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## DEPOSIT- MONEY- BANKS: UNETHICAL DIVERGENCE IN CAPITAL ADEQUACY RATIOS – NIGERIA PERSPECTIVE

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### Abstract

**Objectives:** *This study examines the role of capital adequacy ratios in deposit money banks in Nigeria. The conventional / traditional role of capital is to ensure the survival of business enterprises when losses are envisaged. Therefore, the primary objective for setting an international standard to regulate minimum capital requirement ratios for deposit money banks is to ensure that the tenacity and stability of financial institutions/banks are strengthened globally. Banks hold capital in excess of the minimum requirement to ensure that unexpected losses do not lead to non-compliance with the minimum requirement. Similarly, capital adequacy ratio (CAR) is the ratio of bank's capital to risk adjusted factors which provide a platform for the regulatory authority to measure the amount of a bank's real assets expressed as a percentage of its risk-weighted asset and keep track, to ensure that financial institutions can absorb a reasonable amount of loss and still complies with statutory capital requirement structures.*

**Methodology/Approach:** *Data procurement was based on "parliolithic" track of transactions of specific financial institutions under consideration (Nigeria). The analysis was tailored to harness the meritorious advantages of capital adequacy ratio in banks and other financial institutions.*

**Findings:** *The study reveals that the higher the capital adequacy ratio, the greater the level of unexpected losses it can absorb.*

**Validity:** *The study therefore, recommends that regulatory authorities should ensure that financial institutions (banks) strictly comply with the minimum capital adequacy ratios stipulated to ensure stability and efficiency in performance.*

**Keywords:** *Capital Adequacy Ratios (CAR), Market Generated Capital, Regulatory Authorities, Optimum Capital Structure, Minimum Requirement, Risk-adjusted Factors, "Too-big- to- fail", Weighted- Assets- Ratios (WAR).*

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## **INTRODUCTION**

The special role of capital in banks is explained in its significance to the bank's role as credit providers. That is why capital requirements for deposit money banks are necessary moreso, that they play an important role in global economy. Capital requirements according to Kristian (2010) relate to the size and composition of liable capital. He stated further that the capital requirements for banks are based on international standards laid down by the Basel Committee. In 2004 the Committee (Basel II) on Banking Supervision proposed the Economic capital and Regulatory capital for the analysis of a new framework for bank capital regulation. The committee whose secretariat is at the Bank of International Settlement (BIS) was set up in 1974 with the purpose of strengthening the stability of the international financial system (Abel and Rafael, 2007).

The primary objective of the new regulation as stated by Caruana (2005), is to set "... more risk-sensitive minimum capital requirements so that regulatory capital is both adequate and closer to economic capital". Economic capital (Abel and Rafael, 2007) is the capital level that is required to cover the bank's losses with a certain probability or confidence level, which is related to a desired rating. Such desired solvency standard is derived from an underlying objective function such as the maximization of the value of the bank. Economic capital therefore, may be seen as the capital level that bank shareholders would choose in absence of capital regulation.

Regulatory capital on the other hand is the minimum capital required by the regulator. Regulatory capital therefore, in principle, is derived from the maximization of a social welfare function that takes into account the cost and benefit of capital regulation (Abel and Rafael, 2007). The costs of capital regulation include an increase in the cost of credit while the benefits include a reduction in the probability of bank failure.

The capital structure of a business enterprise reflects the proportions of the enterprise's assets financed by own funds and external financing (Kristian, 2010). It is the composition of the financial structure of the business. The capital structure of a business measures the extent to which an organization is geared, i.e. the extent to which it makes use of debt and equity in financing its operations (Kehinde and Abiola, 2006). Banks have a considerably lower equity ratio than non-financial corporation. The reason as suggested by Kristian (2010) is because the principal function of banks is to receive deposit and relend, whereby



the profit and the volume of business are related to the size and the relative distribution of the balance sheet items.

The proposition by Modigliani and Miller (M & M, 1958) that in a financial world of full information and complete markets, a firm's capital structure cannot affect its value; contrast with the intuitive notion that a firm with risk-free debt can borrow at an interest rate below the required return on equity. This reduces its weighted average cost of financing and increases its value by substituting debt for equity (Berger, Herring and Szego, 1995).

Okwoli and Kpelai (2008) posit that the value of a firm refers to the net price of its ordinary shares which results directly from the firm's investment, financing and dividend decisions. Some of the factors affecting the choice of capital structure of a firm includes sales stability, asset structure, profitability, control (ownership diffusion/dilution), taxes, growth rate, operating structure, management attitude, firm's internal control, financial flexibility, market condition and prices of substitute product (Akinsulire, 2008).

An optimal capital structure exists according to Modigliani and Miller (1958) when the risk of going bankrupt is offset by the tax savings of debt. Once this optimal capital structure is established, a firm would be able to maximize returns to its stakeholders and these returns would be higher than returns obtained from a firm whose capital is made up of equity only.

In the simplest formulation, a bank's capital is the "cushion" for potential losses, and protects the bank's depositors and other lenders. That is why banking regulators in most countries define and monitor capital adequacy ratios (CAR) to protect depositors, so as to maintain confidence in the banking system. CAR is the ratio which determines the bank's capacity to meet the time liabilities and other risks such as credit and operational risk, to mention but a few. CAR is similar to leverage; in the most basic formulation, it is comparable to the inverse of debt-to-equity leverage formulations (although CAR uses equity over assets instead of debt-to-equity; since assets are by definition equal to debt plus equity, a transformation is required). Unlike traditional leverage, however, CAR recognizes that assets can have different levels of risk (Akerlof, 1990).

The paper examines the role of capital in deposit money banks in Nigeria. It evaluates the importance of capital, how market-generated capital "requirements" differ from regulatory



requirements. The paper also examined capital adequacy ratios, the history of capital adequacy ratios and discusses the computation of capital adequacy ratios and its usefulness. This study is of significant importance for regulatory authorities and managers of financial institutions because these institutions lack any plausible rationale in the frictionless world of M & M. Several works on financial institutions has begun with a set of assumed imperfections, such as taxes, cost of financial distress, transactions costs, asymmetric information and regulation. Though, Miller (1995) argued that these imperfections may not be important enough to overturn the M&M proposition, (Berger et al, 1995), it is important to look away from M&M frictionless world, so that financial institutions may be able to enhance their market values by taking on an “optimal” amount of leverage.

The rest of the paper is structured into four parts. Part II dwells on review of relevant literatures followed by capital adequacy ratios and its significance in Part III. Part IV dwells on ranking of deposit money banks on the basis of tier 1 capital. The paper ends in Part V with conclusion and recommendations.

## **NEOLITHIC REVIEW**

### **Market Capital Requirements**

We may want to ask why markets may encourage institutions to hold certain capital ratios in the absence of the regulatory capital requirements (capital ratio, i.e. the ratio of equity to assets). Berger et al (1995) defined a bank’s market capital ‘requirement’ as the capital ratio that maximizes the value of deposit money bank in the absence of regulatory capital requirements and all the regulatory mechanism that are used to enforce them but in the presence of the rest of the regulatory structures that protects the safety and soundness of banks. They further explained that this market ‘requirement’ which may differ for each deposit money bank, is the ratio toward which each bank would tend to move in the long run in the absence of regulatory capital requirements. Berge et al (1995) further posits that sanctions for a bank’s departure from market capital ‘requirements’ are two sided, the value of the bank will decline if it has either too little or too much capital.

The basis for determining the optimum capital structure according to Kristian (2010) is the Modigliani-Miller theory, which posits that the value of a company in a perfect world without taxes is independent of financing. He explained further, that the underlying assumption in M&M theory is that in a perfect world the investors can compose their own



personal gearing which we may choose to call “home leverage”. It is therefore, not possible for companies to add value via the capital structure. This result however, changes significantly when corporate taxes are introduced, as the value of the company increases with growing indebtedness owing to the tax deductibility of interest payments but not of the remuneration on the equity capital.

Berger et al (1995) observed that taxes and the cost of financial distress were the first major frictions considered in determining optimal capital ratios. They argued that since interest payments are tax deductible, but dividends are not, substituting debt for equity enables firms to pass greater returns to investors by reducing payments to the government. Therefore, all things being equal, owners prefer to fund the firm almost entirely with debt. However, increasing leverage also increase the risk of incurring the costs of financial distress. The expected costs of financial distress increases as the capital ratio declines and the probability of insolvency rises.

In determining the capital structure Berger et al (1995) posits that the capital ratio at the point at which the tax advantage of additional debt are offset by the increase in the expected cost of financial distress determines the optimal capital structure or market capital ‘requirement’ in the presence of these two frictions. Financial distress occurs when the bank has difficulty honoring its commitments. The cost of financial distress includes the cost of bankruptcy. That is the cost of transferring ownership of the firm from shareholders to creditors. It also includes the loss in value that may occur as a result of the perception that bankruptcy may be imminent, even if bankruptcy may ultimately be avoided. Moreover, the company may in addition to the above costs loose her skilled/talented employees and suppliers may decide to ask for shorter and timelier payments for supplies. The cost of financial distress may also include decline in revenues from credit-risk sensitive products (e.g. guarantees), and conflicts of interest between shareholders and creditors which may lead to sub optimal operating, investment and financing decisions.

### **THE SIGNIFICANCE OF EXCESS CAPITAL RESERVES IN DEPOSIT MONEY BANKS**

Kristian (2010) posits that the conventional role of capital is to ensure the survival of business enterprises when they encounter losses. For instance, deposit money banks in Nigeria are subjected to a minimum capital requirement of 8 % by the Central Bank of Nigeria (CBN) of the risk-weighted assets. If the banks’ liable capital falls below the



minimum capital requirements, the CBN may decide to either close the bank down or encourage another bank to acquire it, where all effort to restore the capital fails.

In Nigeria, between 2000 and 2012, there were several cases of banks which had been taken over by other banks due to inability of their shareholders to increase their liable capital which fell below the minimum capital requirement. Within the period stated above, Access bank acquired Intercontinental bank, Ecobank acquired Oceanic bank, First City Monument Bank acquired FinBank and Sterling bank also acquired Equatorial Trust bank. Three other deposit money banks which were salvaged by the CBN within the above stated period were nationalized. They include Springbank now called Enterprise bank Limited, Bank PHB now called Keystone Bank and Afribank now renamed Mainstreet Bank. Therefore, the banks capital reserves in excess of the minimum capital requirements and their current earnings ensure their independence and survival in case of unexpected losses; as provisions corresponding to the expected value of the losses are made (Okey, 2012).

Furthermore, banks hold capital in excess of the minimum capital requirement to ensure that unexpected losses do not lead to non-compliance with the minimum capital requirements, in which case the shareholders would have to transfer control of the bank to the authorities as seen in the case of Afribank, Bank PHB and SpringBank which became nationalized in 2011.

Another purpose of the excess capital reserves is to avoid excessive financing costs for other financing options than deposits. Where a bank desperately wants to correct insufficiency in excess capital reserves, it may have to pay a high rate of interest on loans from other banks or on bonds she had issued (Kristian, 2010).

Furthermore, large banks decides to have considerable market-determined excess capital reserves in order to keep their good ratings (Jackson et al, 2002), as rating agencies make demands regarding the banks' excess capital reserves as a condition for high rating. Moreover, sufficient excess capital reserves enable banks to enter into large exposures without having to raise new capital. The bank faces the risk of loosing her reputation if she finds it difficult to meet the CBN's (i.e. regulatory) capital requirements where she suffers large losses from loan exposures.



## **REASONS FOR IMPOSITION OF CAPITAL REQUIREMENTS BY THE CBN**

Capital requirement is determined with a view to ensuring confidence in the banks without jeopardizing the bank's role as provider of capital. One of the reasons why CBN imposes minimum capital requirements is to prevent a bank's financial problems from spreading and threatening the financial stability of the economy. This could happen if an event in a bank leads to considerable financial losses and/or loss of confidence in other parts of the financial system. The ultimate consequence would be that the banks no longer function as efficient providers of credit to business enterprises and households (Akerlof, 1990).

Moreover, loss of confidence in the banking sector would have grave consequences on the banks as they would be unable to attract sufficient deposit as a source of financing, and also may not be able to attract capital from investors, including inter-bank loans. Furthermore, minimum capital requirements are to prevent the value of assets in a failing bank from dropping below the value of the depositors' claims. The aim is to ensure that the bank can be reconstructed or wound up in a relatively orderly fashion, whereby exposures can be settled without the counter parties suffering losses. Generally, the capital requirement is determined with a view to ensuring confidence in the banks without jeopardizing the banks' role as providers of capital. Therefore, the minimum capital requirement of 8% of the risk weighted assets is an international compromise between these two considerations (Jackson et al., 2002).

Assessing the significance of capital requirements is a difficult task. However, a theoretical argument is that capital requirements increases the banks' risk-taking (Genotte and Pyle, 1991). This is because the financing costs on deposits do not rise when risk-taking increases. In practice however, the value of the license to operate as a bank is often so great that the shareholders do not wish to assume excess risk.

Business enterprises hold certain equity capital due to financial distress costs. For banks, a major cost of financial distress is that the value of loans, which constitute the most important part of a bank's assets, is typically lower in a default situation than in a situation where the bank is a "going concern". This is because the bank's private information on the borrowers cannot be immediately transferred to other banks, as it is built up over the period during which the bank has had those borrowers as customers. A risk premium would



be required for another bank to takeover the loan since this bank would not know the borrowers (Kristian, 2010). Akerlof (1970) calls it the “lemon effect”.

The size of the bank usually influences the capital structure. In a related work by Kristian (2010), it was found that large banks usually have smaller excess capital reserves than small banks. One explanation for this is the “too-big-to-fail” argument. That a government guarantee is implied, since regulatory authorities believes the failure of large banks would have incalculable consequences for the society.

Another argument in literature is that excess capital reserves are an alternative to advanced risk management. It is cheaper for small banks to hold relatively large excess capital reserves than to invest in and maintain advanced risk-management models. Moreover, other argument holds that small banks’ loan and deposit portfolios are less diversified than those of large banks since small banks are typically exposed to the local community in which they operate. Moreover, the pressure from the shareholders is often more limited in small banks due to a high degree of local ownership of the shares (Berger et al., 1995).

One of the factors determining excess capital reserves in banks is the policy of the regulatory authority. If the authorities raise the capital requirement, the banks will augment their capital, though not by quite as much as the increase in the capital requirement. Therefore, the excess capital reserves tend to decrease when authorities impose higher capital requirements (Alfon et al., 2004).

### **CAPITAL ADEQUACY RATIO AND ITS SIGNIFICANCE**

Deposit Money Banks licensed by the CBN are required to submit to her quarterly disclosure statements which include a range of financial and prudential information. A key part of these statements is the disclosure of the banks' "capital adequacy ratios" (CAR). CAR also called Capital to Risk (Weighted) Assets Ratio (CRAR), is a ratio of a bank's capital to its risk. It is a measure of the amount of a bank's core capital expressed as a percentage of its risk-weighted asset (Berger et al., 1995).

The CBN keep track of a bank's CAR to ensure that it can absorb a reasonable amount of loss and complies with statutory Capital requirements as these ratios are a measure of the amount of a bank's capital in relation to the amount of its credit exposures. They are usually expressed as a percentage. For instance, a capital adequacy ratio of eight (8) percent means that a bank's capital is eight percent of the size of its credit exposures (Alfon et al., 2004).



An international standard has been developed which recommends minimum capital adequacy ratios for international banks. The purpose of having minimum capital adequacy ratios is to ensure that banks can absorb a reasonable level of losses before becoming insolvent, and before depositors funds are lost (Harley, 2011). Applying minimum capital adequacy ratios serves to promote the stability and efficiency of the financial system by reducing the likelihood of banks becoming insolvent. A bank becoming insolvent may lead to loss of confidence in the financial system, causing financial problems for other banks and perhaps threatening the smooth functioning of financial markets (Soludo, 2009). Therefore, the application of minimum capital adequacy ratios by the CBN assists in maintaining a sound and efficient financial system. It also gives some protection to depositors. In the event of a winding-up, depositors' funds rank in priority before capital, so depositors would only lose money if the bank makes a loss which exceeds the amount of capital it has. Hence, Alashi (2002) observed that the higher the capital adequacy ratio, the higher the level of protection available to depositors.

### **DEVELOPMENT OF MINIMUM CAPITAL ADEQUACY RATIOS**

The "Basel Committee" established in 1974, is a committee that represents central banks and financial supervisory authorities of the major industrialized countries (the G10 countries). The committee concerns itself with ensuring the effective supervision of banks on a global basis by setting and promoting international standards. Its principal interest has been in the area of capital adequacy ratios. In 1988 the committee issued a statement of principles (Basel Capital Accord) dealing with capital adequacy ratios. The statement contains a recommended approach for calculating capital adequacy ratios and recommended minimum capital adequacy ratios for international banks. The Accord was developed in order to improve capital adequacy ratios (which were considered to be too low in some banks) and to help standardize international regulatory practice. This Accord has been adopted by the OECD countries and many developing countries (Basel Committee on Banking Supervision, 2003).

### **MINIMUM CAPITAL ADEQUACY RATIOS AND ITS LIMITATIONS**

The minimum CAR that supervisory authorities are encouraged to apply according to the Basel Capital Accord are: one, that tier 1 capital to total risk weighted credit exposures should not be less than 4 percent; and: two, that total capital (i.e. tier 1 plus tier 2 less



certain deductions) to total risk weighted credit exposures should not be less than 8 percent. Akerlof (1990) observed that having a CAR above the minimum recommended level is not a guarantee that the bank is "safe" as CAR are concerned primarily with credit risks. There are also other types of risks which are not recognized by CAR, for instance inadequate internal control systems could lead to large losses by fraud, or losses could be made on the trading of foreign exchange and other types of financial instruments. Furthermore, CARs are only as good as the information on which they are based. For instance, if inadequate provisions have been made against problem loans, then the CAR will overstate the amount of losses that the bank is able to absorb. Therefore, CAR should not be interpreted as the only indicators necessary to judge a bank's financial soundness.

### **CREDIT EXPOSURES OF DEPOSIT MONEY BANKS**

A credit risk is a risk that the bank will not be able to recover the money it is owed. Credit exposures arise when a bank lends money to a customer, or buys a financial asset (e.g. a commercial bill issued by a company or another bank), or has any other arrangement with another party that requires that party to pay money to the bank (e.g. under a foreign exchange contract). Some of the factors that affect risks inherent in a credit exposure include the financial strength of the party owing the bank and the market factors that impact on the value or cash flow of assets that are used as security for loans. The greater the financial strength of the party owing the bank, the greater the probability of repayment (Alashi, 2002).

### **COMPUTATION OF CAPITAL ADEQUACY RATIOS**

The process of calculating capital for use in capital adequacy ratios, require adjustments to be made to the amount of capital shown on the balance sheet. The formula below may be used:

$$\text{CAR} = \frac{\text{Tier 1 Capital} + \text{Tier 2 Capital}}{\text{Risk Weighted Assets}}$$

Tier 1 capital is calculated as (paid up capital + statutory reserves + disclosed free reserves) - (equity investments in subsidiary + intangible assets + current and brought forward losses).

Tier 1 capital is capital permanently and freely available to absorb losses without the bank being obliged to cease trading. This capital is important because it safeguards both the survival of the bank and the stability of the financial system (Kristian, 2010).



Tier 2 capital consists of undisclosed reserves, general loss reserves, hybrid debt capital instruments and subordinated debts. This capital generally absorbs losses only in the event of a winding-up of a bank, and so provides a lower level of protection for depositors and other creditors. It comes into play in absorbing losses after tier 1 capital has been lost by the bank. Tier 2 capital is sub-divided into upper and lower tier 2 capital. Upper tier 2 capital has no fixed maturity, while lower tier 2 capital has a limited life span, which makes it less effective in providing a buffer against losses by the bank. While Risk can either be weighted assets ( $\alpha$ ) or the minimum total capital requirement stipulated by the regulatory authorities (Akerlof, 1990).

If using risk weighted assets,  $CAR = \frac{T_1 + T_2}{\alpha} \geq 10\%$

$\alpha$

A third type of capital, tier 3 capital, as defined by Basel Capital Accord consists of short term subordinated debt. It can be used to provide a buffer against losses caused by market risks if tier 1 and tier 2 capital are insufficient for this. Market risks are risks of losses on foreign exchange and interest rate contracts caused by changes in foreign exchange rates and interest rates. However, Regulatory authorities do not require capital to be held against market risk, so does not have any requirements for the holding of tier 3 capital (Akerlof, 1990).

## FIRST STEP IN COMPUTATION OF CAPITAL

Tier 1 capital comprises of:

- the ordinary share capital of the bank; and
- audited revenue reserves (e.g. retained earnings); less current year's losses; future tax benefits; and intangible assets (e.g. goodwill).

Upper Tier 2 capital comprises of:

- unaudited retained earnings;
- revaluation reserves;
- general provisions for bad debts;
- perpetual cumulative preference shares (i.e. preference shares with no maturity date whose dividends accrue for future payment even if the bank's financial condition does not support immediate payment);



- perpetual subordinated debt (i.e. debt with no maturity date which ranks in priority behind all creditors except shareholders).

Lower Tier 2 capital comprises of:

- subordinated debt with a term of at least 5 years;
- redeemable preference shares which may not be redeemed for at least 5 years.

The total capital is the sum of tier 1 and tier 2 capital less equity investments in subsidiaries; shareholdings in other banks that exceed 10 percent of that bank's capital and unrealized revaluation losses on securities holdings.

**Table 1: Computation of Capital for XYZ Bank Plc (Hypothetical)**

Computation of Tier 1 Capital	
Ordinary Capital	7
Retained earnings	8
Less Goodwill	-3
Total tier 1 capital	12
Calculation of Tier 2 capital (Upper)	
General bad debt provision	2
Revaluation reserve	4
Calculation of tier 2 capital (Lower)	
Subordinated debt	2
Redeemable preference shares	3
Total tier 2 capital	11
Less shareholding in other bank	-3
Total capital	20

Source: Publication of Reserve Bank of New Zealand

<http://www.rbnz.govt.nz/finstab/banking/regulation/0091769.html>

### **Computation of Risk Weighted Exposures for (Hypothetical) XYZ Bank Plc**

The credit equivalent amounts of all off-balance sheet exposures are multiplied by the same risk weightings that apply to on-balance sheet exposures (i.e. the weighting used depends on the type of counterparty), except that market related contracts that would otherwise be weighted at 100 percent are weighted at 50 percent



**Table 2: Calculation of Risk Weighted Exposures**

<b>On-balance sheet</b>			
Exposure type	Amount	X Risk Weighting	= Risk weighted exposures
Cash	11	0%	0
5 Year Govt. Stock	20	10%	2
Lending to banks	30	20%	6
Home loans	52	50%	26
Commercial loans	64	100%	64
Fixed assets	25	200%	25
<b>Total</b>			<b>123</b>

<b>Off-balance sheet</b>				
Exposure type	Amount X	Credit conversion factor X	Risk weighting =	Risk weighted exposures
Guarantee	10	100%	100%	10
Asset sale with recourse	18	100%	100%	18
Forward purchase	23	100%	100%	23
Performance bond	8	50%	100%	4
Underwriting facility	28	50%	100%	14
Trade contingency	30	20%	100%	6
Exposure type	(Replacement Cost) +	Potential exposure X	Risk weighting =	Risk weighted exposure
Forward FX contract	4	1	20%	1
Interest rate swap	4	1	20%	1
<b>Total</b>				<b>77</b>
<b>Total risk weighted exposures</b>				<b>200</b>

Capital adequacy ratios are calculated by dividing tier 1 capital and total capital by risk weighted credit exposures.

Tier 1 capital to total weighted exposures =  $12 / 200 = 6\%$

Total capital to total risk weighted exposures =  $20 / 200 = 10\%$

The CAR for our (hypothetical) XYZ Bank Plc. equals 10%

## **RANKING DEPOSIT MONEY BANKS ON THE BASIS OF TIER 1 CAPITAL**

Most ranking agencies uses the tier 1 capital as a basis for ranking banks all-over the world as it is considered a core measure of the banks' financial strength. The recent ranking of deposit money banks in Nigeria by The Banker Magazine, a subsidiary of the Financial Times is a case in time. The ranking indicates that Zenith Bank Plc is the largest bank in Nigeria, 7<sup>th</sup> in Africa and 322<sup>nd</sup> in the world. Zenith bank has a total tier 1 capital of \$2.398 billion in 2011 as against \$2.405 billion in 2010. Financial Institutions all over the world often dread formal or informal rankings because of its capacity to classify them. This is due to the highly



competitive environment of banking. Hence no bank would be happy to be ranked below its peers (Business Hallmark, 2012).

Financial experts observed that Tier 1 capital is the core measure of a bank's financial strength, as it can absorb losses without a bank being forced to cease trading. They however, added that African banks suffered in this year's top 1000 ranking from the weakness of their currencies, many of which fell sharply against the US dollar in the second half of 2011. The performance Indices used in ranking the banks include: Tier 1 capital, assets, capital adequacy ratio, pre-tax profit, returns on capital employed, returns on assets, BIS total capital ratio, non-performing loan ratio, loans/assets ratio and cost/income ratio (Business Hallmark, 2012).

The table below shows a comprehensive picture of the ranking done by The Banker Magazine.

**TIER 1 CAPITAL FOR NIGERIAN'S TOP 8 BANKS FEATURED IN THE GLOBAL 1000 BANKS IN  
2012**

Deposit Money Banks	Tier 1 Capital 2010 (Billion)	Tier 1 Capital 2011 (Billion)	2011 PAT (Billion)	Ranking by Banker Magazine		
				Nig	Africa	World
Zenith Bank Plc	\$2.405	\$2.398	<del>₦</del> 44.189	1 <sup>st</sup>	7 <sup>th</sup>	32 <sup>nd</sup>
FBN Plc	\$2.221	\$2.262	<del>₦</del> 44.785	2 <sup>nd</sup>	8 <sup>th</sup>	338 <sup>th</sup>
GT. Bank Plc	\$1.362	\$1.478	<del>₦</del> 52.654	3 <sup>rd</sup>	11 <sup>th</sup>	455 <sup>th</sup>
Access Bank Plc	\$1.054	\$1.149	<del>₦</del> 13.660	4 <sup>th</sup>	15 <sup>th</sup>	541 <sup>st</sup>
UBA Plc	\$1.003	\$1.037	<del>(₦)</del> 9.647	5 <sup>th</sup>	16 <sup>th</sup>	563 <sup>rd</sup>
Fidelity Bank Plc	\$0.867	\$0.904	<del>₦</del> 5.361	6 <sup>th</sup>	17 <sup>th</sup>	618 <sup>th</sup>
FCMB Plc	\$0.683	\$0.854	<del>(₦)</del> 9.915	7 <sup>th</sup>	22 <sup>nd</sup>	710 <sup>th</sup>
Skye Bank Plc	\$0.665	\$0.683	<del>₦</del> 5.250	8 <sup>th</sup>	24 <sup>th</sup>	721 <sup>st</sup>

Source: *Business Hallmark*, July 23, 2012.

**CONCLUSION AND RECOMMENDATIONS**

This study examines the role of capital and capital adequacy ratios in deposit money banks in Nigeria. The conventional role of capital is to ensure the survival of business enterprises when they encounter losses. Hence the primary objective for setting an international



standard to regulate minimum capital requirements for deposit money banks is to ensure confidence in the banks and strengthen the stability of the international financial system.

The capital structure of a business enterprise reflects the proportions of the enterprise's assets financed by own funds and external financing. It measures the extent to which an organization is geared, (i.e. the extent to which it makes use of debt and equity in financing its operations). The study reveals that banks have a considerably lower equity ratio than non-financial corporation. The reason as suggested by Kristian (2010) is because the principal function of banks is to receive deposit and relend, whereby the profit and the volume of business are related to the size and the relative distribution of the balance sheet items.

The study also reveals that capital adequacy ratios measure the amount of a bank's capital in relation to the amount of its risk weighted credit exposures. The risk weighting process takes into account the relative riskiness of various types of credit exposures that banks have, and incorporates the effect of off-balance sheet contracts on credit risk. The higher the capital adequacy ratios a bank has, the greater the level of unexpected losses it can absorb before becoming insolvent.

Finally, the study reveals that the Basel Capital Accord is an international standard for the calculation of capital adequacy ratios. The Accord recommends minimum capital adequacy ratios that banks should meet. The CBN applies the minimum standards specified in the Accord to licensed banks. This helps to promote stability and efficiency in the financial system, and ensures that deposit money banks comply with generally accepted international standards.

The study therefore, recommends that regulatory authorities, all-over the world should as a matter of policy ensure strict implementation of this Accord. Their efficient and effective supervision will no doubt enhance stability and efficiency of the financial system which is the catalyst and hence bedrock of every economy.

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## APPENDIX 1

### Hypothetical Balance sheet of XYZ Bank Plc

Assets		Liabilities & Equity	
Cash	11	Deposits	182
5 Year Govt. Stock	20	Subordinated term debt	2
Lending to Banks	30	Shareholders' funds	
Housing loans with mortgages	52	Ordinary capital	7
Commercial loans	64	Redeemable preference shares	3
Goodwill	3	Retained earnings	8
Shareholding in other banks	3	Revaluation reserve	4
Fixed assets	25		
General provision for bad debts	-2		
<i>Total/Assets</i>	206	<i>Total Liabilities</i>	206

### Hypothetical Off-Balance Sheet Exposures of XYZ Bank Plc

	Nominal Amount	Principal
Direct credit substitute (guarantee of financial obligations)	10	
Asset with recourse	18	
Commitment with certain drawdown (forward purchase of assets)	23	
Transaction related contingent item (performance bond)	8	
Underwriting facility	28	
Short term self liquidating trade related contingency	30	
6 month forward foreign exchange contract (replacement cost = 4)	100	
4 year interest rate swap (replacement cost = 4)	200	
<b>Total</b>	<b>417</b>	

Note: The foreign exchange contract and interest rate swap are with banks. All other transactions are with non-banks customers.

Source: Publication of Reserve Bank of New Zealand

<http://www.rbnz.govt.nz/finstab/banking/regulation/0091769.html>

## Appendix 2

### Calculation of Credit Exposures (On-Balance Sheet Exposures)

The categories into which all credit exposures are assigned for capital adequacy ratio purposes, and the percentages the balance sheet numbers are weighted by, are as follows:

Credit Exposure Type	Percentage Risk Weighing
Cash	0
Short term claims of governments	0
Long term claims on governments (> 1 year)	10
Claims on banks	20
Claims on public sector entities	20
Residential mortgages	50
All other credit exposures	100



**Calculation of Credit Equivalents: Off-Balance Sheet Credit Exposures**

The nominal principal amounts in each category are multiplied by the credit conversion factor to get a "credit equivalent amount":

Credit Exposure Type	Credit Conversion Factor (%)
Direct credit substitutes e.g. guarantees, bills of exchange, letters of credit, risk participations	100
Asset sales with recourse	100
Commitments with certain drawdown e.g. forward purchase, partly paid shares	100
Transaction related contracts e.g. performance bonds, bid bonds	50
Underwriting and sub-underwriting facilities	50
Other commitments with an original maturity more than 1 year	50
Short term trade related contingencies e.g. letters of credit	20
Other commitments with an original maturity of less than 1 year or which can be unconditionally cancelled at any time	0
Interest rate contracts < 1 year	0%
Interest rate contracts > 1 year	0.5%
Exchange rate contracts < 1 year	1%
Exchange rate contracts > 1 year	5%