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An Assessment of the Solvency Status of Selected Nigerian Banks: A Multi Discriminant Analysis

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Abstract
On July 6, 2004, the Central Bank of Nigeria (CBN) required all the banks in the country to recapitalize from a minimum capital base of N2 billion to N25 billion. The banks were encouraged to consolidate through mergers and acquisition in order to meet up with the requirement. The primary objective of the recapitalization was to strengthen the financial sector and improve availability of domestic credit to the private sector. The prevailing dearth of long term funds, stunted growth in Gross Domestic Product (GDP), high cost of investible funds, high level of unemployment and inflation within the economy, seem to suggest that the dual event had no significant positive impact on the health status of the sector. It was against this background that this research work was conducted. The basic objective of the study was to investigate the impact of the recapitalization and consolidation on the solvency or health status of banks in the country. The method adopted for the study was Multi Discriminant Analysis (Altman's Model and Enyi's Relative Solvency Model). The study found that on the whole, the recapitalization and consolidation in the banking sector has not significantly improved the solvency status of the banking sector. The study recommended that the CBN continues with its regulatory roles but must strive to identify the problems contributing to the poor state of the banks even in the post consolidation period which many have identified as being external to the operations of the banks.
Keywords: Bank, Solvency, Recapitalization, Multi Discriminant Analysis, Consolidation

1. Introduction

The recapitalization of the commercial banks in Nigeria from a minimum capital base of N2 billion to N25 billion has been one of the most phenomenal event in the banking sector. The backdrop of this action being that banks by their large size are better able to undertake funding of large projects and that the large size of these banks also engendered improved customer confidence. While it may be argued that the recapitalization and other various reforms may have helped to build and foster a competitive and healthy financial system, it is debatable if there is significance difference in the status quo of the banks that survived.

According to Aregbeyen and Oluyemi (2011) bank recapitalization and consolidation is more than mere reduction in the number of banks it is expected to enhance synergy, improve efficiency, induce investment activities and trigger productivity and welfare gains. In Nigeria, these benefits are yet to be manifested nine years following the event. The country is still faced with dearth of long term funds, stunted GDP, high cost of investible funds galloping inflation and, high level of unemployment.

This study therefore aims at establishing the impact if any of the 2004 recapitalization and consolidation on the banking industry in Nigeria using the Multi Discriminant Analysis (MDA) and it is significant because it uses two models to draw conclusion rather than depend on one.

This paper is divided into five parts; following the introduction is the review of relevant literature and discussion on conceptual issues. The third part presents the methodology that is used in gathering data and how the data were analyzed. Part 4 presents the data and discusses the result of the analysis while last part contains the conclusion and recommendation.

2. Review of Related Literature and Conceptual Issues

In the broadest sense, banking consists of safeguard and transfer of funds, lending, guaranteeing credit worthiness, and exchange of money. These services are provided by such financial institutions as commercial banks, saving banks, trust companies, finance companies, and merchant banks or other institutions engaged (Nnanna et al, 2004). For these institutions to perform these roles effectively, they must be very solvent – possessing ability to survive in the long run.

According to Bardia (2006 as cited in Enyi 2011), "solvency is the lifeline of a business organization upon which its sustained growth depends. It defines the state or ability of a firm to stay financially afloat (that is, the state of being liquid) meeting every financial obligation as they fall due without hindrance…" The work of Caprio & Klingebiel (1997) emphasizes the importance of solvency in the banking firms relative to non-bank firms. According to them, in a market economy, an insolvent firm will find it very difficult or impossible to raise additional funds for its operations. This lack of capital naturally precludes or prevents their acting on profitable investment opportunities and may finally force them to sell important assets in a bid to raise funds. The failure

of one manufacturing firm for instance merely represents more profit making opportunity for another. This is not applicable in the banking system. One troubled bank could instigate a bank contagion or systemic risk. According to Gilbert (1988), a contagious bank panic occurs when information about troubles at some banks induces depositors to run on other banks, even though they have no new information about those banks (cited in Gup, n.d).

Prior to 2004, the banking sector in Nigeria was perceived as being very fragile and marginal. Soludo (2004) identified persistent illiquidity, unprofitable operations poor assets base as very obvious problems in the sector''. To contain these problems, the regulatory authorities demanded a recapitalization of the entire sector which could be achieved through foreign direct investments and/or bank consolidations.

While recapitalization entails increasing the debt stock of the company or issuing additional shares through existing shareholders or new shareholders or a combination of the two, consolidation describes the reduction in banks and other deposit taking institution. The process of consolidation has been argued to enhance bank efficiency through cost reduction in the long run. It also reduces industry's risk by elimination of weaker banks… (Aregbeyen & Oluyemi, 2011). Consolidation in the banking system can either be market or government driven. The market driven consolidation sees the process as a way of broadening competitiveness with added comparative advantage in the global context and elimination of excess capacity more efficiently than bankruptcy or other forms of exit. Government induced consolidation stems from the need to resolve problems of financial distress in order to avoid systemic crises as well as to restrict inefficient banks (Ajayi, 2005). The latter was the case in Nigeria.

2.1 Evaluation of the Banking Industry in Nigeria

According to Adegbite (2010), a cursory look at the Nigerian financial system shows that the system has been performing its expected functions albeit at less than optimal levels. The incidence of recurring financial systems crises is testimony to the fact that the financial system's performance still leaves much to be desired.

The post-SAP (Structural Adjustment Program) period in Nigeria witnessed an unprecedented growth in the banking industry driven by attractive arbitrage opportunities in the foreign exchange market (Heiko 2007). According to Soyibo, *et al* (2004), Commercial banks increased from 29 in 1986 when financial sector reforms began, by over 124% to 65 in 1992. The growth in the number of merchant banks was even more spectacular: it increased by 350% from 12 in 1986 to 54 in 1992. Donli (n.d.) asserts further that as at the end of December 2002, there were 90 licensed/insured banks, 282 licensed Community banks, 74 licensed Primary Mortgage Institutions and 6 Development Finance Institutions (DFIs). Many of these banks however became distressed due to poor asset base, insider abuse and illiquidity.

2.2 Trend Analysis of Bank Recapitalization in Nigeria

The banking sector in Nigeria has experienced recapitalization several times basically to make the sector more formidable and also to meet up with global demands. As posited by Phillips (1967), the more capital a bank has the more losses it can sustain without going bankrupt. It is on this basis that regulatory authorities will always insist on capital adequacy particularly for banks. The table that follows summarizes the trend in bank recapitalization in Nigeria.

TABLE 2.1. Bank Capitalization in Nigeria

Year	Merchant Bank (N)	Commercial Bank (N)
1979	-	600,000
1988	2,000,000	2,000,000
1988	3,000,000	5,000,000
1989	12,000,000	20,000,000
1990	40,000,000	50,000,000
1997	500,000,000	500,000,00
2000	1,000,000,000	1,000,000,000
2001	2,000,000,000	2,000,000,000
2005	25,000,000,000	25,000,000,000

Various Sources

In 2004, the banking industry of Nigeria consisted of 89 banks. The industry was fragmented into relatively small, weakly capitalized banks with most banks having paid in capital of $10 million or less. The best capitalized bank had capital of $240 million as compared to Malaysia where the least capitalized bank had capital of $526 million at the time (CBN, 2005). It was against this background that the CBN Governor opted for bank recapitalization, to increase the minimum paid in capital of banks to N25 billion (US$ 173 million) from N2 billion (US$ 14 million). Williams (2011) views the 2004 reform as one of the biggest achievements in the

financial sector of the Nigeria economy since it resulted in the reduction of Nigeria motley group of mainly anemic 89 banks to 25 bigger, stronger and more resilient financial institutions.

2.3 Empirical Literature on Bank Recapitalization and Consolidation

Empirical evidence on the impact of the bank recapitalization and consolidation in Nigeria varies. Nuraddeen (2011) studied all 24 banks that survived the recapitalization and consolidation process using the t-test analysis. The result of his analysis showed that the event had no significant impact on the profitability and efficiency of the banks. Ebinmiobowei and Sophia (2011) using an explorative method to study the impact of the recapitalization and consolidation in the sector noted that the event did not meet the desired objectives of liquidity, capital adequacy and corporate governance. Pat and James (2011) however noted that the exercise had a positive impact on the market capitalization and all share index of the Nigerian Stock exchange. Adegbaju and Olokoyo (2008) studying the impact of the 2001 recapitalization found a significant difference in bank performance after the recapitalization. Their study employed secondary data which were analyzed using both descriptive e.g. means and standard deviations and analytical techniques such as the t-test and the test of equality of means.

Other studies such as those by Berger *et al*. (1999) suggest that bank consolidations do not significantly improve the performance and efficiency of the participant banks. Sawada and Okazaki (2004) studying the effects of policy-promoted consolidation on the stability of the financial system in Japan confirmed that policy-promoted consolidations mitigated the financial crisis by enhancing the ability of the bank to collect deposits, under the condition that the financial system was exposed to serious negative shocks. However, their study also noted that policy-promoted consolidations had negative aspects as they were accompanied by large organizational costs and decreased bank profitability.

3. METHOD OF ANALYSIS

The method of analysis adopted for the study is Multi Discriminant Analysis (MDA) or multivariate model which consists of a linear combination of variables that provides the best distinction between failing and nonfailing firms (Balcaen and Ooghe, 2006 as cited in Wong and Ng, 2010). The discriminant score is simply an ordinal measure that allows the ranking of firms and to separate creditworthy firms from impecunious ones.

The study was carried out in Nigeria and it covered nine banks within the country. The basic objective is to determine the impact if any of the 2004 recapitalization and consolidation of the banking industry. Secondary data extracted from the financial statements of the selected banks were used for the analysis. The sampling frame of the study is limited to the commercial banks, while the sample size is restricted to nine commercial banks which include – First Bank Plc (FBN), Guaranty Trust Bank (GTB), Union Bank of Nigeria (UBN), Fidelity bank (FBN), United Bank for Africa Plc (UBA), Zenith Bank (ZBN), Access Bank (ABN), Diamond Bank (DBN) and Wema Bank (WBN). These banks are considered to be the major players in the banking industry in terms of their capital base. Wema bank was also chosen as a major regional bank particularly in the Western part of the country. The study covered a period of ten years (2001 – 2005) for the pre-2004 bank reform period and (2006 – 2010) for the post-2004 reform period. The inclusion of 2005 in the pre-2004 period is because banks were expected to have fully complied with the recapitalization process on or before December 25, 2005. The variables used in the study included the total assets (TA) of the banks, their working capital (WC), retained earnings (RE), earnings before interest and tax (EBIT), market value of equity (MVE), total liabilities (TL), annual sales or deposits by customers, mark –up ratio (MUR), and total operating cost (TOC). These valued were averaged over the five year period for each bank and the mean values used to remove outliers and to make the data more manageable. The study examined the health status of the banks in the pre and post 2004 recapitalization by comparing the results of the analysis and drew conclusions on the impact of the event on the health or solvency status of the banking industry.

The selected models for the study are:

3.1 Altman's Bankruptcy Prediction Model

Altman bankruptcy prediction model was initially developed in 1968 by Edward I. Altman where he utilized data drawn from large US companies, all of which were outside the construction industry. The main idea was the combination of several weighted financial ratios to provide a single index (known as a *Z*-score), that classified businesses as failing, at risk, or non-failing. Because of the large number of variables found to be significant indicators of corporate financial problems in previous univariate analyses, Altman (1983) decided to employ a list of 22 ratios which was considered as potentially helpful variables for the purpose. From this list of 22 variables, five ratios were selected as the best predictors of corporate bankruptcy.

This ratio which uses the Z value to represent overall index of corporate financial health, is used mostly to determine if the company is a good investment since it gives a pretty good snapshot of corporate financial health. Built out of five weighted financial ratios, the formula is as follows:

$$\mathbf{Z = 1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 0.999X_5}$$

Where
X_1 = Working capital divided by total assets (WC/TA)
X_2 = Retained earnings divided by total assets (RE/TA)
X_3 = Earnings before interest and taxes (EBIT) divided by total assets (EBIT/TA)
X_4 = Market value of equity divided by the book value of total debt or Total Liabilities (MVE/TL).
X_5 = Sales (Total Deposits) divided by total assets. (Total Deposits/TA)
The decision rule:

i. For $Z < 1.81$: Bank is within the bankruptcy region
ii. For $1.81 < Z > 2.675$: Bank has high potential for bankruptcy
iii. For $2.675 < Z < 2.99$: Bank is fairly strong with Low bankruptcy potential
iv. For $Z > 2.99$: Bank is strong and solvent enough to help fund investment activities.

This study expects that the Z-score values of the banks in the post reform era should be 2.99 and above or should be significantly greater than the Z-score in the pre 2004 consolidation and recapitalization era. Where this holds true, then the study will conclude that the reforms have significantly improved the health and solvency status of the banks.

3.2 Enzi's Relative Solvency Ratio (RSR) Model

The Enyi's Relative Solvency Model was developed in 2005 by Enyi Patrick Enyi. The model has found ready application in both the manufacturing and service industry. Its ability to capture the chance of insolvency and point of insolvency of a firm makes it a very valuable tool in the hands of researchers.
The RSR model depends basically on an organization's ability to recover costs and make profit. It works with the following concepts as defined Enyi (2005, 2007, and 2011).

i. **Operational Break Even Point (OBEP):** This defines the point where total earnings are just equal to the total operating cost of the business. The OBEP is measured in number of production/activity cycles which may be in days, weeks or months per year.

OBEP = (1+m) / 2m

m = mark-up ratio

Since the production cycles in this study are measured in weeks, an OBEP of 10 for instance means that a bank must have enough working capital to cover 10 weeks of operations.

ii. **Operational Mark-up Rate (MUR):** This indicates the competence and ability of the management of a firm to recover costs and maximize profit.

MUR = Profit Before Tax (PBT) / Total Operating Cost (TOC)

iii. **Required Working Capital (WCR):** This is the volume of working capital adequate to sustain the volume of activities at the operational break-even point. The formula is:

WCR = (TOC / 52) * OBEP

52 represent the number of weeks in a year; assuming that all firms stock up for at least one week's operation.

iv. **The Relative Solvency Ratio (RSR):** This measures the liquidity of a business in terms of the availability of adequate working capital.

RSR = Available Working Capital / Working Capital Required

A RSR of 5 for instance means that a bank has 4 times more WC than it requires; 0.54 means the bank has only 54% of the total working capital required for its operations and projected activities; while a negative RSR such -3 means the bank lacks three times the value of WC needed to maintain its operations.

v. **Chance of Insolvency (COI):** This is used to predict the likelihood of insolvency and the possible stage that insolvency is expected to occur. It is measured as:

COI = 1 – RSR

This is a probabilistic measurement expressed in decimal fraction between 0 and 1.

RSR and COI interpretation Table

Relative Solvency Ratio	Chance of Insolvency (COI)	Interpretation
0	1	Bank is bankrupt
0.01	0.99 - 0.75	Company is insolvent and tending towards bankruptcy. Company needs to be financially and managerially over hauled.
0.26 - 0.50	0.74 - 0.50	Company is technically insolvent and needs to improve on profitability.
0.51 - 0.75	0.49 - 0.25	Company has poor fiscal health and needs to improve on profitability.
0.76 - 0.99	0.24 - 0.01	Company has fair fiscal health but needs to improve on profitability.
1.0 and above	0 and less than 0	Company is fiscally healthy.

vi. **Point of Insolvency (POI):** The result of this measurement reveals how long the present stock of working capital can last before it is completely exhausted assuming no other fund comes by way of revenue or loan during the period.

POI = OBEP * RSR

POI of 15 for instance indicates that the bank will become bankrupt if there is no inflow of cash from its operations for 15 weeks.

vii. **Production Cycles (PDC):** This defines the relative cost that will be able to cover each bank's operations for one full working week. PDC of N120, 000 for instance means that in a week, to successfully carry out its activities, the bank will spend a total of N120, 000 on the assumption that its production cycles are identical and constant.

PDC = Total Operating Cost (TOC)/52 (weeks)

4. Results and Discussions

Tables 4.1 Z-scores for the selected banks Pre-2004 Bank reform period.

TABLE 4.1: ALTMAN'S Z-SCORE FOR THE SELECTED BANKS (PRE-2004 REFORMS)

BANKS	X1 *1.2	X2 * 1.4	X3 * 3.3	X4 * 0.6	X5 * 0.999	Z-SCORE
ABN	0.10240795	0.005011714	0.0614647	0.27373161	0.153696349	**0.59631232**
DBN	0.22707275	0.008811981	0.08557295	0	0.110743477	**0.43220116**
FDN	0.16700089	0.023912745	0.14296245	0	0.191136675	**0.52501276**
FBN	0.10764121	0.009084874	0.11201435	0.36448903	0.141673023	**0.73490250**
GTB	0.15012267	0.012295915	0.14205006	0.70025865	0.160511442	**1.16523874**
UBN	0.07614074	0.003212552	0.09771887	0.22273218	0.118737166	**0.5185415**
UBA	0.05655757	0.004842358	0.06796711	0.35367416	0.089160168	**0.57220136**
WBN	0.46393014	0.005982791	0.08210136	0.20676969	0.160685630	**0.91946962**
ZBN	0.07256109	0.012993332	0.11642381	0.00365777	0.113697743	**0.31933375**

Source: Researcher's Computation based on values extracted and averaged from banks' audited financial statements 2001- 2005

From table 4.1, the summary of the Altman scale reveals that 100% of the banks understudied in this work were distressed and unhealthy with Z-score values far below 2.99. This result is congruent with Lemo (2005) which noted that there was the threat of systemic distress in the banking sector. It was this perceived deplorable state of the sector that created the need for the recapitalization process.

Table 4.2: Relative Solvency Ratios for the selected banks Pre-2004 Bank reform period.

BANKS	AWC	TOC	PBT	MUR	PC	OBEP	WCR	RSR	COI	POI
ABN	2393150	3792041	522311.2	0.14	72924	4.13	301180	7.95	-6.95	32.82
DBN	13387004	5561930	1834519	0.33	106960	2.02	215622	62.09	-61.09	125.16
FDN	3502130	3724553	1090191	0.29	71626	2.21	158165	22.14	-21.14	48.89
FBN	26651	32049.5	10085	0.31	616	2.09	1288	20.70	-19.70	43.24
GTB	11826430	25954332	4069266	0.16	499122	3.69	1841294	6.42	-5.42	23.69
UBN	9854.6	18624.2	4306.4	0.23	358	2.66	954	10.33	-9.33	27.51
UBA	20420.4	28721.6	9530	0.33	552	2.01	1108	18.42	-17.42	36.97
WBN	24245863	7755750	1560281	0.20	149149	2.99	445265	54.45	-53.45	162.56
ZBN	9533630	12381700	5562418	0.45	238110	1.61	384066	24.82	-23.82	40.04

Source: Researcher's Computation based on averaged values from banks' audited financial statements 2001-2005

Table 4.2 on the other hand reveals that all the banks were very healthy before the 2004 bank reforms since they all have Relative Solvency Ratios (RSR) which are all far above 1. The probability of the banks becoming insolvent as revealed by the Chance of Insolvency (COI) ratio is also very low. This is to be expected because the banks examined in this study were the major player in the banking industry with over 50 percent of the entire industry's deposits. However, the study will conclude that the recapitalization significantly improved their solvency status if the RSR values in the post recapitalization era are much greater.

Solvency Status of Banks after the 2004 Reforms

TABLE 4.3: Z-SCORE VALUES FOR THE SELECTED BANKS (POST 2004 REFORMS).

BANKS	X1 *1.2	X2 * 1.4	X3 * 3.3	X4 * 0.6	X5 * 0.999	Z-SCORE
ABN	0.15958254	0.018690728	0.08312723	0.07314261	0.338126051	**0.67266916**
DBN	0.19266898	0.010663836	0.04191433	0.24425725	0.103636582	**0.59314098**
FDN	0.25557894	0.019705620	0.06293610	0.17810333	0.092591620	**0.60891562**
FBN	0.24403945	0.015121601	0.06562683	0.11765538	0.224248382	**0.66669164**
GTB	0.25426780	0.023450381	0.11532553	0.39416928	0.121767532	**0.90898052**
UBN	0.10803940	-0.017682946	-0.0099506	0.33697823	0.109355545	**0.52673960**
UBA	0.10510609	0.012501504	0.06984202	0.30426919	0.113849095	**0.60556790**
WBN	0.06590719	-0.067453964	-0.2785309	0.41994673	0.130263534	**0.27013255**
ZBN	0.40414645	0.011986771	0.08189783	0.13236578	0.116327445	**0.74672427**

Source: Reserchers's Computation from values extracted and averaged from banks' audited financial statements 2006 -2010

Table 4.3 which has the Z-scores after the 2004 bank reforms reveals very similar Z values for the banks after recapitalization and consolidation in the industry. A comparison of the two eras will suffice to draw logical conclusions.

Table 4.4: ALTMAN'S Z VALUES FOR THE TWO ERA

BANKS	Z-SCORE (PRE 2004 REFORMS)	Z-SCORE (POST 2004 REFORMS)
ABN	0.60	0.67
DBN	0.43	0.59
FDN	0.53	0.61
FBN	0.73	0.67
GTB	1.17	0.91
UBN	0.52	0.53
UBA	0.57	0.61
WBN	0.92	0.27
ZBN	0.32	0.75

Source: Researcher's Computation, 2012

Table 4.5 shows that none of the banks recorded a significant improvement in its solvency status after the recapitalization and consolidation process. None of the banks after the recapitalization made it into the healthy region. Three banks - FBN, GTB, and WBN – had their Z-scores worse off after the activity. The result agrees with empirical literature which suggests that bank consolidations do not significantly improve the performance and efficiency of the participating banks (Berger *et al* (1999), Amel *et al* (2002) cited in Somoye, 2008). Also According to Haynes and Thompson (1999) the gains from a consolidation process may not necessarily be the result of economies of scale but rather due to the merger process in which assets are transferred to the control of more productive managements. Where this is lacking the process may yet be an effort in futility.

Table 4.5 **ENYI'S RELATIVE SOLVENCY RATIOS (POST-2004 BANK REFORMS)**

BANKS	AWC	TOC	PBT	MUR (M)	PDC	OBEP	WCR	RSR	COI	POI
ABN	78111312	184007178	14795824	0.08	3538600	6.72	23773067	3.29	-2.29	22
DBN	74724338	25120715	5911261	0.24	483091	2.62	1268025	58.93	-57.93	155
FDN	75920684	26240335	6798329	0.26	504622	2.43	1226186	61.92	-60.92	151
FBN	247828200	249314600	24234800	0.10	4794512	5.64	27058935	9.16	-8.16	52
GTB	160587608	65892046	26485821	0.40	1267155	1.74	2209806	72.67	-71.67	127
UBN	70928250	88612500	-2375500	-0.03	1704087	-18.15	-30931448	-2.29	3.29	42
UBA	110487400	117060000	26697400	0.23	2251154	2.69	6060890	18.23	-17.23	49
WBN	8348546	32650363	-12829768	-0.39	627892	-0.77	-485012	-17.21	18.21	13
ZBN	440209929	119763028	32438499	0.27	2303135	2.35	5403158	81.47	-80.47	191

Source: Researcher's Computation based on averaged values from banks' audited financial statements 2006 - 2010

The RSR as before shows that all the banks except, UBN and WBN are fiscally very healthy. However, a comparative analysis of the two periods will help prove whether or not there has been a significant improvement in the ratios following the reforms.

Table 4.6: RELATIVE SOLVENCY RATIOS FOR THE TWO PERIODS

BANKS	RSR PRE 2004 REFORMS	RSR POST 2004 REFORMS
ABN	7.95	3.29
DBN	62.09	58.93
FDN	22.14	61.92
FBN	20.70	9.16
GTB	6.42	72.67
UBN	18.42	-2.29
UBA	16.48	18.23
WBN	54.45	-17.21
ZBN	24.82	81.47

Source: Researcher's Computation, 2012

Table 4.6 reveals that 5 out of the 9 (55%) of the selected banks had their solvency status affected negatively. Out of the 5 banks, 2 – UBN and WBN had negative ratios while only 4 banks showed improved RSR. This is against expectation that all the banks examined must record significant improvement in their solvency status. Further examination using the COI values corroborates the results of the RSR values.

Table 4.7: COI FOR THE SELECTED BANKS FOR THE TWO PERIODS

BANKS	COI PRE 2004 REFORMS	COI POST 2004 REFORMS
ABN	-6.95	-2.29
DBN	-61.09	-57.93
FDN	-21.14	-60.92
FBN	-19.70	-8.16
GTB	-5.42	-71.67
UBN	-17.42	3.29
UBA	-15.48	-17.23
WBN	-53.45	18.21
ZBN	-23.82	-80.47

Source: Researcher's Computation, 2012

Form the table, two banks – UBN and WBN show clear indication of distress with very high possibility of becoming bankrupt. The implication also is that these banks are depending heavily on external funds to run their affairs. These two banks also recorded considerable losses in their operations such that their averaged retained earnings before interest and tax were both negative for the post reform era (See the values of PBT for these two banks in table 4.5). From table 4.5 it is also obvious that WBN has the worst POI of 13 meaning that if for thirteen week the banks get no cash inflow from its operations, it will go bankrupt.

Table 4.9: MARK UP RATIOS FOR THE SELECTED BANKS FOR THE TWO PERIODS

BANKS	MUR (M) PRE 2004 REFORM	MUR (M) POST 2004 REFORM
ABN	0.14	0.08
DBN	0.33	0.24
FDN	0.29	0.26
FBN	0.31	0.10
GTB	0.16	0.40
UBN	0.33	-0.03
UBA	0.30	0.23
WBN	0.20	-0.39
ZBN	0.45	0.27

Source: Researcher's Computation, 2012

The MUR shows the relationship between the banks total operating cost and gross earnings. A reducing MUR is an indication that a bank's health is deteriorating. The table above presents the MURs for the two eras and it reveals that the MUR of eight out of the nine selected banks dropped. This clearly indicates that the banks operating expenses after the 2004 reform have been on the increase. This agrees with the findings by Okazaki and Swada (2006) that policy promoted consolidations also have negative aspects as they were accompanied by large organizational costs (branch expansion and training) and decrease in bank profitability.

The finding from this study agrees with other studies that consolidation of banks in particular may not necessarily be a sufficient tool for financial stability or sustainable development and neither do bank consolidations significantly improve the performance and efficiency of the participant banks (Somoye, 2006; Berger *et al.*;1999, and Amel *et al.* 2002). Ezeoha (2008) also corroborated this view by asserting that the bank recapitalization and other activities undertaken to strengthen the banking sector in Nigeria may never have a lasting and obvious impact since most of the problems affecting this sector are external to its operations.

5. Conclusion and Recommendation

Bank recapitalization which induced the consolidation of banks has brought immense transformation to the banking sector and the progress toward cleaning up the weakest banks is a major achievement that would strengthen confidence in the system and improve its ability to support the real economy. However it is evident that potential insolvency still looms in the sector. Two banks from the perspective of the two models show clear signs of distress. The regulatory authorities must be up and on its task to prevent any form of systemic failure. The study recommends the following:

1. That the Central Bank of Nigeria and its cohorts continue close monitoring of banks' solvency positions, with a view to detecting and correcting at an early stage any signs of renewed deterioration
2. That banking sector consolidation be market driven rather than government driven. This is because policy or government driven consolidation may just be a matter of policy which may never yield any beneficial outcome.
3. The notion of "too big to fall" was proven wrong in Japan. Therefore, it is important to note that having mega banks is not an end in itself. Several challenges may likely arise which may be disastrous to the sector. Therefore, the entire sector must be handled with care. Policies and reform programmes must be such that will protect the system
4. To prevent further deterioration in the sector, the regulatory authorities must ensure that the banks are supervised effectively and all loop-holes blocked to avoid abuse. They must also be open in their activities since most of the arguments surrounding the event centered more on the structure and the implementation mechanism, and not on the desirability of the exercise

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APPENDIX

Average Values Of Variables In The Pre 2004 Recapitalization And Consolidation Era

Variables/Bank	ABN	DBN	FDN	FBN	GTB
Gross Earnings	4314352.2	7842459.6	4814744	42134500	15188998
EBIT	522311.2	1834518.8	1090191.25	10085000	4069266.2
Operating Cost	3792041	5561929.8	3724552.75	32049500	25954331.8
Total Assets	28042552	70745630.8	25164868.25	297109250	94534127
Total Liabilities	23641874.4	67375572.5	16246416.5	261511500	82289767.4
Current Assets	25910282.8	73575505.75	24116337.75	287581500	91281788.2
Current Liabilities	23517132.6	60188501.5	20614208.25	260930500	79455358.4
Working Capital	2393150.2	13387004.25	3502129.5	26651000	11826429.8
Retained Earnings	100386.6	445292.25	429829.3333	1928000	830274
MVE	10785880.5	NA	NA	158863457	96040202

Variables/Bank	UBN	UBA	WBN	ZBN
Gross Earnings	38251600	18661000	10087367.6	17944118
EBIT	9530000	4306400	1560280.6	5562418.2
Operating Cost	28721600	14354600	7755749.8	12381699.8
Total Assets	321831400	209088200	62714259	157665168.8
Total Liabilities	291164000	194400600	53538502.6	141235681.2
Current Assets	310030200	203513000	59533618.2	150573663.4
Current Liabilities	289609800	193658400	39964275.2	141040033
Working Capital	20420400	9854600	24245862.5	9533630.4
Retained Earnings	738500	723200	268004.5	1463282.75
MVE	108085988	114590781	18450233	861013

Average Values Of Variables In The Post 2004 Recapitalization And Consolidation Era

Variables/Bank	ABN	DBN	FDN	FBN	GTB
Gross Earnings	198803002	48281318.8	33038664.2	273549400	92377866.4
EBIT	14795823.8	5911261	6798328.8	24234800	26485820.6
Operating Cost	184007178	25120714.8	26240335.4	249314600	65892045.8
Total Assets	587367340	465405519.6	356464499.8	1218630200	757882559.8
Total Liabilities	468044066	371588676	265464103.6	984636800	625425950
Current Assets	543003382	434235188.8	340758393.2	1188054800	726960205
Current Liabilities	464892071	359510851	264837709.6	940226600	566372596.8
Working Capital	78111311.6	74724337.8	75920683.6	247828200	160587608.2
Retained Earnings	7841659.4	3545005.8	5017395.8	13162600	12694739
MVE	57056606.8	151272049.2	78800069.2	193079695.6	410872828

Variables/Bank	UBN	UBA	WBN	ZBN
Gross Earnings	86237000	143757400	19820594.8	152201527.4
EBIT	-2375500	26697400	-12829768.4	32438499.2
Operating Cost	88612500	117060000	32650363.2	119763028.2
Total Assets	787804250	1261438600	152005504.8	1307080422
Total Liabilities	698621500	1105575400	158440338	1062297396
Current Assets	756333750	1195823400	139121316.8	1256782033
Current Liabilities	685405500	1085336000	130772771	816572103.6
Working Capital	70928250	110487400	8348545.8	440209929
Retained Earnings	-9950500	11264200	-7323838.5	11191195.8
MVE	392367057	560654215.8	110894169.4	234353033