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EFFECTS OF RECAPITALISATION ON COMMERCIAL BANKS SURVIVAL IN NIGERIA: PRE AND POST CAMEL ANAYLSIS

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ABSTRACT: *This paper examined the analysis effects of recapitalization on commercial banks survivals in Nigerian: pre and post camel analysis. This is because the banking industry in Nigeria has witnessed a lot of transformation as a result of the restructuring programmes channeled towards resolving the existing problems of the industry by the central bank of Nigeria. The banking consolidation and recapitalization of commercial banks exercise which has shaped the structure of the Nigerian banking industry significantly. This was driven by the need to strengthen the banking sector and reposition the banks to be strong in order to meet up with the internationalization of financial and business globalization best practices. The exercise was deemed necessary because having a strong capital base increasing their ability to assume risk and absorb losses. The study used an Ex-post-facto research design comprising of pooled data which employs the use of secondary data covering a thirteen years period pre and post recapitalization (2006- 2012) using 10 out of the 25 banks that emerged after the transformation to test the effect of the reform . Chow test was used to check for structurally difference between the pre and post period using CAMEL framework as indicators for measurement. The result of the regression model of Minimum capital base on capital adequacy, asset quality, management quality and earnings quality and liquidity indicated an increase after recapitalization and consolidation but only Capital adequacy and management quality had a structurally difference with the increment. Based on the findings, it is discovered that recapitalization and consolidation is a welcome development that is needed by the banks but it cannot stand alone in achieving all round soundness and stability desired by Central Bank of Nigeria, little thereafter we are still faced with the post 2006 distress of banks even after the huge recapitalization reform and the Central Bank of Nigeria bailing out 8 banks with over 400 billion in 2012. Therefore, we recommend among other things the strict compliance to corporate governance practices, zero tolerance on misreporting and fraudulent practices, enforcing laws like the liabilities of board members of failing banks and finally, every business needs an enabling environment to enhance profitability.*

KEYWORD: Recapitalization Reform, Corporate Governance, Business Global Best Practices

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INTRODUCTION

The financial sector is one of the dominant sectors in any economy because of its involvement in the promotion of economic growth and development. Banks are key players in the financial sector because of their unique role as financial intermediary. As intermediaries, they (banks) facilitate capital that enhances productivity thereby promoting economic growth. However, banks' ability to play the positive role in economic growth and development depends on the health, soundness and stability of the financial system.

The need for an effective and efficient banking system lies in the fact that it is one of the few sectors in which the shareholders fund is only a small portion of the liabilities. It is, therefore, not surprising that the banking industry is one of the most regulated sectors in any economy. In spite of government efforts in protecting the banks, failures and distress prevails due to bad management, poor asset base and unprofitable operations amongst others and these failures has serious implication for the financial system which by extension, affects the economy as a whole as a result of the global financialization and integration of Business. Based on the fact that banks generate financial resources and put these at the disposal of deficit economic unit for increased consumption or output. Among the measures utilized to strengthen banks in Nigeria from financial distress are capital regulations by the central bank of Nigeria.

Capitalization and consolidation is an important component of reforms in the Nigeria banking industry, owing to the fact that a bank with a strong capital base has the ability to absolve losses arising from non performing liabilities. Attaining capitalization requirements may be achieved through consolidation of existing banks through mergers and acquisition or raising additional funds through the capital market which is the market for long term funds. A look at the history of banking in Nigeria reveals that the capital base of banks has been changed from time to time since 1980. "From a modest value of N10 million naira minimum paid-up capital in 1988, Nigerian commercial banks were required to maintain capital not below N50 million in 1991. Between 1991 and 2005 subsequent increases have also been made ranging from N500 million in 1997; N1billion in 2001; N2 billion in 2002 to N25 billion in 2005" (Onaolapo, 2006, Eagi and Akani, 2012)

The recapitalization policy of 2004/ 2005 by the central bank has been a major reform in the history of Nigeria banking because of the leap in the movement of the minimum paid up capital from N2 billion to N25 billion in asset base bringing about a reduction in the total number of banks in the country from 89 to 25. The reform was expected to enhance better performance, efficiency, stability, profitability, liquidity and reduce bank failure by increasing their ability to assume risk. Prior to the reformation, the state of the Nigerian banking sector was weak, exposed to failures due to bad management, poor asset base, gross insider abuse, weak corporate governance, insolvency, lost of confidence by customers and overdependence on public sector deposit.

Imala (2005) posited that the objectives of banking system are to ensure sound stability and facilitate sustained rapid economic growth and development. This phenomenon has necessitated continuous financial sector reforms globally and in 1988, an international agreement among the banking authorities known as Basle agreement was reached. The main objective of this international agreement is to apply a common set of rules for capital adequacy in order to minimize the risk of bank failures. Through all the recapitalization procedures, banks that fell short either had to face merger/ acquisition and "forcely marriage"

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or go into distress. (CBN financial bulletin 2001-2004). Various theorists have presented findings on the reasons behind increase in capital requirements for commercial banks. Adam (2003) traced the increase in capital requirements as taking its roots from bank failures. Adedipe (2005) argued that the most fundamental reason for increase in capital requirements was due to growing distress in the industry which was identified as the real threat of imminent bank failures. In Zimbabwe some banks were put under curatorship because of their involvement in specula. This is further supported by Imala (2005) who identified four rationales behind banking system reform. These were low capital base of banks, a large number of small banks with relatively few branches, the dominance of a few banks and poor rating of a number of banks, the study concluded that bank failures was the major drive for recapitalization in countries like Greece and Nigeria.

Adeyemi (2012) as cited in Soludo (2004) recapitalization of the banking sector was necessitated by the high concentration of the sector by small banks with capitalization of less than $10 million, each with expensive headquarters, separate investment in software and hardware, heavy fixed costs and operating expenses, and with bunching of branches in few commercial centers - leading to very high average cost for the industry. With the increasing trend of satisfactory" banks declining steadily from 63 in 2001 to 51 in 2004. In the same vein, the number of banks that were "marginal" increased from 8 in 2001 to 16 in 2004. "Unsound" banks also increased from 9 in 2001 to 10 in 2004. This trend has called to question the stability of banking system in Nigeria.

Onaolapo (2008) and Soyinbo and Adekanye (2008) concluded that increasing capital requirements was a result of inadequate capital base, mismanagement of funds, overtrading, lack of regulation and control; and unfair competition from the foreign banks. Oleka and Mgbodile (2014) agreed that recapitalization is necessary because a bank with a strong capital base has the ability to absorb losses arising from non performing loans and advances.

In a special session of the Bankers Committee on July 6, 2004 the Governor of the Central Bank of Nigeria, Professor Charles Soludo, unveiled a 13-point reform agenda to bank chiefs which included an upward review of banks capital base from N2 billion to N25 billion. In explaining the need for re-capitalization, he stated that banking system is fragile and marginal, they have not played their expected role in the development of the economy because of their weak capital base which has resulted in persistent illiquidity, unprofitable operations and poor asset base and as such, the decision to raise the capital base of banks, the first phase of the reforms was with the aim of strengthening and consolidating the banking system in order to ensure a diversified, strong and reliable banking sector which is compliance with the Basle agreement so as to ensure the safety of depositors' money, increases confidence, play active development roles in the Nigerian economy and also become competent and competitive in the regional and global financial system. It will also serve as a buffer to stem the systemic distress that has continued to rock the banking system. Adeyemi (2012).

The fragile state of the Nigerian Banking Sector in the pre- recapitalization exercise is so bad that, only ten banks (10) out of the eight-nine (89) in operation accounted for 51.9% of total assets, 55.4% of total deposit liabilities, and 42.8% of total credit (CBN, 2004). The rating of the licensed banks in operation, using the CAMEL parameters, revealed that ten (10) banks

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were "sound", fifty-one (51) were "satisfactory", sixteen (16) were rated "marginal" and ten (10) banks were rated "unsound" in 2004 (CBN, 2004).

However, bank management components comprises of asset, liquidity, liability, capital adequacy and risk management, which portray a measure of sensitivity. Therefore, if the increment in the minimum paid up capital was to achieve the benefits above and save the banking sector from collapse, it means that it must impact the asset, liquidity, liability, capital adequacy and risk areas of the bank, hence the need for the use of CAMEL framework to assess the effect of recapitalization on commercial banks in Nigeria becomes imperative. As used also in studies like Kngiri (2012) and Anwarul (2012).

The Basle Committee on Banking Supervision of the Bank of International Settlements has recommended using capital adequacy, assets quality, management quality, earnings and liquidity (CAMEL) as criteria for assessing a Financial Institution in 1988 (ADB 2002). The sixth component, market risk (S) was added to CAMEL in 1997 (Gilbert, Meyer and Vaughan 2000). However, most of the developing countries are using CAMEL instead of CAMELS in the performance evaluation of the Financial Institutions. CAMELS framework is a common method for evaluating the soundness of Financial Institutions and its use has been growing both locally and internationally. This system was developed by regulatory authorities of the U.S banks. The Federal Reserve Bank, the Comptroller of the Currency and the Federal Deposit Insurance Corporation all use this system (McNally 1996).

Has the recapitalization policy which started 2004 and in December 2005, implemented by the commercial banks in 2006 which was basically a review of their minimum paid up capital been able to achieve its stated objectives? If so, why the post- recapitalization reports of failing banks? What are the causes of recapitalization and the limitations associated with recapitalizing?

This study aims at investigating the effect of recapitalization on commercial banks in Nigeria by utilizing data from 10 banks that existed before and after the recapitalization reform of 2004.

Objective of the Study

The main objective of the study is to ascertain the effect of the recapitalization policy implemented by the commercial banks in Nigeria.

Specifically, the objectives of the study includes

- Evaluate the effects of recapitalization on the capital adequacy of commercial banks in Nigeria.
- Evaluate the effects of recapitalization on the asset quality of commercial banks in Nigeria.
- Evaluate the effects of recapitalization on management quality of commercial banks in Nigeria.
- Evaluate the effects of recapitalization on profitability of commercial banks in Nigeria.

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- Evaluate the effects of recapitalization on liquidity of commercial banks in Nigeria.

Research Questions

- Has the level of minimum paid up capital improved the capital adequacy ratio of commercial banks in Nigeria.
- Has the level of minimum paid up capital improved the asset quality ratio of commercial banks in Nigeria.
- Has the level of minimum paid up capital improved the management quality of commercial banks in Nigeria.
- Has the level of minimum paid up capital improved the profitability ratio of commercial banks in Nigeria.
- Has the level of minimum paid up capital improved the liquidity ratio of commercial banks in Nigeria.

Statement Of Hypotheses

$H0_1$: Bank recapitalization does not have a significant effect on its capital adequacy.

Ho_2: Bank recapitalization does not have a significant effect on its asset quality

Ho_3 : Bank recapitalization does not have a significant effect on its management quality.

Ho_4: Bank recapitalization does not have a significant effect on its profitability

Ho_5 : Bank recapitalization does not have a significant effect on its liquidity.

Empirical Studies on Recapitalisation

Nasiru et al (2012) conducted a study that sort to answer if capital regulations had only a short term effect on addressing liquidity or a long term effect of forstalling distress using data from commercial banks from 1997 – 2006. They discovered a positive relationship between increase in minimum capital base and commercial banks liquidity and asset quality levels. But with the post 2006 crises, they concluded that increased capital requirement alone only accounts for a short term remedy.

Adegbaju and Olokoyo (2008) in their study investigated the impact of previous recapitalization in the banking system on the performance of the banks in the country with the aim of finding out if the recapitalization is of any benefit using both descriptive statistical analysis such as means and standard deviations and analytical techniques such as the t-test and the test of equality of means. According to Akani,(2013), it was found that the mean of key profitability ratio such as the Yield on earning asset (YEA), Return on Equity (ROE) and Return on Asset (ROA) were significant meaning that there is statistical difference between the mean of the bank before 2001 recapitalization and after 2001 recapitalization. The study recommended that the banks should improve on their total asset turnover and to diversify their funds in such a way that they can generate more income on their assets, so as to improve their return on equity.

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Oleka and Mgbodile (2014) studied 17 banks out of the 25 banks that emerged out of the 89 banks that were in operation in 2004 before the reform covering a ten year-period (2002-2012) to see the significance of the reform. The study found that there was significant difference in the performance of banks before and after the reforms as evidenced by improved yields in the ratios used as performance measures. The ratios used as performance indicators in this work showcased higher yields in the post-recapitalization as against the lower yields before the reform. They concluded that it has changed the market structures of banks by increasing the operational efficiency and raising their earnings potentials.

Bakare (2011) as cited in Alajekwu, and Obialor, (2014) examined the trend and the growth implications of bank capitalization in Nigeria. The secondary data used for the study were processed using sample test technique for difference between two means so as to compare the means of the variables before and after recapitalization to see if there is any significant difference between the two periods. The result indicated that post recapitalization mean at 21.58 is higher than the pre recapitalization mean of 15.09, implying that banks are more adequately capitalized and less risky after the programme. This result also indicated that recapitalization has low but significant influence on the growth of Nigerian economy compare to other variables in the model.

Sani, and Alani, (2013) as cited in Obadan (2004) and Agundu, Akani, and Agbahiwe held the view that the N25 billion would not guarantee banks soundness unless fundamental cases of distress in the banks are tackled. Some factors were itemized such as adverse internal and external stocks, unstable economic policies, adverse conditions and unguarded liberations of entry into banking industry, reckless use of depositors fund and inadequate supervision and enforcement of regulations may constitute some draw backs to the policy.

METHODOLGY

The study adopted a panel data and an ex-post-facto research design. An ex-post facto research uses historical information in studying existing phenomenon with the intent to using the result to understand the current trend in the issues under study and Panel data combines both time series and cross- sectional data. Minimum paid up capital of different times during the (2000- 2012) study years were collected so as to test the effect of the reform using 2006 as our base year, testing the capital adequacy, asset quality, management quality, earnings/ profitability and liquidity ratios. The study employed secondary data collected from the quoted financial statement of ten banks as our sample study out of the twenty- five commercial banks that emerged after the recapitalization process, journals, textbooks and Central bank (CBN) annual bulletin of various issues wee also applied in the course of this analysis. Data analysed using the Chow test to testing for structural or parameter stability of regression models.

Description of Variables

Credit agencies, researchers, and bank regulators tend to evaluate banks‟ performance on the basis of a formal approach called CAMELS bank assessment system. The CAMELS rating is a supervisory rating system that originated from the United States to classify a bank's overall condition. The ratings are assigned based on ratio analysis of the financial statement

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combined with on-site examinations made by a designated supervisory regulator. The components of a bank's condition that are assessed includes six performance measures: capital adequacy, asset quality, management quality, profitability/ earning, liquidity and sensitivity to market risk. This study settled for the first five which includes Capital adequacy, Asset, Management, Earnings/ profitability and Liquidity.

CAPITAL ADEQUANCY (CAR): capital to risk (weighted) asset ratio. It is the ratio of bank's capital to its risk. It offers a good measure of the degree of loss a bank can withstand before wiping out shareholders equity.

Capital Adequacy Ratio = Tier 1 capital + Tier 2 capital / Risk weighted assets Tier 1 capital absorbs losses without a bank being required to cease trading and Tier2 absorbs losses in the event of a winding up and so provides a lesser degree of protector to depositors. If CAR determines the bank's capacity to meet time liabilities and other risks such as credit risk and operational risk, that means post recapitalization should be better than pre recapitalization.

ASSET QUALITY: this is the evaluation of asset to measure the credit risk associated with it. The most common asset requiring strict determination of asset quality is loans which can be non-performing assets if borrowers default on repayment obligations. Poor asset quality has been one of the major causes of bank failures in Nigeria. Asset quality ratio = loan loss provision / Total loans.

MANAGEMENT QUALITY: Organizational efficiency and effectiveness in achieving quality objective are contributed by identifying, understanding and managing all interrelated processes as a system. Management in business is an art that coordinates the efforts of people to accomplish goals and objectives using available resources effectively. People at all levels of an organization are the essence of it since their complete involvement enables their abilities to be to be used for the benefit of the organization therefore poor remunerations and benefit was found by Alkeli (2008) be one of the sources of operational inefficiency. However, the ultimate key decisions are made by the managers. Management quality ratio = Salaries & benefits / Total asset

EARNINGS: A bank functions to make profit through its operations and through their policies, some are paid out as dividend and others retained for investment and expansion purposes. Return on capital employed will be used as proxy for profitability. ROCE is the ratio of net operating profit of a bank to its capital employed. It measures the success of a bank in generating satisfactory profit on capital invested. ROCE = Earnings before interest and tax (EBIT) / Capital employed.

LIQUIDITY: this is the measure of the ability and ease with which assets can be converted to cash. Liquidity ratio is a statutory required condition. Cash reserve and liquid assets ratios are annually prescribed by the monetary authorities. Therefore, the main challenge to a bank is to ensure its own liquidity under all reasonable conditions. The ability of banks to meet its periodic cash demand of customers is a measure of its strength and an assurance for depositors' confidence. The higher the liquidity ratio, the higher the margin of safety that bank possesses to meet its current liabilities. Liquidity ratio = Total loans and advances / Current liabilities.

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Method of Data Analysis: The Chow Test Anaysis

Time period (Pre capitalization) - 2000-2005: $Y_t = \lambda_0 + \lambda_1 t + u_{1t}$, $n_1 = 6$

Time period (Post capitalization) - 2006-2012: $Y_t = \beta_0 + \beta_1 t + u_{2t}$, $n_2 = 7$

Time period (Both period of capitalization)-2000-2012: $Y_t = \theta_0 + \theta_1 t + u_{3t}$, $n = n_1 + n_2 = 13$

To further expand the equation,

Pre recapitalization Period: $Y_t = \lambda_0 + \lambda_1 CAR_t + \lambda_2 AQ_t + \lambda_3 MQ_t + \lambda_4 EQ_t + \lambda_5 LIQ_t + u_{1t}$

Post recapitalization Period: $Y_t = \theta_0 + \theta_1 CAR_t + \theta_2 AQ_t + \theta_3 MQ_t + \theta_4 EQ_t + \theta_5 LIQ_t + u_{2t}$

Both Period: $Y_t = \beta_0 + \beta_1 CAR_{1t} + \beta_2 AQ_t + \beta_3 MQ_t + \beta_4 EQ_t + \beta_2 LIQ_t + u$

Where:

Y_t = Measures of Bank's overall conditions proxy:

CAR = capital adequacy ratio

AQ = asset quality ratio

MQ = management quality ratio

EQ = earning quality / profitability ratio using Return on capital employed as proxy.

LIQ = liquidity ratio

λ's, β's, θ's = regression parameters.

n= number of observations (years under study)

(n_1= pre capitalization years under study, n_2= post capitalization years under study, n = overall number of years under study).

t = time as an independent variable.

The idea behind the Chow test is that if there is no structural change then the RSS_R and RSS_{UR} should not be statistically different. Therefore, if we form the following ratio:

$$F = \frac{(RSS_R - RSS_{UR})/K}{(RSS_{UR})/(n_1 + n_2 - 2k)} \sim F[k, (n_1 + n_2 - 2k)]$$

then Chow has shown that under the null hypothesis the regressions (i) and (ii) are (statistically) the same (no structural change) and the F- ratio given above follows the F distribution with k and (n1 + n2 − 2k) df in the numerator and denominator, respectively.

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RESULT AND DISCUSSION

Capital Adequacy Ratio

Table 1: Regression estimate for Capital Adequacy Ratio

Variables	Pre Capitalization	Post Capitalization	Overall
Constant	5.48** (18.735)	1.117 (0.351)	-0.289 (-0.108)
Time(year)	0.27** (3.59)	3.696** (5.201)	1.688** (5.02)
R^2	0.76	0.84	0.70
F	12.91**	27.06**	25.20**
RSS	0.395	70.684	226.389
Degree of freedom (d.f)	4	6	11
N	6	7	13

( )- t-value, RSS – Residual Sum of Squares, ** - ($p<0.05$) – significant at $\alpha= 0.05$

Hence from the table 1, above

Unrestricted sum of Squares (RSS_{UR}) = $RSS_1 + RSS_2$
= 0.395+70.684 = 71.079

Restricted sum of Squares (RSS_R) = 226.389

Therefore,

$$F_{cal} = \frac{(RSS_R - RSS_{UR})/K}{(RSS_{UR})/(n_1 + n_2 - 2k)}$$

$$= \frac{(226.389 - 71.079)/2}{(71.079)/(9)} = \frac{77.6555}{7..8977} = 9.8327$$

$F_{tab} = F_{\alpha,[k,(n1+n2-2k)} = F_{0.05,[2,9]} = 4.26$

Asset Quality Ratio

Table 2: Regression estimate for asset quality ratio

Variables	Pre Capitalization	Post Capitalization	Overall
Constant	30.634** (10.216)	47.637** (20.633)	27.85** (13.359)
Time(year)	1.412 (1.834)	1.639** (3.175)	2.536** (9.654)
R^2	0.46	0.67	0.70
F	3.365	10.08**	93.21**
RSS	41.497	37.307	138.112
Degree of freedom (d.f)	4	6	11
N	6	7	13

( )- t-value, RSS – Residual Sum of Squares, ** - ($p<0.05$) – significant at $\alpha= 0.05$

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The table 2 above suggest that

Unrestricted sum of Squares (RSS_{UR}) = $RSS_1 + RSS_2$
= 41.497+37.307 = 78.804

Restricted sum of Squares (RSS_R) = 138.112

Therefore,

$$F_{cal} = \frac{(RSS_R - RSS_{UR})/K}{(RSS_{UR})/(n_1 + n_2 - 2k)}$$

$$= \frac{(138.112 - 78.804)/2}{(78.804)/(9)} = \frac{29.654}{8.756} = 3.387$$

$F_{tab} = F_{\alpha,[k,(n1+n2-2k)]} = F_{0.05,[2,9]} = 4.26$

Management Quality

Table 3: Regression estimate for Management quality

Variables	Pre Capitalization	Post Capitalization	Overall
Constant	39.78** (13.468)	48.184** (29.455)	36.202** (16.038)
Time(year)	-0.474 (-0.625)	-0.219 (-0.899)	0.981** (3.449)
R^2	0.09	0.62	0.67
F	0.391	3.389	11.898**
RSS	40.267	18.732	161.911
Degree of freedom (d.f)	4	6	11
N	6	7	13

( )- t-value, RSS – Residual Sum of Squares, ** - ($p<0.05$) – significant at $\alpha = 0.05$

The table above shows that

Unrestricted sum of Squares (RSS_{UR}) = $RSS_1 + RSS_2$
= 40.267+18.732 = 22.999

Restricted sum of Squares (RSS_R) = 161.911

Therefore,

$$F_{cal} = \frac{(RSS_R - RSS_{UR})/K}{(RSS_{UR})/(n_1 + n_2 - 2k)}$$

$$= \frac{(161.911 - 22.999)/2}{(22.999)/(9)} = \frac{69.4556}{2.5554} = 27.179$$

$F_{tab} = F_{\alpha,[k,(n1+n2-2k)]} = F_{0.05,[2,9]} = 4.26$

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Profitability Ratio

Table 4: Regression estimate for profitability ratio

Variables	Pre Capitalization	Post Capitalization	Overall
Constant	36.308** (5.904)	34.259** (13.051)	32.153** (10.433)
Time(year)	0.344 (0.28)	2.8** (4.785)	1.369** (3.527)
R^2	0.12	0.82	0.53
F	0.048	22.893**	12.439**
RSS	174.554	47.954	300.806
Degree of freedom (d.f)	4	6	11
N	6	7	13

( )- t-value, RSS – Residual Sum of Squares, ** - ($p<0.05$) – significant at $\alpha= 0.05$

Unrestricted sum of Squares (RSS_{UR}) = $RSS_1 + RSS_2$
= 174.554+47.954 = 222.508

Restricted sum of Squares (RSS_R) = 300.806

Therefore,

$$F_{cal} = \frac{(RSS_R - RSS_{UR})/K}{(RSS_{UR})/(n_1 + n_2 - 2k)}$$

$$= \frac{(300.806 - 222.508)/2}{(222.508)/(9)} = \frac{39.149}{24.723} = 1.584$$

$F_{tab} = F_{\alpha,[k,(n1+n2-2k)} = F_{0.05,[2,9]} = 4.26$

Liquidity Ratio

Table 5: Regression estimate for liquidity ratio

Variables	Pre Capitalization	Post Capitalization	Overall
Constant	31.883** (91.073)	26.371** (4.868)	29.519** (9.309)
Time(year)	0.54** (6.004)	2.731** (2.255)	0.879** (2.2)
R^2	0.9	0.51	0.55
F	36.051	5.085**	4.838**
RSS	0.566	205.399	319.529
Degree of freedom (d.f)	4	6	11
N	6	7	13

( )- t-value, RSS – Residual Sum of Squares, ** - ($p<0.05$) – significant at $\alpha= 0.05$

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Unrestricted sum of Squares (RSS_{UR}) = RSS_1 + RSS_2
= 0.566+205.399 = 205.965

Restricted sum of Squares (RSS_R) = 319.529

Therefore,

$$F_{cal} = \frac{(RSS_R - RSS_{UR})/K}{(RSS_{UR})/(n_1 + n_2 - 2k)}$$

$$= \frac{(319.529 - 205.965)/2}{(205.965)/(9)} = \frac{56.782}{22.885} = 2.4812$$

$F_{tab} = F_{\alpha,[k,(n1+n2-2k)} = F_{0.05,[2,9]} = 4.26$

Regression Analysis

Table 6: Regression Analysis of Mcap on CAR, AQ, MQ, EQ and LIQ.

Variables	CAR	AQ	MQ	EQ	LIQ
Constant	3083.209 (0.615)	-35020.05** (-5.692)	-73998.68** (-5.466)	-24851.588 (-1.419)	-6733.766 (-0.33)
X	963.765** (2.653)	1079.209** (8.19)	2047.484** (6.56)	935.439** (2.26)	586.659 (1.038)
R^2	0.39	0.859	0.796	0.319	0.089
F	7.036**	67.084**	43.039**	5.111**	1.078

( ) : t-value, ** - ($p<0.05$) – significant at $\alpha = 0.05$,

ANALYSIS OF THE RESEARCH QUESTIONS

1. Has the level of minimum paid up capital improved the capital adequacy ratio of commercial banks in Nigeria?

   The result of the regression model of Mcap on CAR in table 4.6 shows a positive significant coefficient of 963.765. Which indicates an increase in Mcap by N1 will produce an increase in CAR by 963.765. Hence this implies that Mcap has a significant positive impact on CAR.

2. Has the level of minimum paid up capital improved the asset quality ratio of commercial banks in Nigeria?

   The result of the regression model of Mcap on AQ in table 4.6 showed a positive significant coefficient of 1079.209 indicating that an increase in Mcap by N1 will produce an increase in AQ by 1079.209. This implies that Mcap has a significant positive impact on AQ.

3. Has the level of minimum paid up capital improved the management quality of commercial banks in Nigeria?

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The result of the regression model of Mcap on MQ in table 4.6 above, shows a positive significant coefficient of 2047.484. Which indicates an increase in Mcap by N1 will produce a increase in MQ by 2047.484. This shows that Mcap has a significant positive impact on MQ.

4. Has the level of minimum paid up capital improved the profitability ratio of commercial banks in Nigeria?

   The result of the regression model of Mcap on EQ(ROCE) in table 4.6 above, shows that there is a positive significant coefficient of 935.439. Which indicates that an increase in Mcap by N1 will produce an increase in EQ(ROCE) by 935.439. Therefore, showing that there exist a significant positive impact of Mcap on Earning / profitability ratio (using ROCE as proxy).

5. Has the level of minimum paid up capital improved the liquidity ratio of commercial banks in Nigeria?

   From table 4.6 above, minimum capital base has a positive coefficient of 586.659 at 0.05 level of significance. Therefore, there exist a positive impact of Mcap on liquidity.

TEST OF HYPOTHESES

$H0_1$: Bank recapitalization does not have a significant effect on its capital adequacy.

Based on the result of the time series regression analysis and chow-test result in equation 4.1 at α=0.05, F_{cal}= 9.8327 > F_{tab}= 4.26 at (2,9) degree of freedom. We reject H_0 and conclude that there is a structural change due to recapitalization. This implies that 2006 recapitalization has significantly changed the capital Adequacy Ratio of banks.

Ho_2: Bank recapitalization does not have a significant effect on its asset quality

From the results on table 4.3 above, at α=0.05, F_{cal}= 3.387 < F_{tab}= 4.26 at (2,9) degree of freedom. We therefore do not reject the H_0 and conclude that there is no structural change on asset quality after recapitalization. This implies that 2006 recapitalization at 0.05 level of significance did not change the asset quality Ratio of commercial banks in Nigeria.

Ho_3 : Bank recapitalization does not have a significant effect on its management quality.

Based on the result of the time series regression analysis and chow-test result in equation 4.5 above, at α=0.05, F_{cal}= 27.179 > F_{tab}= 4.26 at (2,9) degree of freedom. We reject null hypothesis H_0 and conclude that there exist a structural change due to recapitalization. This implies that 2006 recapitalization has significantly changed the management quality of commercial banks in Nigeria.

Ho_4: Bank recapitalization does not have a significant effect on its profitability

From the results on table 4.7 above, at α=0.05, F_{cal}= 1.584 < F_{tab}= 4.26 at (2,9) degree of freedom. We therefore do not reject the H_0 and conclude that there is no structural change on

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profitability after recapitalization on 0.05 level of significance. This implies that 2006 recapitalization at 0.05 level of significance did not change the return on capital employed of commercial banks in Nigeria. Overall, this study has found that judging from the profitability ratio of banks and test.

For structurally change between the pre and post 2006 recapitalization exercise, it is not only capital that makes for good performance of banks. As banks recapitalize the economic environment has to be conducive to make good profit and deepen the financial structure of the economy.

Ho_5 : Bank recapitalization does not have a significant effect on its liquidity.

Based on the results on table 4.9 above, at α=0.05, F_{cal}= 2.4812 < F_{tab}= 4.26 at (2,9) degree of freedom. We therefore do not reject the H_0 and conclude that there is no structural change on liquidity after recapitalization. This implies that 2006 recapitalization at 0.05 level of significance did not change the liquidity Ratio of commercial banks in Nigeria. Basel ii was initially published in June, 2004 to create an international standard for banking regulators to control how much capital banks need to put aside to guard against the various risks the bank exposes themselves to but the 2008-2010 banking crises brought about the creation of Basel iii to strengthen bank capital requirement on liquidity and leverage.

SUMMARY OF FINDINGS

1. There was a significant positive effect between the minimum capital base and capital adequacy.
2. There was a significant positive effect between the minimum capital base and asset quality.
3. There was a significant positive effect between the minimum capital base and management quality.
4. There was a significant positive effect between the minimum capital base and earning / profitability using return on capital employed as proxy .
5. There was a positive but not significant effect at 0.05 level of significance between the minimum capital base and liquidity
6. The recapitalisation process caused a structurally change in only the capital adequacy and management quality of the commercial banks in Nigeria.

CONCLUSION

The paper has examined the effect of the 2006 commercial bank recapitalisation reform in Nigeria, then without doubt or contradictions, there was plausible empirical evidence which showed that recapitalization reform which took place in the Nigerian banking industry in 2006 had significant positive effect with the minimum capital base of the banks.

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From the results of the study, we conclude that even though there exist a relationship between increase in minimum capital base requirement and the variables (capital adequancy ratio, asset quality ratio, management quality ratio, earning/ profitability rato and liquidity ratio of banks), there exist structurally change for only capital adequacy and management quality confirming that though recapitalisation is a good development in the banking sector in Nigeria, increasing minimum capital requirement alone cannot achieve stability as witnessed by the post 2006 bank distress and the Central Bank of Nigeria intervention of the failing banks (bailling out 8 banks with a tune of 400 billion in 2012. This has led to the conclusion that recapitalisation alone cannot achieve the soundness and stability desired by the Central Bank of Nigeria. (Nasiru,Joshua., and Nasiru, (2012), Adegbaju and Olokoyo, Owolabi,Ogunlalu, (2013) and Akani,Wokoma and Uzobor (2012).

RECOMMENDATIONS

It is on the basis of our findings that this study recommends that capital regulation should be a component of a total reform framework to ensure effectiveness.

There should be a balance between strict compliance to corporate governance practices, zero tolerance on misreporting and fraudulent practices, enforcing laws like the liabilities of board members of failing banks and finally, every business needs an enabling environment to enhance profitability.

The combination of these with a strong capital base will help the Central Bank of Nigeria of stemming the problem of bank failures and ensure a sound financial system.

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APPENDIX

CAPITAL ADEQUANCY RATIO

S/N	NAME OF BANKS	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1	ACCESS BANK PLC	4.70	5.10	4.70	5.10	6.90	7.30	10.40	13.50	10.40	17.00	14.70	14.40	14.80
2	ECO BANK PLC	6.70	6.20	4.30	6.30	8.50	10.00	11.50	12.30	11.90	14.30	10.10	4.70	10.00
3	DIAMOND BANK PLC	4.80	5.00	4.70	5.00	6.20	6.80	7.20	7.90	8.80	11.00	12.20	13.10	13.50
4	FIDELITY BANK PLC	5.70	6.10	6.40	7.80	8.50	8.60	7.50	6.92	8.99	8.08	16.94	16.57	26.28
5	FBN PLC	5.40	5.70	5.30	5.30	5.60	6.20	6.45	6.60	10.80	10.30	10.40	90.80	88.40
6	STRELING BANK PLC	7.70	5.83	12.20	7.80	4.26	5.55	7.94	10.50	14.64	23.98	38.97	69.13	91.10
7	UBA PLC	7.10	6.50	6.30	6.40	6.60	6.80	7.10	7.30	9.20	7.80	5.50	14.10	15.25
8	UBN PLC	6.70	6.30	6.10	7.00	7.70	8.30	9.00	9.90	9.40	7.80	15.00	14.70	15.10
9	WEMA BANK PLC	5.80	4.90	4.80	5.30	5.90	6.40	7.00	7.80	8.60	9.10	9.90	11.20	13.80
10	ZENITH BANK PLC	6.60	6.80	6.40	6.80	7.30	8.40	10.00	11.20	8.10	12.80	16.20	11.80	13.40

SOURCES: BANKS ANNUAL REPORTS AND ACCOUNTS

ASSET QUALITY RATIO

S/N	NAME OF BANKS	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1	ACCESS BANK PLC	37.00	37.36	33.60	34.20	39.00	44.10	53.10	68.60	65.90	68.90	68.10	78.90	77.40
2	ECO BANK PLC	29.05	29.93	32.00	32.30	34.40	57.40	68.70	75.20	76.70	76.80	83.50	66.90	63.00
3	DIAMOND BANK PLC	20.90	20.58	19.70	20.80	28.00	29.50	32.20	34.00	34.90	43.10	44.40	49.30	50.20
4	FIDELITY BANK PLC	43.60	49.50	45.14	21.30	31.50	32.30	16.80	15.50	19.96	15.52	19.63	10.70	18.37
5	FBN PLC	38.25	37.90	38.40	40.30	44.10	48.40	59.10	65.80	66.50	70.60	72.80	65.30	65.10
6	STRELING BANK PLC	34.45	38.53	37.82	29.36	31.30	34.55	30.82	38.82	39.90	42.60	52.30	54.16	38.95
7	UBA PLC	33.15	32.50	32.20	33.00	46.50	52.00	59.30	69.90	71.70	81.70	87.80	76.00	77.10
8	UBN PLC	39.10	39.45	39.80	41.20	49.00	54.40	57.60	68.60	67.50	61.60	61.60	68.90	68.00
9	WEMA BANK PLC	19.80	20.20	19.60	20.00	22.70	26.00	27.50	28.60	29.10	30.80	31.40	34.20	36.30
10	ZENITH BANK PLC	40.90	41.60	41.50	42.10	43.30	48.10	51.00	54.70	67.80	70.60	63.50	65.20	66.40

SOURCES: BANKS ANNUAL REPORTS AND ACCOUNTS

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MANAGEMENT QUALITY RATIO

S/N	NAME OF BANKS	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1	ACCESS BANK PLC	51.16	20.30	23.33	30.70	34.97	55.14	53.26	53.14	57.75	63.86	62.98	73.91	51.81
2	ECOBANK PLC	27.03	26.49	28.42	24.01	25.90	25.56	30.77	36.64	54.80	57.82	61.83	49.50	34.54
3	DIAMONDBANKPLC	25.83	24.78	27.10	28.42	21.09	31.08	44.71	44.60	56.10	44.56	38.30	41.36	43.74
4	FIDELITY BANKPLC	72.22	55.35	41.11	31.28	24.85	50.24	50.49	73.59	41.51	26.34	37.62	40.37	42.18
5	FBN PLC	34.24	33.96	36.75	34.00	38.33	36.66	49.37	48.79	51.52	52.67	48.40	46.87	58.81
6	STERLING BANK PLC	50.59	53.40	51.19	48.80	43.60	55.00	54.10	37.80	19.83	56.20	57.80	62.50	49.60
7	UBA PLC	39.10	43.40	45.75	47.12	40.65	41.37	73.83	59.84	51.08	48.82	48.63	43.72	58.57
8	UBN PLC	42.05	43.76	45.20	48.45	42.07	41.51	42.41	35.58	37.94	37.40	41.23	44.21	42.90
9	WEMA BANK PLC	40.60	41.80	33.56	53.73	27.96	32.27	37.20	37.54	26.24	29.42	39.54	30.03	31.37
10	ZENITH BANK PLC	33.16	36.78	35.31	35.87	33.73	39.15	64.36	53.23	47.66	40.20	42.98	48.62	54.68

SOURCES: BANKS ANNUAL REPORTS AND ACCOUNTS

EARNING / PROFITABILTY RATIO (ROCE)

S/N	NAME OF BANKS	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1	ACCESS BANK PLC	15.50	16.69	21.94	27.56	32.75	49.50	25.81	81.49	47.76	30.11	11.01	15.27	85.09
2	ECOBANK PLC	25.50	24.16	28.40	29.37	26.83	32.30	43.74	47.20	51.30	52.22	76.40	52.60	62.50
3	DIAMONDBANKPLC	27.73	48.61	59.84	35.00	42.92	35.40	39.49	40.71	42.89	49.63	50.33	53.12	58.90
4	FIDELITY BANKPLC	26.70	89.60	87.20	30.64	36.01	22.10	25.12	33.50	68.79	28.54	28.10	37.86	41.35
5	FBN PLC	35.12	38.34	66.42	41.31	52.22	56.24	42.53	43.08	40.90	51.18	54.36	60.74	65.10
6	STERLING BANK PLC	24.84	26.80	27.35	22.53	36.90	28.79	35.92	46.55	38.80	24.40	71.30	72.70	62.10
7	UBA PLC	30.28	48.18	88.60	41.95	37.08	39.23	34.94	35.86	32.20	28.30	38.00	83.10	34.40
8	UBN PLC	39.95	40.40	32.20	35.20	32.70	47.74	31.50	37.40	40.90	51.27	40.05	52.82	45.78
9	WEMA BANK PLC	36.10	32.24	26.64	31.50	26.66	24.21	28.50	23.40	26.60	32.70	43.40	38.16	43.13
10	ZENITH BANK PLC	37.70	44.70	29.22	34.20	44.70	40.30	42.64	41.39	61.70	58.70	54.20	58.40	45.30

SOURCES: BANKS ANNUAL REPORTS AND ACCOUNTS

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LIQUIDITY RATIO

S/N	NAME OF BANKS	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
S/N	NAME OF BANKS	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1	ACCESS BANK PLC	24.3	27	29.4	30.7	36.7	38.1	40.3	42	20	29.1	30	42	40
2	ECOBANK PLC	34.6	39.8	40	40.5	41.2	38.6	38	32.4	28.1	23.3	22.6	21.3	20
3	DIAMONDBANKPLC	32	32.4	32.7	33.1	31.4	29	25.4	32.1	21.6	27.9	38.2	46.5	60.6
4	FIDELITY BANKPLC	19.30	18.50	16.93	15.10	17.60	19.64	20.37	34.69	27.29	21.66	25.75	42.20	49.10
5	FBN PLC	33.4	36.3	39.3	40.2	40.6	42.15	42.9	44	40	31.7	47.8	58.3	80
6	STERLING BANK PLC	20.96	25.46	35.83	32.05	36.55	34.16	35.44	37.82	39.28	39.86	42.27	32.43	44.10
7	UBA PLC	37.8	40.9	44	44.3	44	42	37.6	33.8	33.2	31.7	47.3	58.5	78.7
8	UBN PLC	44.70	46.20	42.30	44.30	40.60	43.00	37.40	30.20	25.00	29.10	30.00	42.00	45.10
9	WEMA BANK PLC	38.60	32.30	29.70	30.60	28.50	29.10	33.30	33.00	31.70	27.90	37.20	42.00	48.30
10	ZENITH BANK PLC	34.30	32.80	28.70	29.20	31.10	31.80	34.10	34.90	35.00	30.60	34.70	44.10	66.00

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