{t}_{0.05/2,105}$$
$$= \mathbf{1.986}$$

Using the t-prob, since all the$\boldsymbol{\beta'_s}$ is not zero for all the slope, under ROE, NPRand BEPR we tend to reject null hypothesis and accept alternate hypothesis. In the case CIR and DY, we tend to accept the null hypothesis ($\mathbf{H_o}$) and reject alternate hypothesis ($\mathbf{H_1}$).Under the T-statistic, the t-tab of 1.986 will be use to make the decision for each variables. For ROA and CIR will tend not to reject the$\mathbf{H_o}$: which state that there is negative effect of recapitalization on bank performance since t-statistic is $<\mathbf{t}_{(\propto/2,\ n-k)}$for variables ROA (-2.5061 < 1.986), CIR (0.8408 < 1.986) and DY (0.2882<1.986). But under the variable of NPR and BEPR we tend to reject the null hypothesis since the t-statistic is greater than (>)$\mathbf{t}_{(\propto/2,\ n-k)}$, 14.3727 > 1.986 and 3.5903 > 1.986 for NPR and BEPR respectively. This test shows that there is negative effect of M&A on ROA, CIR and DY on profitability while the other the regresses (explanatory) variables; NPR and BEPR have a positive effect on profitability of banks.

We tend to reject$\mathbf{H_o}$ under the f-statistic if $\mathbf{F_{cal}}>\mathbf{F}_{\propto(k-1,n-k)}$, but if not, we do not reject the null hypothesis. In our regression, F-statistic is 51.7989 and in calculating $\mathbf{F}_{\propto(k-1,n-k)}$ when $\propto$ = 5% (0.05), K = 6 (number of parameters) and n = 111 (number of observations);

$$\mathbf{F}_{\propto(k-1,n-k)}$$
$$\mathbf{F}_{0.05(6-1,111-6)}$$
$$\mathbf{F}_{0.05(5,105)}$$

Using Gujarati and Porter (2009) table for$\mathbf{F}_{0.05(5,111)}$, the result below is derived;

$$= \mathbf{2.29}$$

Thus, since the f-statistic $>\mathbf{F}_{0.05(5,111)}$ (51.7989> 2.29) we tend to reject the null hypothesis and conclude that ROA depend on ROE, NPR, CIR, BEPR and DY for the selected banks and given sample since the regresses explain significant amount in the model.

Using the probability value of f-statistic (p-value(f-statistic)) to test for the joint hypothesis, which states that reject null hypothesis if the p-value(f-statistic) < level of significant. In our regression result, the p-value (f-statistic) is 0.0000 which is less than 5% level of significance (0.0000 < 0.05). It is use to test for joint hypothesis that ROE, NPR, CIR, BEPR and DY jointly affect the ROA at level of significance of 5%. It indicates that the variables jointly affect the dependent variable. Under the F-statistic (prob), Since$\boldsymbol{\beta}_{'s}$ are zero that is, $\boldsymbol{\beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = 0}$ (for all slope coefficient). Under the F-statistics (prob), we tend to reject $\mathbf{H_o}$ (recapitalization as negative effect on bank's performance) and accept $\mathbf{H_o}$ (recapitalization as positive effect on bank performance).

The R-Squared gives statistical information about the goodness of fit of information. An R-Squared of 1 indicate that regression is perfect. In our regression result, r-squared is 0.8638 which indicate that about 86.38% of the variation in the dependent variable is explained by the explanatory variable. This indicate a good fit since 13.62% (100 - 86.38)% of the variation of dependent variable are not accounted for in the independent variables which is attributable to the error term and since the closer the R-Squared to 1 the better the regression model.

Adjusted R-squared is simply the modification of r-squared. It adjusts the explanatory variable in term of the model. Adjusted R-squared tend to increase only if variables improve the model more than expected by chance. The adjusted r-squared was 0.8471 (84.71%) according to table 7. This indicates that the explanatory variable improves the model by 84.71%

The Durbin Watson (DW) test is used to test for the presence of autocorrelation. It tests for both the upper and lower value of the observation.

In the result the DW is 1.6641 (from table 7) which is equally greater than the upper DW of 1% level of significant. The value of the lower and upper value is 1.41 and 1.64 respectively. This indicates that there is no auto-correlation in the model implies that the result is suitable for policy purposes since it does not fall within of the upper and lower value of the DW table.

Analyzing the above equation model using cross-sectional Random effect method, the result of the regression model is expressed as follows

ROA = -2.0022 – 0.0774BEPR + 0.1068NPR – 0.0066CIR +0.0476ROE – 0.0971DY
Standard error = (0.8301) (0.0774) (0.1068) (0.0066) (0.0476) (0.3229)

The result above follow the regression line of the fixed effect which also confirms with the expectation for the; P-value, coefficient, t-statistic, F-statistic, r-squared, adjusted r-squared and DW test on the null hypothesis (based on the reject or do not reject) result.

P-value indicates that all the variables (ROE, NPR, CIR, BEPR and DUMMY) are strongly statistically significant at 5% (see table 8). The slope coefficients indicate the movement of ROA (either positively or negatively) based on a change in explanatory variables. $\boldsymbol{\beta_1}$Indicate if ROE, NPR, CIR, BEPR and DY are held constant, ROA tends to increase at the rate of -2.0022 per cent.

T-statistic is used to test the significant of each explanatory variable in a model which examine the level of significant before stating the whether to reject or do not reject the null hypothesis. From our result, the t-statistic is positive for ROE, NPR, CIR, BEPR and DY at 0.0476, 0.1068, 0.0066, 0.0774 and -0.0971 respectively (see table 7). Form the t-ratio ($\mathbf{t}_{(\propto/2,\ \mathbf{n-k})}$) calculated before (under the fixed effect) is 1.980, it means that ROE, NPR,CIR, BEPR, have positive effect and DY has a negative effect on the performance relationship based on the decision rule under the t-statistic (as stated above under fixed effect).

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	8.476603	5	0.1319

Source: Banks financial statement and own calculation.

P-value in parentheses; * significance at 10%; ** significance at 5% and *** significance at 1%.

In table 8, the p-value of the Hausman test is greater than 1%, this indicate that the random effect specification is appropriate and it is preferred in our test result.

Conclusion:

The findings of this research result (the random effect is prefer compared to fixed effect result since Hausman test suggested that the random effect is to be used) suggest that recapitalization does not improve the performance of banks measured by ROA. This result was in line with the findings of Badreldin and Kalhoefer (2009), Ebimobowei and Sophia (2011) and Straub (2007) which indicates that recapitalization have fail or has negative effect on bank's profitability performance and which how was contradict the findings of Yener and David (2004), Vennet (1996) findings result that recapitalization of banks in European Union improved ROE, Humphrey (1992) found that there is positive effect on bank's profitability, Oghojafor (2012) and Sanni (2009) findings that recapitalization improve bank's profitability in Nigeria

Summary of Findings, Conclusion and Recommendations:

According to the regression carried out in this study, we summarize our findings as stated below;

Since Return on asset (ROA) is a key indicator of overall performance of the bank, in our research, it indicates a positive effect on profitability measured by net profit ratio. This indicates effective utilization of return on assets will result in surviving of the business in the long run. This implies that for banks who involved in merger have properly utilized their capital.

Return on assets is positively correlated to shareholders wealth which is represented by basic earnings power ratio (BEPR). The effect of this is that banks have to improve the wealth of their shareholder or owners should maintain an appropriate profitability.

The effect of recapitalization has a negative relationship with profitability of banks. This implies that for banks to improve their performance profitability, they should analysis the effect of recapitalization in long run and not only in the short run.

There is negative relationship between banks' performance and recapitalization (measured by DY). This is a result of optimal utilization of capital.

In this research, the following recommendations will be necessary;

Bank managers are to develop adequate and efficient strategy before embarking on merger or acquisition in other to enhance their risk management capacity, to promote market discipline and to be self-regulation and discipline in other to complement statutory regulation.

The Regulatory authorities should be proactive by ensuring banks that cannot maintain is profitability in the long run should not involve in M&A and also come out with a minimum bench mark on profitability of the banks before being allowed to merger or acquire another bank.

Auditors should be mandated to states clearly in the bank's financial report whether or not the bank is facing financial distress in their audit report.

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