CONSOLIDATION REFORM'S EFFECT ON BANKS' PROFITABILITY IN NIGERIA

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ABSTRACT

The study basically evaluates the effect of the consolidation reform on the profitability of banks in Nigeria. An hypothesis was formulated for testing. The hypothesis has to do with determining whether as a result of coming up with the reform significant improvement in the profitability of banks exist or not. The study utilised secondary data, and the technique employed for the purpose of the analyses was T-test. The result provides evidence for the provide evidence for the failure to reject the null hypothesis in the case of all the profitability ratios subjected to test with the exception of ROE. The study therefore concludes that consolidation reform's effect on banks' profitability is trivial. The study recommends that banks operating in the Nigerian banking sector should not rely only on absolute profit figures as the basis of evaluating their performance. They need to be adopting other measures especially taking into consideration the quantum of their capital sizes before and after the consolidation reform. Finally, future researches in this area should be conducted that will utilise more advanced statistical techniques.

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Section 1: Background to the Study

Nigerian banking sector has undergone a series of reforms since it came into existence. The most recent reform was in 2004 in which commercial banks operating within the sector were directed by Central Bank of Nigeria (CBN) to become more capitalised by increasing their capital base from a minimum of N2 billion to N25 billion. One of the approaches adopted by the banks in order to achieve the capital requirement is consolidation.

Consolidation has to do with the coming together of some banks within the country to become one bank and be able to meet the CBN's requirement for capitalisation. The objective, according to Onyekwere (2005), was to increase the average size of banks via merger and acquisition in order to materialise economies of scales and scopes, create new product development and overall generate a more stable banking system with a higher contribution to financial intermediation and increment in profitability.

The CBN's decision was based on what are obtainable in literature. For instance, according to Kishan and Opiela (2000), the smaller the banking system, the more vulnerable it is to external shocks, because the system provides fewer services at higher unit costs, largely because they cannot explore economies of scale, and partly because of lack of effective competition.

On the other side of the literature, different argument exists as regard the relevancy of consolidating banks in Nigeria. For instance, Okagbue and Aliko (2005) argue that taking into consideration the historical antecedents of the Nigerian financial sector reforms; recent reform may not necessary yield any meaningful effect on the overall performance of the banking sector by merely increasing the capital size.

Due to the consolidation exercise, by the beginning of 2006, the number of banks in the Nigerian banking sector shrank from 89 to 25, with 14 banks from the original 89 banks failing to increase their capital or secure merger partners. Also, in the process of the consolidation, banks raised over

$3 billion on the Nigerian stock market (CBN, 2006).

Other positive outcomes of the reform, according to the CBN (2006) include increment in the banks' total assets from N3,209 billion in June 2004 to N6,555 billion as at the end of September, 2006. Apart from the total assets increment, capital and reserves also increased by 192 percent, from N327 billion in June 2004 to N957 billion in 2006. Also, the industry ratio of non-performing credit to total credit was 9.5 percent compared with 19.8 percent in June 2004.

As banks generate earnings mostly through loans disbursements, an inverse relationship is expected to exist between earnings and non-performing loans. The more the earning's generation capacity, the lesser the non-performing loans. Earnings' generation issue is of vital concern to all groups who have the financial interest in banks. This is because it serves as one of the most important determinant of long-run survival of banks. Hence, evaluating its effect due to the introduction of a certain reform has become imperative.

There are several approaches that are used in evaluating banks' earnings; one of these approaches is by means of profitability ratios. Profitability ratios give the various scales to measure the success of banks. They also serve as the financial measurement that evaluates the capacity of banks to produce yield against the expenses and costs of banks over a particular time period. If a bank is having a higher profitability ratio compared to its competitor, it can be inferred that the bank is doing better than that particular competitor. The higher or same profitability ratio of a bank compared to its previous period also indicates that the bank is doing well (Cerepak and Taylor, 1987).

There is no gainsaying the fact that as a result of the consolidation reform, capital adequacy and confidence in the Nigerian banking sector have obviously improved and foreign banks have become actively interested in the market, but still that are not sufficient to consider banks operating in the sector as profit productive.

In spite of the fact that the CBN and other regulatory authorities evaluate banks' performance, but their evaluations are mostly restricted to regulatory rules. Banks use their own discretion in giving loans to customers. Due to competition intensity among banks and lack of new products creation, couple with huge capital base, there exists accusation that banks in an effort to generate revenue give loans without thorough evaluations of borrowers' worthiness. This is unlike before the introduction of the reform and it could have devastating effect on the going concern principle that the reform expects banks to attain.

On the basis of the above mentioned, there appears every need to empirically evaluate the situations using profitability ratios instead of looking at absolute profit figure with a view to finding out whether as a result of the reform performance of banks in terms of profitability have substantially improved or not.

The study is expected to be of significance to regulatory authorities and all groups who have financial interest in banks as it shall serve as an avenue of detecting whether as a result of banks having substantial capital size, effective utilization of the funds leads to effective earnings' generation. This shall also serve as an indicator of long term survival.

Due to the above background, the study formulated the following hypothesis for testing:

H_0: Consolidation reform has no significant effect on the profitability of banks in Nigeria.

The remaining part of this paper is divided into the following sections. Review of related literature is in section 2. The methodology adopted for the purpose of the study is dealt with in section 3. Section 4 addressed data presentation and analysis, and section 5 presented conclusion and recommendations.

Section 2: Review of Related Literature

The introduction of consolidation Worldwide generates conflicting views among academicians, financial authorities and those in the banking industry. This therefore leads to conducting researches in order to evaluate various aspect of it. Some notable researches in the areas of operating performance and profitability are reviewed thus:

In a meta-examination, Rhoades (1994) considers thirty-nine empirical studies of bank consolidation and efficiency that were undertaken between 1980 and 1993. About half of the studies use an "operating-performance" approach, thus observing the financial performance of banks following a merger or acquisition. The other half comprises "event" studies, measuring the reaction of stock prices of acquirer and target banks, subsequent to a merger or acquisition announcement. The findings of the operating performance studies point to a lack of improvement in bank efficiency or profitability as a result of mergers, while results of the event studies fail to find rising stock prices, when prices of bidders and targets are combined in response to mergers.

Pilloff and Santomero (1998), in another study did not establish statistically significant post-merger gains, either in share value gains or in an improvement in performance indicators as derived from accounting data.

In a study conducted by Linder and Crane (1993) on the effect of consolidation on profitability, they found that little or no improvement exists in the profitability ratios as a result of consolidation. By contrast, studies conducted by Cornett and Tehranian (1992), and Spindt and Tarhan (1992), they find some improvement in return in equity for the combined entities following consolidation.

In a study carried out by comparing pre-merger and post-merger of a sample of U.S. bank holding company mergers, Craig and Santos (1997), find higher profitability and lower risk after merger.

Berger *et al*. (1999), review existing research concerning the causes and consequences of the consolidation of the financial services industry in the U.S. They point out that the evidence is consistent with improvements in profit efficiency, and diversification of risks, but little or no cost efficiency improvement on average are found.

Amel *et al.* (2002) investigate bank consolidation benefits for various industrialised countries; they find economies of scale mainly for mergers and acquisitions involving smaller banks, while convincing evidence for economies of scale or gains in managerial efficiency is not found.

Vander-Vennet (2002), conducted research on cross-border European Union merger and acquisitions, he points out that the typical deal is characterised by the takeover of a poorly performing bank by a relatively efficient foreign bank. The study finds evidence of an increase in realised profits, but not in operational efficiency, at least in the short term and the finding is attributed to different legal and tax systems, which prevent the full exploitation of synergies in cross-border bank consolidation.

Hughes *et al.* (2003), find a slightly different picture, where the key for successful banking mergers is said to be efficient bank corporate governance structures. Their analysis find that an increase in acquired assets improves the financial performance of banks with less entrenched management, which is defined as a low proportion of the bank owned by management.

The fact that all the works reviewed above were conducted in advanced countries where the financial systems are matured, there is every tendency that similar works in developing countries like Nigeria may not necessarily yield similar outcomes.

In African context, there are not many econometric studies that investigate the effect of consolidation on the banking sector. This is often due to a lack of adequate panel data for money deposit banks. Notable among the studies is Kolo (2007), assesses the impact of Nigeria's bank condition on shareholder's return. On the one hand, the study finds statistically insignificant neutral and positive abnormal returns for medium-to-small acquisitions (merger-of-equal) during the announcement period. On the other hand, large acquisitions in-market mergers have significant positive abnormal returns for ail acquiring banks that are documented around the announcement date.

In another study conducted by Hesse (2007), the study uses unique bank-by-bank balance sheet and income statement information to investigate the intermediation efficiency in the Nigerian pre-consolidated banking sector during 2000-2005. The findings of the study reveal that larger banks have enjoyed lower overhead costs, increased concentration in the banking sector has not been detrimental to the spreads, both increased holdings of liquidity and capital might have led to lower spreads in 2005, and a stable macroeconomic environment is conducive to a more efficient channeling of savings to productive investments.

Balogun (2007) reviews Soludo's perspective of banking sector reforms in Nigeria. Based on his preliminary assessment of the reform, he finds that while it can be argued that recapitalisation may have helped to build and foster a competitive and healthy financial system, it is debatable if the structure of banks' portfolio investments has the capacity to support the desired economic development aspiration of the proponents.

Our position is similar to that of Balogun (2007) that unless all factors that are to significantly impact on the Nigerian banking sector are thoroughly and empirically studied before coming up with any reform, hardly desired outcomes will be yielded.

Section 3: Research Methodology

The basic research methods adopted are descriptive and historical. The data used for the purpose of the study came from secondary source and the instrument adopted is documentation.

The population of this study is the Deposit Money Banks of the Nigerian banking sector and they are 25 in number as at the year 2007. The sample size of the study is 10 banks derived from all the banks of the sector and it is arrived at by using Yamane (1967) adjusted sample size formula, which is represented thus:

$$n = n_0 \div 1 + (n_0 - 1) \div N$$

and

$$n_0 = N \div 1 + N(e)^2$$

Where:

n = Adjusted Sample Size

n_0 = Sample Size prior to Adjustment

e^2= Level of precision

N = Population Size

A 90% Confidence level is used and P = 0.1 are assumed.

Simple random sampling is a basic sampling design adopted in selecting the sample; this is because it allows equal representation. The selected sample banks are: Afribank Plc; Diamond Bank; First Bank Plc; Guaranty Trust Bank; Oceanic Bank; Platinum-Habib Bank; Union Bank; United Bank of Africa; Wema Bank and Zenith Bank. The study utilises aggregated data of the respective ten sample banks.

T-test is used to determine whether as a result of the consolidation reform, there has been significant improvement in the profitability of banks or not. Instead of computing the result manually, Microsoft Excel is used. The formula for the test computation is given thus:

$$t = \frac{\acute{y}_1 - \acute{y}_2}{\sqrt{\dfrac{\sum d^2 - (\sum d)^2/n}{n(n-1)}}}$$

The following table represents the variables used in the formula above, coupled with their measurements:

Table 1 Model Variables

Variable	*Symbol*	*Measurement*
Mean of group one	$\acute{y}_1$	$\Sigma y_1/n$

Mean of group two	*$\acute{y}_2$*	*$\Sigma y_2/n$*
Sum of difference square	*d^2*	*dxd*
Number of sample	*n*	*Total Number of Sample Banks*

Source: Lucey (2000)

The following table presents the various ratios used and their measurements:

Table 2 Model Variables

S/N	***Measurement of Variable***	***Symbol***
1	*Operating Expenses/Gross Earnings*	*OES*
2	*Net Income/ Gross Earnings*	*NIS*
3	*Net Income/Total Assets*	*ROA*
4	*Net Income/Shareholders' Equity*	*RO E*
5	*Net income/Invested Capital*	*ROI*

Source: Various Literature Definitions

All the ratios are computed and subjected to the t-test analysis, and the decision rule for the t-test is arrived at by comparing computed value of *t* with its critical value at 0.05 level of significance, if the computed value is greater than the critical value, the null hypothesis is rejected and the alternative hypothesis is accepted and vice-versa.

Section 4: Presentation and Discussion of Results

As earlier stated, the study used T-test to determine the effect of the consolidation reform on the profitability of banks in Nigeria. The following tables 3 and 4 represent respectively the profile analysis of the variables that are used in determining profitability of Nigerian banks and the T-test result.

Table 3 Profile Analysis

Pre-Consolidation						***Post-Consolidation***					
Year/Var.	*OES*	*NIS*	*ROA*	*ROE*	*ROI*	**Year/Var.**	*OES*	*NIS*	*ROA*	*ROE*	*ROI*
1999	5.44	1.60	0.33	2.74	19.70	2004	5.25	1.67	0.23	2.38	21.52
2000	5.54	1.55	0.46	2.76	19.67	2005	5.21	1.61	2.89	1.62	38.51
2001	5.35	1.65	0.67	2.71	19.72	2006	4.81	1.35	0.30	1.14	4.31
2002	5.74	1.45	0.26	2.81	19.63	2007	4.22	1.97	0.20	1.79	4.39
2003	5.05	1.83	9.52	2.94	18.01	2008	6.60	1.87	0.15	2.82	4.46
Total	27.12	8.08	11.24	13.96	96.73	**Total**	36.55	8.47	3.77	9.75	73.19

Source: Computed from Various Annual Reports of the selected banks

Table 3 indicates that from the year 1999 to 2003, that is, the pre-consolidation period, the ratio with the highest figure was the ROI with a figure of 96.73. This was followed by OES with a figure of 27.12, and the ratio with the least figure was NIS.

As from the consolidation announcement period to the post-consolidation period, the ratio with the highest figure was still ROI with a figure of 73.19. Despite being the highest figure, when compared to pre-consolidation period, the ratio showed a decline of 24%. The second ratio in terms of magnitude was OES with a figure of 36.55. This, when compared to pre-consolidation figure, it showed an increment of 35%. The least ratio in terms of figure was ROA with a figure of 3.77. This ratio also when compared to pre-consolidation figure, it showed a decline of 66%.

The following Table presents T-test results of DMBs. The mean and standard deviation of pre and post consolidation periods are computed in order to capture the general relationships and differences between pre and post consolidation era. The Table shows the means and standard deviations of the variable for pre and post consolidation periods with t statistics.

Table 4 T-test Results

		Pre-Consolidation		*Post-Consolidation*			
Variable	*N*	*Mean*	*Std. Dev.*	*Mean*	*Std. Dev.*	*t Value*	*p Value*
OES	*5*	*5.4248*	*0.2522*	*5.2184*	*0.8785*	*0.4158*	*0.6989*
NIS	*5*	*1.6173*	*0.1400*	*1.6943*	*0.2398*	*-0.5917*	*0.5859*
ROA	*5*	*2.2487*	*4.0677*	*0.7558*	*1.1958*	*0.7343*	*0.5035*
ROE	*5*	*2.7936*	*0.0197*	*1.9491*	*0.6562*	*3.1946*	*0.0331***
ROI	*5*	*19.4350*	*0.7495*	*14.6404*	*15.2702*	*0.7010*	*0.5220*

Source: Microsoft Excel Results

The symbol** indicates statistical significance at 5 percent level

The ratios from the above table i.e. (operating expense to gross earnings) OES, (net income to gross earnings) NIS, (net income to total assets) ROA, (net income to shareholders' equity) ROE, and (net income to invested capital) ROI represent profitability ratios. The t statistics for all the ratios with the exception of (net income to shareholders' equity) ROE are statistically insignificant. ROE is significant at 5 percent, meaning that the difference in mean value between the two groups is statistically significant. This is in line with the findings of Linder and Crane (1993) that little or no improvement exists in the profitability ratios as a result of consolidation. By contrast, Cornett and Tehranian (1992), and Spindt and Tarhan (1992), find some improvement in return in equity for the combined entities following consolidation. The findings of the study contradict Vander-Vannet (1999), where he finds that domestic mergers among equal-sized partners significantly increased the performance of the merged banks.

Section 5: Conclusion and Recommendations

Based on the data analysis and hypothesis testing, the results of the study provide evidence for the failure to reject the null hypothesis in the case of all the profitability ratios subjected to test with the exception of ROE. The study therefore concludes that consolidation reform's effect on banks' profitability is trivial. The study recommends that banks operating in the Nigerian banking sector should not rely only on absolute profit figures as the basis of evaluating their performance. They need to be adopting other measures especially taking into consideration the quantum of their capital sizes before and after the consolidation reform. Finally, future researches in this area should be conducted that will utilise more advanced statistical techniques.

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