The Impact of Merger and Acquisition on Financial Intermediation: Empirical Evidence from Nigerian Banking Industry

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Abstract

The paper examines the impact of bank consolidation on financial intermediation using data from Nigerian bank industry from 2002 to 2010. Two models were specified and estimated: one for the lending activity and the other for the deposit activities. The model for lending activity has interest rate on loan as the dependent variable and deposit rate represents the dependent variable in the deposit model. The results showed that merger and acquisition, which was the main policy instrument for the bank consolidation, has significant effect on both lending and deposit activities of the banks in Nigeria. The result also shows that changes in the degree of average competition in bank markets proxied by the spread between interest rate among the banks is positive and significant in both the loan and deposit markets. This confirms the high level of price competition among the banks. The consolidation exercise had significant positive effects on both financial intermediation and especially on deposit mobilisation. The study concluded though the consolidation policy might have had other side effects, it has at least led to higher deposit mobilisation, higher competition but however, it has led to higher cost of borrowing and spread between lending and deposit rates.

Keywords: Merger and Acquisition, financial intermediation and banking consolidation

1.0 Introduction

An important issue that has not been explored in the literature with respect to the banking sector reform in Nigeria since 2004 is whether the increase in market power due to the consolidation exercise has created monopoly which theoretically increase price (bank interest rates) and reduce output (financial intermediations). Consolidation may influence bank interest rates, competition and transmission mechanism of monetary policy. The increase in size and the opportunity for reorganization arising from consolidation may either provide gains in efficiency that bear on marginal costs or give rise to increase in market power, or both together. Gains in efficiency obtained from moving on to greater scale of activity. Moreover, the primary role of banking institution is intermediating fund from the surplus unit to the deficit unit. In the presence of increase competition and reduced number of banks, there is every tendency for these banks to engage in activities that yield higher return irrespective of whether these activities promote the primary intermediation role. The consequences of this, is that consolidation may or may not yield greater financial intermediation or reduce the banks to a mere financial investment.

In recent time the implications of merger and acquisition on the performance of banks have been investigated in different countries across the globe. But a common trend in most of the studies is the use of simple descriptive statistical methods. Yener et al. (2004) and Focarelli and Panetta pointed out that previous studies investigating the effect of bank M&A on performance tend to follow two main empirical methods. The first group is comparing pre- and post-M&A performance using financial and accounting data, while the second group uses an event-study type methodology. In that case the changes in the prices of specific financial market assets (usually share prices of the involved companies) around the time of the announcement of the merger are analyzed. For instance Olagunju and Obademi (2012) and Augusto (2004) while assessing the implication of merger and acquisition of commercial banks in Nigeria on their profitability and other associated measures of performance, they used simple inferential statistics to test for correlation and statistical significance of Merger and action on bank performance in Nigeria. Azeem (2011 explored various motivations of Merger and Acquisitions in the Indian banking sector and then compared pre and post merger financial performance of merged banks using independent t-test for testing the statistical significance. Most existing studies paid little attention if at all to financial intermediation implications of merger and acquisitions, rather focused on the shareholders returns and operational efficiency of the banks. The cost of borrowing and the return on investment in the banking industry are also crucial factors that have been affected by the merger and action exercise. This paper explores this dimension of the merger and acquisition on banking industry in Nigeria.

The objective of this paper is to examine whether the 2004 bank consolidation exercise in Nigeria has influenced positively the credit allocation and saving mobilization through reduced cost of borrowing and increased returns on savings respectively. Apart from this introductory part, the paper has four other sections. Section 2 examines the structure of and performance of Nigerian banks. Section 3 discusses the methodology and section 4 presents the empirical results while section 5 summarizes with policy implications

2.0 Structure and Size of Banking Industry in Nigeria

As depicted by the information in Table 1. Nigeria banking industry has remained narrow and fragile. Bank per million people is very low. It was five banks per million in 1970 and rose to its peak of 26.6 in 1993 and stagnated in this figure even until 2003. It shows that Nigeria is still under banked and this could explain why much of money supply is outside the banking systems. The asset base and numbers of the banks is also not impressive. The Bank asset as ratio of GDP which was 22.6 percent in 1970 rose to 65.9 percent; its peak in 1986 fell gradually to its lowest value of 19.4 percent in 1996 a decade after it got to its peak. The rise and fall of the asset ratio might be explained by the swing in the financial performance between these periods. The banking sector was liberalized in 1986 and more banks were established which led to increase in asset base as more money was brought to the banking sectors. However, the bank crises in the 1990s brought about fund withdrawal from the banking sectors this adversely affected the asset base of the overall banking system in Nigeria and hence the fall in asset based of the bank.

The effort to revamp the banking sectors through several financial reforms and regulation introduced from 1994 cumulated in upward movement in bank asset from 1997 but could only rise to 49.6 percent in 2002 which is still less than the preSAP era. In term of both bank per population and asset ratio it is therefore obvious that the Nigerian banking system is still fragile, narrow and shallow. It might consequently explain the low level of bank performance as mover of economic growth through financial intermediation. Most of the banking activities are primarily expected to be directed to financial intermediation as engine of economic growth but evidence from studies in Nigeria showed that most of these banks engaged in nontraditional banking activities like revenue collection, sales point for commercial activities and educations. The bulk of their lending was directed to tertiary sector at the neglect of the real sector.

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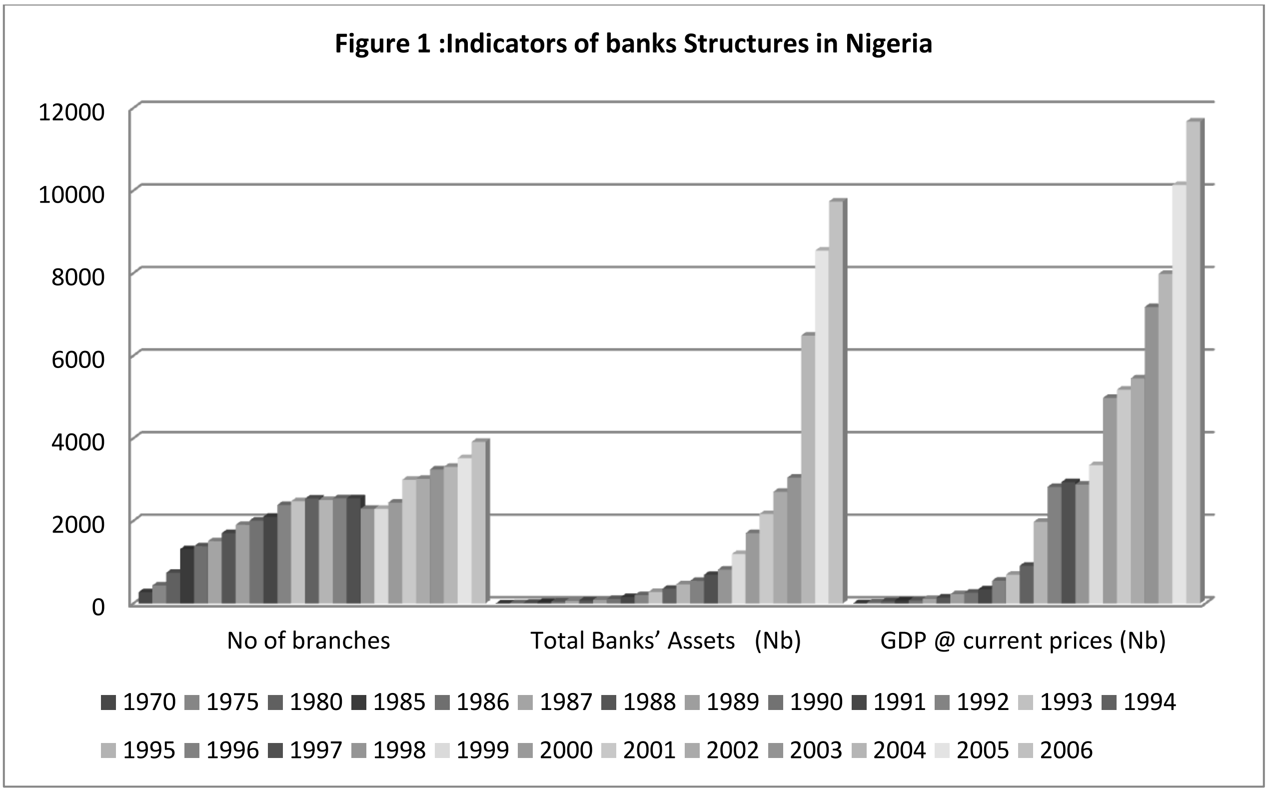


Figure 1 :Indicators of banks Structures in Nigeria
12000
10000
8000
6000
4000
2000
0
No of branches
Total Banks' Assets (Nb)
GDP @ current prices (Nb)
1970 1975 1980 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994
1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006

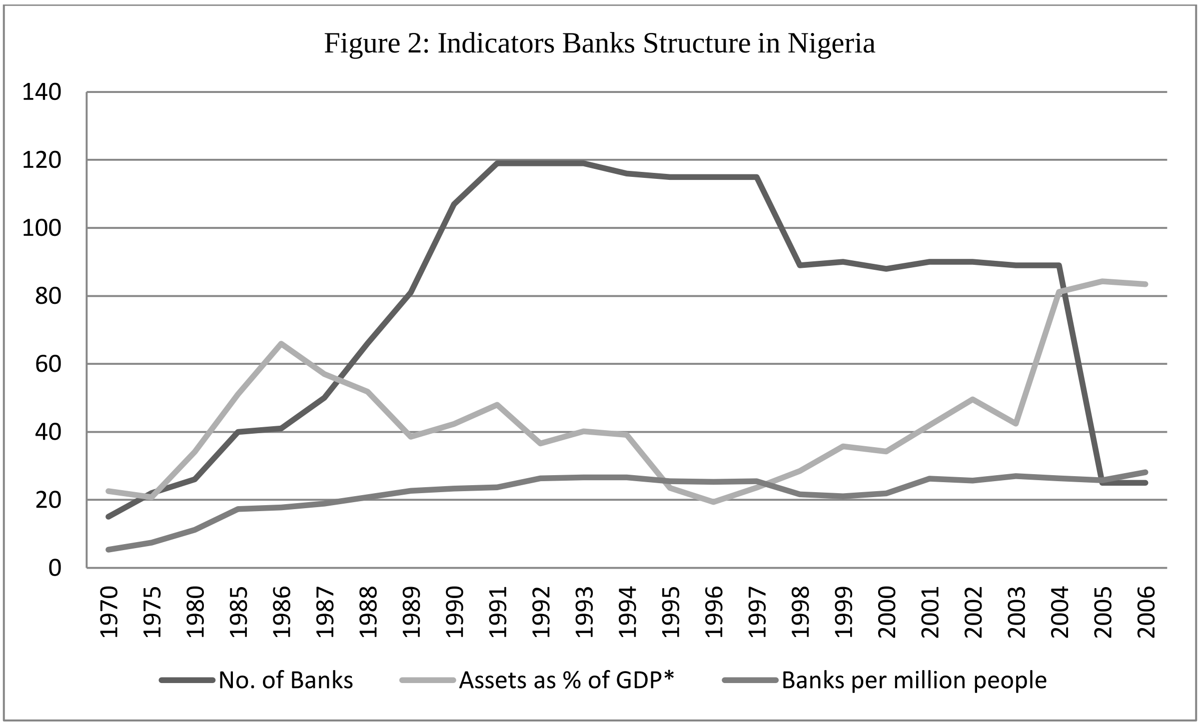
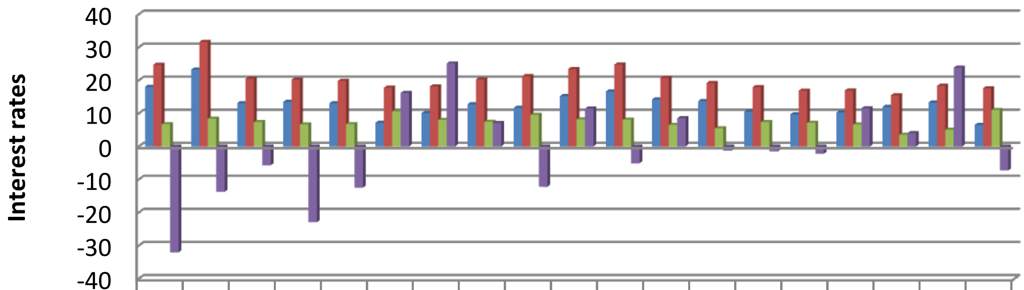


Figure 2: Indicators Banks Structure in Nigeria
140
120
100
80
60
40
20
0
1970 1975 1980 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006
No. of Banks
Assets as % of GDP*
Banks per million people

Figure 3: Interest rate Movement in Nigeria 1992-2010



	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
DR	18	23	13	14	13	7.2	10	13	12	15	17	14	14	11	9.7	10	12	13	6.5
LR	25	32	20	20	20	18	18	20	21	23	25	21	19	18	17	17	15	18	18
SPREAD	6.7	8.4	7.4	6.7	6.8	11	8.1	7.5	9.6	8.2	8.1	6.5	5.5	7.4	7.2	6.7	3.5	5.1	11
RINTR	-32	-14	-6	-23	-12	16	25	7.1	-12	11	-5	8.6	-1	-2	-2	12	4.1	24	-7

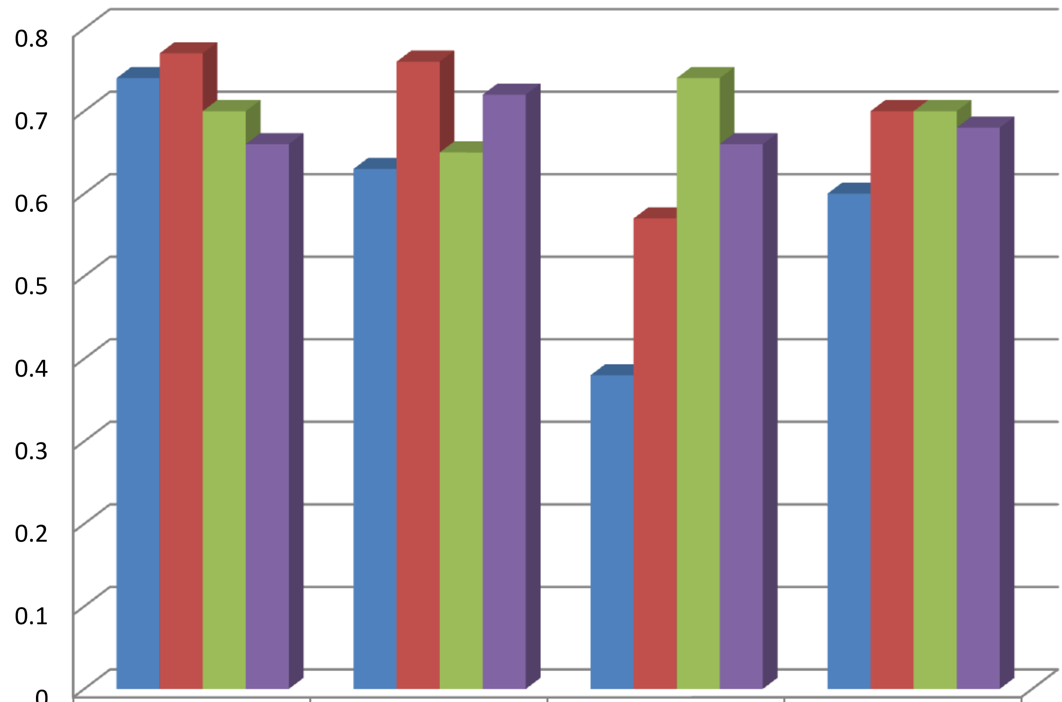
Banks performance Pre and Post merger in Nigeria

Table 1 and Figure 4: below show three measures of bank performance in terms of efficiency in Nigeria of the different policy regimes. In term of overall efficiency of the bank, the period before the structural adjustment programme had a score of 0.60. The efficiency parameter increased to 0.70 in the period of structural adjustment programme which implied that banks were more efficient than they were before the adjustment. The period of universal banking recorded similar experience as the average efficiency parameter remains at its peak of 0.70. This period coincides with period when there were intense competitions and banks adopt many unconventional banking strategies to mobilize funds and also to solicit for people who need financial assistance in form of loans. Also, it was a period when banks cut down on their wage bill by adopting more of causal workers and employment of OND/HND graduates who were paid lesser than their counterpart university graduates. The combined effect of these policies is the increased efficiency. However, the crisis of later 2003 to 2004 slightly affected the efficiency parameter when it fell to 0.69 during the consolidation period. The import of this is that efficiency parameter had fluctuated between 0.60 and 0.70

Table 1: Average Efficiency Scores for the different Financial Reform Regimes in Nigeria (1980-2009)

Period	Total Deposit/Total Loans	Interest Expense/Interest Income	Operating Expense/Profit After Tax.	Average Bank efficiency Index
1980 – 1985	0.74	0.63	0.38	0.60
1986 – 2001	0..77	0.76	0.57	0.70
2002 –2004	0.70	0.65	0.74	0.70
2005 –2009	0.66	0.72	0.66	0.68

Figure 4: Average Efficiency Scores for the different Financial Reform Regimes in Nigeria (1980-2009)



	Total Deposit/Total Loans	Interest Expense/Interest Income	Operating Expense/Profit After Tax.	Average Bank efficiency Index
1980 – 1985	0.74	0.63	0.38	0.6
1986 – 2001	0.77	0.76	0.57	0.7
2002 –2004	0.7	0.65	0.74	0.7
2005 –2009	0.66	0.72	0.66	0.68

3.0 Empirical Analyses

The paper further explores the relationship between the bank specific variables and the lending rates to establish whether the merger and acquisition contribute the movement in interest rate as a measure of financial intermediation. The analysis focuses on three years pre- and post- 2004 mergers and acquisitions. That is the time frame is 2000 to 2007. The study sourced its data from published books from the regulatory authority. It collected data on identified banks for the periods of time 2002 to 2007. These data were combined together to generate a pooled data series. Hence the study was both time series and cross sectional. Therefore, secondary data time series were collected on the selected banks for the period, 2000 and 2007. The sample includes all the banks in existences two years before and after the 2004 banking reforms. The sample contains the 75(84%) out of the 89 banks in existence in 2004. The remaining 14 (16%) could not consolidate and were liquidated. Out of this 75, only 6(8%) did not combine in any form with any other banks while 69 (92%) fused into one another to form 19(76%) of the final 25 banks that survived the consolidation. All the variables were collected from the Nigeria Stock Exchange's Factbook. This book contains detailed data on all the companies listed in the Nigeria Stock Exchange market

In order to capture the individual characteristics of the bank and in the model, panel data analytical technique was adopted 2 to estimate the panel data model below:

$$y_{it} = \alpha_{it} + \beta' x_{it} + \mu_i + \varepsilon_{it}$$

Where y is the lending rates by the banks, X(MPR, FVS, OHC, FS, OIA, LBLOAN,LCAP,MCB,SPREAD*FVS) where MPR= Monetary policy rates FVS =dummy for the merger and acquisition(carries one if the bank merged with other banks and zero, OHC is overhead expense as ratio of total income, BD represent ratio of bank deposit to total asset, OIA= ratio on operating expenses over asset, LBLOAN represent bank if otherwise α stands for the time effects and μ is the bank specific cross sectional effects which are unobserved and ε is the error term. x is a vector of explanatory variables defined in equation 1 and 2 above. ***i*** stands for the cross sectional units which in this cases are ***i*** stands for the cross sectional units which in this cases are 20 consolidated banks in Nigeria by 2005 and ***t*** stands for the time periods from 2002 to 2007. The summary of the regression results for the pooled regression is presented is presented in the Table below.

Dependent Variable: LR
Method: Panel EGLS (Cross-section random effects)
Periods included: 8
Cross-sections included: 20
Total panel (unbalanced) observations: 159
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	14.85292	0.815520	18.21283	0.0000
MPR	0.487741	0.046154	10.56775	0.0000
FVS	2.131821	2.371223	0.899039	0.3701
OHC	-0.228852	0.385779	-0.593220	0.5539

BD	4.32E-05	2.74E-05	1.577394	0.1168
OIA	0.052715	0.169011	0.311904	0.7555
LBLOAN	0.004528	0.089508	0.050593	0.9597
LCAP	0.020433	0.067254	0.303823	0.7617
MCB	0.069531	0.034632	2.007682	0.0465
SPREAD*FVS	-0.943906	0.429167	-2.199390	0.0294

R-squared	0.896941	Mean dependent var	20.16590
Adjusted R-squared	0.890716	S.D. dependent var	2.753325
S.E. of regression	0.910200	Sum squared resid	123.4411
F-statistic	144.0854	Durbin-Watson stat	2.438947
Prob(F-statistic)	0.000000		

Estimates from the model show only monetary policy rate and changes in minimum capital base are significant and positive. The coefficient of the dummy variable added to capture the differential effect of merger processes on interest rate of the entities during the three years after mergers. This dummy thus reflects the impact on interest rate of organizational changes that could have a bearing on the level of efficiency of the banks. The coefficient of the dummy variable in is positive but not significant but the spread between lending and saving rates when interacted with the dummy had significant negative effects significant. The interactive term reflects the effect of consolidation on the competitive response of intermediaries. This result seems to confirm the observed pattern in the trends earlier discussed.

5 Conclusion

The finding has implication on the overall performance of the banking sector: First, the fact that the consolidation of the banking industry does not appear to have lessened the growing degree of competition which has been seen in the sector in recent years; a bigger size offers, in principle, greater capacity to set prices out of line with the market, but in an environment characterized by a fierce competition. This strongly suggests that the fear expressed by some people about the appropriateness and desirability of the exercise is not only unjustified but unfounded. The exercise has led to increased returns to banks and greater financial intermediation as more people now have access to banking facilities and opportunities. Secondly, merger, acquisition, or both have widened the range of strategic alternatives available to the banks in Nigeria, by enabling them to attain a size which, in the absence of consolidation, could probably not have achieved. And the consequential reassessment of existing organizational arrangements coupled with increased size made Nigerian banks to be more competitive and well placed to be a strategic player in global financial markets

One of the factors identified by the study to have impacted negatively on the financial intermediation capacity of the banks after consolidation has been the operating expenses; the cost of providing banking services in Nigeria is huge, in terms of energy cost, security and technology deployment in an environment like Nigeria. The banks are saddled with responsibility of providing their security, power generation, even social infrastructure like roads, water etc. all these costs build up the operating coat when this is added to ever increasing wage bill due to efforts to mobilized the best of manpower to the sector. Therefore, to make whatever benefits derived from consolidation to be permanent there must be concerted efforts to reduce these costs by Government.

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