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Risk-Based Capital Standard for Banks: a critique

N. Arua

Risk-based Capital Standards for Banks: A Critique

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There is a consensus on the need to impose minimum capital requirements on banks. However, there exists far less agreement about how this minimum amount of capital should be calculated. This paper presents a critique of the form of the risk-based capital standards known as Basel I & II. The substance of basing capital adequacy requirements on risk sensitivity remains unquestionable. Absolute rules on banks' minimum paid-up capital or shareholders' funds are considered useful only to the extent that they serve as complementary or temporary measure to address the potential uncertainties in the accuracy of risk exposure. It examines the likely implications of the Basel II Capital Accord for the Nigerian banking system and advises that the CBN should consider carefully the cost implication of the new Accord before developing timetable for its implementation.

I.   Introduction

Risk-based capital standards require banks to hold capital in relation to their risk exposure. In the recent past, bank regulators specified minimum capital standards for banks that were independent of their underlying risks. In 1986, the United States Federal Banking Agencies proposed adoption of a risk-based capital measure that would take explicit account of broad differences in risk in a banking organization's assets and off-balance sheet items. The risk-based capital proposed was aimed at fostering co-ordination among supervisory authorities in the U.S. In 1987, a new risk-based capital rules were proposed based on a joint US/UK agreement. The scope of the international effort was expanded further when the Basel

Committee on Banking Supervision modified and extended the US/UK agreement to set internationally consistent capital standards for the G10 countries plus Luxembourg. The report of the Committee titled "International Convergence of Capital Measurement and Capital Standard" also called the "Basel Accord I" or "BIS I" was presented in July 1988. While the Accord was initially applied to internationally-active banks in the 12 industrial countries, it quickly became acknowledged as a model for capital regulation of the banking system in both developed and developing economies. It is believed to have been adopted in some form by more than 100 countries, including Nigeria.

The basic aim of the regulation is to require that banks maintain sufficient capital to absorb unforeseen losses. Broad agreement exists about the need to impose minimum capital requirement in order to maintain the stability of the financial system, however, there exists far less agreement about how this minimum amount of capital should be calculated. As a result, the original risk-based capital standards have been subject to heavy criticisms by academics, practitioners and regulators.

The Basel Committee on Banking Supervision has responded severally to these criticisms by proposing alternative capital rules. After extensive consultations with bank supervisory authorities worldwide, the final document of this proposal known as the New Capital Accord was presented and endorsed by Central Bank Governors and Heads of Banking Supervision of the G10 countries in June 2004, with an amendment in November 2005. The document was circulated to bank supervisory authorities' worldwide with view to encouraging them to adopt the New Accord as a global product. The new framework will be available for implementation in member jurisdictions as of year-end 2006. The most advanced approaches to risk measurement will be available for the year-end 2007.

Now that banks the world over are aligning their internal practices and behaviour to the New Accord, it is advisable to discuss the implications of the implementation of the New Accord for the Nigerian banking system. The aim of this paper, therefore, is to review the original and new risk-based capital standards (Basel I & ll Accords) and the criticisms that characterized both

rules. It shall also outline the likely implications of the new rule for the Nigerian banking system.

Accordingly, the paper is structured as follows: section two following the introduction discusses the role of capital and capital requirements in banks; section three reviews the Basel I and II Accords; section four reviews the criticisms of both rules; section five outlines the likely implications of the New Accord for the Nigerian banking system; and section six concludes the paper with some remarks.

II.   The Role of Capital and Capital Requirement in Banks

There is a consensus in the banking literature that the function of owners' capital in bank is to reduce bank risk (Berger et al, 1995), (Altman and Saunders, 1995), (Rose, 1996), (Koch and Macdonald, 2000), (Adewumi, 1997), (Peeks and Rosengreen, 1995). It does so in so many ways. First, it provides a cushion to absorb bank losses. Owners' capital absorbs losses from bad loans, poor securities investment, and crime and management misjudgement so that the bank keeps operating until its problems are corrected or its losses are recovered. It is only when the bank's losses are so large that they overwhelm not only all other defences but also owners' capital will the institution be forced to close its doors. Thus, owners' capital is the bank's last line of defence against failure. Second, bank equity capital provides ready access to financial markets by promoting public confidence in a bank and reassuring its creditors and depositors of the bank's financial strength. The level and adequacy of a bank's capital are factors "an educated depositor" would consider in deciding which bank to put his money. Ordinarily, it will be difficult for a bank with ₦1 million equity capital to attract a bank deposit of ₦8 million (Adewumi, 1997). Third, equity capital serves as a regulator of a bank's growth. Peek and Rosengreen (1995) found that hundreds of smaller banks with weak capital base disappeared through mergers because of burgeoning growth in large business loans, which could only be made by bigger banks with stronger capital base. Also, according to the Nigerian banking laws, the maximum loan that can be made to a single borrower must not be more than 20% of shareholders' funds unimpaired by losses. Banks

whose shareholders' funds fail to grow fast enough find themselves loosing market share in the competition for the largest borrowing customers. In addition, banks that fail to maintain the prescribed minimum capital ratios are prohibited from advertising for or accepting new deposits, granting credit, making investment and paying cash dividend to shareholders.

Literature that relate to the role of capital adequacy requirements on bank behaviour include Blum (1999), Chuiri et al (2002), Altman et al (2002), Berger and Udeli (1991), Altman and Saunders (2001). Chiuri et al (2002) found in their study that the enforcement of capital requirement has a negative effect on the supply of bank loans in emerging countries. To meet minimum capital requirements, banks studied cut back lending when it was too costly to raise new capital. They, therefore, suggested caution in the process of raising minimum capital requirements in emerging economies, where external financing from non-bank financial institutions is generally weak. They recommended adequate phased-in procedures to be considered by emerging economies planning to introduce new and higher capital requirements.

Using a simple budget or accounting constraint models based on earlier work of Peek and Rosengreen (1995), Altman et al (2002) showed another instance where increasing capital requirements induced banks to cut back on their loans. A comprehensive paper by the Bank Committee on Banking Supervision (1999) survey on the response of banks in the G10 countries to the enforcement of the 1988 capital adequacy requirements confirmed the evidence that bank capital pressures could limit bank lending.

Regulators, concerned primarily with the safety and soundness of banks and the stability of the financial system, prefer more equity capital in banks. This reduces the likelihood of failure and frequency of supervision as well as increases bank liquidity. Bankers on the other hand, generally prefer to operate with less capital. The smaller is a bank equity base, the greater is financial leverage and equity multiplier. High leverage converts normal return on assets into a high return on equity (ROE). This conflict in interest between banks and regulators makes it possible for banks to exploit any available loophole in capital requirements rules to engage in regulatory arbitrage.

The technical challenge for both banks and regulators has been how to determine capital adequacy requirements. Increasing equity beyond market requirement reduces the value of the bank, increases its weighted average cost of finance, and imposes social costs. Capital requirements must be consistent with the economic intent of the requirements. Thus, capital regulation involves a trade-off between the marginal social benefit of reducing risk of the negative externality from bank failures and the marginal social cost of diminishing intermediation (Berger et al, 1991).

Ideal regulatory capital requirements would equate the marginal social cost of higher capital with the marginal social benefit for each bank for each period. For example, a bank that poses no significance externalities would be assigned a relatively low capital requirement, while a bank that is likely to transmit shocks to other banks would be subjected to high capital requirement. The requirement would be continuously updated with changes in the risk position of each bank. However, implementation of such an ideal framework would be very expensive. Regulators lack precise estimates of social costs and benefits to make capital requirement suitable for each bank and cannot easily revise the requirements continuously as conditions change.

In practice capital regulation stipulates uniform, minimum ratios below which banks are subject to regulatory sanctions. This minimum remains relatively stable over time and compliance is monitored by on-site examinations and routine inspection of banks' reports.

III.   Review of Basel I & II Accords

The Basel Committee on Banking Supervision, a group of central banks and bank supervisory authorities in 12 industrial countries developed and presented the Basel I Accord in July 1988. The Accord was originally intended for internationally active banks in G10 countries, but more than 100 countries have adopted variant form of the Accord.

The 1988 Accord relates bank capital adequacy requirement to credit risk exposure reflecting the perception that credit risk poses the most serious threat

to bank solvency. Other types of risks were to be incorporated later. For instance, the Committee amended the 1988 Accord to take account of capital requirements for market risks in 1996. This amendment was modified in September 1997 and November 2005. It adopted two alternative approaches to the measurement of market risk: a standardized method and internal models approach.

The 1988 Accord or Basel I

There are two components of the 1988 Accord. These include:

1.   The measurement of qualifying capital, the numerator and

2.   The determination of risk-weighted assets, the denominator.

Qualifying Capital

Under the Accord, qualifying regulatory capital is categorized into tier 1 and tier 2 capitals. The tier 1 or core capital comprises common stock, retained earnings, surplus, non-cumulative preferred stock, minority interest in equity accounts of consolidated subsidiaries and selected identifiable intangible assets. Tier 2 or supplementary capital includes qualifying subordinated debt, cumulative preferred stock, capital certificates, and loan loss reserves in an amount not to exceed 25% of risk-weighted assets, non-withdrawal accounts and pledged deposits not included in core capital. Supplementary capital items are considered less stable protection against losses. The total capital of a bank could be derived from the sum of tier 1 and tier 2 capitals. Some assets are deducted from capital. These include goodwill, other intangible assets that do not meet qualitative test, investment in subsidiaries that are not consolidated and some reciprocal holdings of capital requirements of banking organizations. Goodwill is deducted directly from core capital, while other deductions are from total capital.

Risk-Weighted Assets (RWA)

The denominator of the risk-based Basel I Accord measures banks' credit risk exposure. Calculation of risk-weighted asset (RWA) is accomplished by multiplying each asset item on a bank's balance sheet and any off-balance sheet commitment by risk weighting factor designed to reflect the credit risk exposure and summing the weighted categories to create risk weighted assets. For on-balance sheet items, 0 percent risk weight is assigned to the following asset category: cash, deposit at the Central Bank of Nigeria, treasury bills, notes and bonds issued by government of the world leading industrial countries belonging to the Organization of Economic Co-operation and Development (OECD) and well-secured claims backed by cash, or deposits, or by OECD central governments. 20 percent risk weight is assigned to the following asset category: cash items in the process of collection, inter-bank deposits, general obligation bond and notes issued by States and Local governments and securities issued or backed by Federal government agencies.

50 percent risk weight is assigned to moderate risk assets such as residential mortgages, loan on one-to-four family dwellings, selected multi family-housing loans that are well secured and adequately performing and reserve bonds issued by state and local government units or agencies. 100 percent risk weight is assigned to highest risk assets such as commercial and industrial loans, credit cards loans, real property assets, investment in bank subsidiary company and all other bank assets not listed above.

For off-balance sheet items, the notional value of off-balance sheet items are first converted to on-balance sheet "credit equivalent" amounts. The credit equivalent amounts are then assigned risk weight applicable to the counter party or underlying collateral.

Under the risk-based Basel I Accord, a bank should hold tier 1 capital at least equal to 4% of risk-weighted assets. Tier 1 plus tier 2 capital should be at least equal to 8% of risk-weighted assets. A tier 2 capital is limited to no more than tier 1 capital. There is an additional supervising leverage requirement that institutions with the highest examination ratings that meet certain other

conditions must hold tier 1 capital at least equal to 3% of unweighted assets.

The formula for calculating capital adequacy ratio under the BIS I is Capital Adequacy Ratio:

$$= \frac{Total\ tier\ 1+\ Tier\ 2\ Capital}{Total\ Risk\ Weighted\ Assets} \quad \dots\dots\dots\dots\dots (1)$$

The New Accord or Revised Framework or Basel II

Due to the limitations of the 1988 Accord, which are highlighted in the next section, there has been broad-based pressure to radically review this Accord. The Basel Committee for Banking Supervision presented the final document of the new proposal for establishing minimum capital requirement for banking organizations in June 2004, with some amendments in November 2005. The document is titled "International Convergence of Capital Measurement and Capital Standards: A Revised Framework". The New Accord represents the outcome of the Committee's extensive consultations with bank supervisory authorities' worldwide to secure international convergence on revision to regulations governing capital adequacy of internationally active banks. The Committee presented the first round of the proposal in June 1999 and subsequently released additional proposals for consultation in January 2001 and April 2003. It also conducted three quantitative impact studies related to its proposals. The New Framework and the standard it contains have been endorsed by the Central Bank Governors and Head of Banking Supervision of the G10 countries.

The Basel II retains the key elements of the 1988 capital adequacy framework including the general requirement for banks to hold eligible capital equivalent to at least 8% of their risk-weighted assets. It also retains the definition of qualifying or eligible capital and the basic structure of the 1996 treatment of market risk.

The Basel II Framework is packaged in the form of three mutually reinforcing pillars. The first pillar represents a significant strengthening of the minimum

requirements set out in the 1988 Accord, while the second and third pillars represent innovative additions to capital supervision and market discipline.

Pillar I: Minimum Capital Requirements

For providing capital charge for credit risk, two principal options have been proposed. There is the standardized approach and the internal rating based (IRB) approach. The standardized approach is conceptually the same as that found in the 1988 Accord, but is more risk sensitive. Under this approach, the bank allocates a risk-weight to each of its assets and off-balance sheet positions and produces a sum of risk-weighted asset values. A risk weight of 100% means that an exposure is included in the calculation of risk weighted assets at its full value, which translates into a capital charge equal to 8% of that value. Similarly, a risk weight of 150% results in a capital charge of 12% (i.e. 150% of 8%) and a risk weight of 20% produces a capital charge of 1.6% (i.e. 20% of 8%). The risk weights would be based on the rating from eligible external credit assessment institutions (ECAI$_s$) of borrowers (see Table 1 in the appendix for more detail). Table 1 in the appendix summaries the various options allowed under the standardized approach for slotting exposure according to ratings from eligible external rating agencies (BIS, 2001)

Banks that engage in more sophisticated risk - taking and that have developed advanced risk measurement systems may, with the approval of their supervisors select from one of two internal ratings based approach (IRB). The goal of the IRB approach is to align more accurately capital requirements with the intrinsic amount of credit risk to which a bank is exposed. The IRB approach is built on the concept of estimating borrowers' probability of default (PD) based on the historical default experience of the bank. Banks should also measure how much loss they will suffer should a borrower default on an exposure. This is the term Loss Given Default (LGD) and is expressed as a percentage of the exposure. The amount to which the bank is exposed to the borrower at the time of default is expressed as exposure at default (EAD). Under the IRB approach, banks will be allowed to use their internal estimates of borrowers' creditworthiness to assess credit risk in their portfolio, subject to strict methodological and disclosure standards.

The framework allows for two approaches to IRB, namely, the foundation and advanced approach. In the foundation approach banks estimate the probability of default (PD) associated with each borrower, and the supervisor will supply other inputs. In the advanced approach, a bank with a sufficiently developed internal capital allocations process will be allowed to supply its own data for loss given default, maturity adjustment factor, and exposure at default (EAD).

Operational Risk

The new framework establishes an explicit capital charge for a bank's exposures to operational risk. Three different approaches of increasing sophistication have been proposed. These include basic indicator, standardized, and internal measurement. The basic indicator approach utilizes one indicator of operational risk for a bank's total activity. The standardized approach specifies different indicators for different business lines, while the internal measurement approach requires banks to utilize their internal loss data in the estimation of required capital. Similar to the range of options provided for assessing exposures to credit risk, banks will choose one of three approaches for measuring their exposures to operational risk that they and their supervisors agree reflects the quality and sophistication of their internal controls.

Calculation of RWA for Corporate Exposures

In the foundation approach, corporate exposures will receive a risk weight (RW_c) that depends on PD and LGD (after recognizing any credit enhancements from collateral, guarantees or credit derivatives). The average maturity of all exposures will be assumed to be three years. A corporate exposure's risk weight, RW_C, would be calculated according to the following formula:

$$RWC = (LGD/50) \times BRWC \ (PD) \ \text{or} \ 12.5 \times LGD, \text{which ever is smaller.} \dots\dots\dots\dots\dots\dots\dots (2)$$

The PD & LGD are expressed as whole numbers rather than decimals. For

examples, LGD of 100% will be written as 100. The BRW (PD) represents the corporate benchmark risk weight associated with a given PD. The values for benchmark risk weight for a hypothetical corporate exposure having LGD of 50% are represented in Table 3 in the appendix.

In the advanced approach, or where there is an explicit maturity dimension in the foundation approach, for an exposure with effective maturity (m) different from 3 years, an asset's maturity adjusted risk weight would be calculated by scaling up or down the corporate benchmark risk weight for a hypothetical 3-year loan having the same PD and LGD. Thus, a corporate exposure's risk weight in the advanced approach, RWc, can be expressed by the following formula:

$$RWc = (LGD/50) \times BRWc\,(PD) \times [1+b\,(PD) \times M\ 3], \text{or } 12.5 \times LGD,$$

which ever is smaller. …………………………........................……(3)

In this expression, BRWc (PD) is the corporate benchmark risk weight associated with PD and the term 1+b (PD) x (M-3) is a multiplicative scaling factor, linear in M, where the maturity adjustment factor b(PD) is also a function of PD.

Calculation of Benchmark Risk Weight (BRW)

On the basis of the pooled survey and model-based evidence, the following continuous function formulated by Gordy (2001) was selected as providing a reasonable representation of the relationship between a corporate borrower's PD and the associated risk weight for a benchmark loan to that borrower having a 3-year maturity and LGD equal to 50%.

$$BRWc\,(PD) = 976.5 \times N\,(1.118 \times G\,(PD) + 1.288) \times (1+0.047 \times (1-PD)/PD^{0.44})$$ ....(4)

Where PD is in decimal, N (*x*) denotes the cumulative distribution function for a standard normal random variable. G (*z*) denotes the inverse cumulative

distribution function for standard normal variable.

- The term $N(1.118 \times G(PD) + 1.288)$ represents the sum of expected and unexpected losses associated with a hypothetical, infinitely granular portfolio of one-year loan having an LGD of 100%.
- The term $(1 + 0.047 \times (1 - PD)/PD^{0.44})$ is an adjustment to reflect that the IRB benchmark risk weights are calibrated to a 3-year average maturity;
- The scaling factor 976.5, which is calibrated so that IRB benchmark risk weight equals 100% for values of PD and LGD equal to 0.7% and 5%, respectively.

Calculation of RW_R and BRW_R for Retail Exposures

Retail exposures will receive a risk weight that depends on PD and LGD, after recognizing any credit enhancement from collateral, guarantees or credit derivatives. The risk weight for a retail exposure would not depend on the maturity (M) of the exposure. The following formula would be used to calculate risk weight to a retail exposure:

$$RW_R = (LGD/50) \times BRW_R(PD) \text{ or } 12.5 \times LGD, \text{ which ever is smaller.} \dots \dots \dots (5)$$

The PD and LGD are whole numbers and not decimals. In this expression, RW_R represents the risk weight associated with given values of PD for retail exposures, while BRW_R denotes the benchmark risk weight associated with a given PD, which is calibrated to an LGD of 50%.

The BRW_R is assigned to each exposure reflecting the PD of the exposure based on the following formula:

$$BRW_R(PD) = 976.5 \times N(1.043 \times G(PD) + 0.766) + (1 + 0.047 \times (1 - PD)/PD^{0.44}) \dots \dots (6)$$

Where N denotes the cumulative distribution function for a standard normal random variable and G represents the inverse cumulative distribution function for a standard normal random variable (i.e. the value x such that $N(x) = z$)

Table 4 shows the benchmark risk weight for retail exposure on the basis of a given PD and calibrated to a 50% LGD.

Pillar II: Supervisory Review Process

More specifically, the supervisory review process under the new Accord is based on the following principles:

- To ensure that banks have adequate capital to support all the risk in their business and to encourage banks to develop and use better risk management techniques in monitoring and managing their risks.

- Banks' management are expected to develop an internal assessment process and setting capital targets that are commensurate with the bank's risk profile and control environment.

- Supervisors are expected to evaluate how well banks are assessing their capital needs relative to their risks and to intervene were appropriate.

- Supervisors are to ensure that each bank has sound internal control and effective risk management process.

Pillar III: Market Discipline and Reporting

Pillar III encourages market discipline by developing a set of disclosure requirements which will allow market participants to assess key pieces of information on the scope of application, capital, risk exposures, risk assessment processes and, hence, the capital adequacy of the institution. In principle banks' disclosure should be consistent with how senior management and board of directors assess and manage the risks of the bank.

The Basel II Framework sets out the details for adapting more risk-sensitive minimum capital requirement for banking organizations. It reinforces this risk-sensitiveness requirement by setting out principles for banks to assess the adequacy of their capital and for supervisors to review such assessments to

ensure that banks have adequate capital to support their risks. It also seeks to strengthen market discipline by enhancing transparency in banks' financial reporting.

Another principal change in the new framework is the granting of greater flexibility to banks to determine their appropriate level of equity capital that can absorb expected losses.

IV.   A Critique of the Basel I & II Accords

Basel I Accord

The Basel I Accord has been widely criticized by practitioners, academics, regulators and supervisory authorities based on the following limitations.

- **Focus on a Single Risk Measure**: One of the most glaring shortcomings of the 1988 Accord on bank capital is its failure to incorporate significant measure of banks' risk exposures. The risk weights were designed primarily to take account of credit risk. But banks also face significant market and operational risks. Market risk is the losses a bank may suffer due to adverse change in interest rates, security prices, currency, and commodity prices. While operational risk is the losses incurred due to variation in operating expenses resulting from breakdown in quality control, inefficiencies in producing and delivering services, management misjudgement, etc.

- **Standardized Risk Weights Not Related To Actual Risk:** Research evidence shows that the standardized risk weights in the Accord do not correspond well with actual risk. Avery and Berger (1991) found that some of the weights on the asset categories are out of line with the future performance results and that the explanatory power of the regression was limited. Bradley et al (1991) found that the risk-weighted assets for banks were positively related to the probability of failure and accounting measure of risk, but the risk-weights in risk- weighted assets were often out of alignment with actual risk. Cordell and King (1995)

obtained similar results, but used an entirely different methodology. They applied option-pricing methods to market data on publicly traded banks and thrifts to measure their risks. They found numerous problems with the relative risk weights for both banks and thrifts, and concluded that accounting measures of capital may overstate the actual value of capital that is available to absorb losses.

The Basel Committee on Banking Supervision when presenting an earlier version of the new accord in 1999 said:

"The current risk-weighting of asset results, at best, is a crude measure of economic risk, primarily because degrees of credit risk exposure are not significantly calibrated as to adequately differentiate between borrowers differing default risk" (BCBS, 1999).

These literature reviews provide enough evidence to corroborate the fact that the standardized risk weights in the original Accord do not represent actual measure of risk.

● **Broad-Brush Structure of Risk**: The 1988 Accord has been criticized for its broad-brush structure of risk categories, which does not give consideration for credit quality. A better way to understand this argument is to look at the categories of assets under corporate loans that are assigned the same risk weights. Under the Accord, all commercial and industrial loans are assigned risk weight of 100%. This means that a triple A rated loan has the same risk weight with a triple C junk bond. A bank would have to hold the same capital for these broad classes of assets. The broad-brush nature of risk categories in the Accord gives scope for a bank to arbitrage between economic assessment of risk and the regulatory capital requirements (BIS, 1999; 21). If assets with different risk- return characteristics have the same capital requirements, banks favour those assets that offer a relatively high-expected rate of return. They can engage in regulatory arbitrage and choose relatively risky asset offering the highest expected return among those with certain capital requirement (Benink and Wihlhorg, 2002).

- **One Size Fit All**: The 1988 Accord prescribes uniform capital requirement for all banks irrespective of the level of advances they reached in risk management techniques. Innovations in the market have enabled banks from various countries to make use of sophisticated financing techniques to effectively arbitrage between banks' risk and minimum capital levels. One technique used is securitization. Securitization can lead to a shift in banks portfolio concentration to lower quality assets. According to the research carried out by the Bank for International Settlements Working Party on Bank Capital and Behaviour, the empirical evidence on the impact of the 1988 Accord over a ten-year period revealed significant amount of securitization related arbitrage undertaken by US, Canadian, European and Japanese banks' (BIS, 2001).

- **No Consideration is Given to Tenor**: Whether a facility is for one year or ten years, the capital requirement is the same. This gives incentive for banks to provide excessive short-term facilities. It also misrepresents the risks banks take on with longer-term facilities.

- **Manipulation of RWA:** Another potential problem with the original Accord is that the risk-weighted asset (RWA) used as a denominator may be subject to manipulation by bank management. Banks may be able to restructure their transaction to reduce their capital requirements without reducing their actual risk exposures. Merton (1995) provided an example of how the current RWA can be circumvented by using a portfolio of mortgages.

The Way Forward

Improvement on the imperfections of the 1988 Accord can be suggested in the following areas:

- To avoid regulatory arbitrage, risk-weighting system should be detailed and based on the "true" or "best available" measure of risk of each particular asset. Jones and King (1995) showed that risk weight in assets

that are classified as substandard; doubtful or loss can improve RWA. Thus, by giving more weight to classified assets, a modified RWA is likely to be closer to the "true" measure of the credit risk.

- Specifying risk categories with narrow limits can reduce the incentive for banks to develop expertise in regulatory arbitrage. The BCBS own survey on banks' practices in credit risk assessment (BCBS, 2002) showed that banks' practices vary from highly intuitive placement of credits into risk categories to the use of fairly sophisticated risk assessment models.

- Any proposal that incorporates the significant risks that banks face outside credit risk may be an improvement on the Basel I Accord.

- Any proposal that takes account of maturity factor of credit in determining RWA may also be an improvement on the current Accord.

Critique of the Basel II Framework

- A substantial challenge facing banks and supervisors of the internal rating approach in the New Accord is to map an internal rating method into risk-weights that are consistent across banks.

- The potential for risk arbitrage existing under the current Accord may remain to an extent under the IRB system in the New Accord as well. Because risk weights are based on banks' private information rather than on externally verifiable facts, supervisors may have difficulties in verifying the truthfulness of banks' estimates. This may give room for banks to use their private credit risk information to circumvent risk weighting presented to the regulatory authorities.

One type of "gaining and manipulation" would occur if a bank uses its private information to place relatively high- risk and high-return credit in a lower risk category. The quantitative importance of gaining and manipulation has been estimated by Carey and Hrycay (2000). They concluded that officially

reported default rate for a given rating can be made as low as half the banks' private estimates.

It may be suggested to impose penalties on banks that systematically and deliberately understate risk. However, penalties system may lack credibility if imposed on banks in distress.

Pillar II Proposals have been criticized as not having a very clear demarcation line between the responsibilities of the banks themselves and those of the regulators (Gabarretta, 2003)

V.   Implication of the New Accord for the Nigerian Banking System

Although the new framework's focus is primarily on international active banks, its underlying principles are intended to be suitable for application to banks of varying levels of complexity and sophistication. The document embodying the New Accord has being circulated to bank supervisory authorities worldwide with a view to encouraging them to consider its adoption at such time as they believe is consistent with their broader supervisory priorities. The Basel Committee for Banking Supervision, therefore, expects the New Accord to be adhered to by all significant banks after a period of time.

Therefore, although all the twenty-five consolidated banks in Nigeria as of January 2006 might not be internationally active, at least a number of them would surely possess those inherent characteristics that would qualify them as significant banks. It is expected that the CBN, which adopted the 1988 Accord, would also adopt the New Accord in the near future. It is, therefore, pertinent to discuss the likely implications of the New Accord for the Nigerian banking system.

- Under the Pillar II of the New Accord, most of the burden of controlling banks internal risk assessment is placed on expanded and active supervision. This requires additional human resources in the supervisory function. For Nigeria to adopt the new proposal, the Central Bank of Nigeria (CBN) is expected to build up its expertise substantially

in both qualitative and quantitative terms.

- Basel II calls for banking organization to store substantial quantity of data. To produce a measure of Risk-Weighted Assets, the BIS require banks to store a comprehensive database of operational loss incidents, financial instruments, credit losses, and general ledger data. Banks that seek to calculate pillar 1 capital using the advanced IRB approach also require seven years of default data.

- The cost of setting up an appropriate Basel II complaint risk control system is likely to be a formidable challenge for both banks and regulators. It has been estimated that the implementation and compliance cost - using a net present value basis over 5-years period with 5% reference rate - of Basel II could possibly exceed US $ 1000 billion (Gabarette, 2003:69). This is equivalent to about one half of the value of tier 1 capital held by banks worldwide. Since the concept of internal rating system is still new to Nigerian banks, it is likely that the adoption of the advanced IRB approach could require a huge cost outlay. The issue of cost effectiveness in this regard cannot be ignored. The benefit of adopting the IRB approach has to be balanced with the cost.

- The proposal precludes less developed banks from using the IRB approach, which requires less capital. This has implications regarding the competitive position of less and well developed banks.

- The high-risk profile of Nigerian sovereign (external) debt resulting from huge debt overhang implies low ratings from external rating agencies. This could result in higher cost of credit for the public sector as a direct consequence of both standardized and IRB approaches.

- Notwithstanding that the incentive to move to more advanced approaches is inherent in the structure of the New Accord; one can safely say that the standardized approach will be used by most banks in Nigeria for some years before they could reach the level of sophistication in risk management envisaged by the New Accord. The

standardized approach relies on ratings from external credit rating agencies. In Nigeria there are only 3 known credit rating agencies registered with the Securities and Exchange Commission (SEC). They include Agusto & Co. Ltd, CMC International and West African Rating and Pharez. However, out of these three, only the first two are readily accessible and produce solicited and unsolicited credit assessment of businesses. Their coverage is still low for meaningful implementation of the new proposal. This implies that more credit rating agencies have to be established to specialize in assessing local companies and banks.

Again, the new Accord provides national supervisors the possibility of determining whether external credit assessment institution (ECAI) meets a number of eligibility criteria in order for it's rating to be used for capital purposes. These criteria include objectivity, independence, transparency, information disclosure, sufficient resources and credibility on the part of the ECAI. So the issue is not just to establish ECAI, but also to establish ECAI that will pass the eligibility criteria.

VI.   Concluding Remarks

The critique attempted in this paper is based on the form of the rules in Basel I & II Capital Accords, and not on the substance of establishing capital adequacy rules based on risk sensitivity.

Capital adequacy must be measured in relation to factors that significantly affect banking organizations. Banks are mostly affected by the risk they assume. They are affected by the risk that credit extended to customers will decline in value and perhaps become worthless as a result of default (credit risk). They are mostly affected by the volatility in interest rates, security prices, foreign exchange rates and commodity prices (market risk). They are also affected by the fact that operating expenses might vary significantly from what is expected (operational risk). These risks reduce the value of banks' assets over time.

Principally customers' deposits, owners' capital and creditors finance bank's assets. Regulators, particularly concerned with the interest of depositors,

advocate that owners' capital should be adequate enough to absorb the gradual depreciation in asset value resulting from risk exposure. Therefore, it is proper and sensible to base rules on capital adequacy requirements on risk sensitivity. Absolute rules on minimum paid-up capital or shareholders' funds are only useful to the extent that they serve as supplementary or temporary measure to address the potential uncertainties in the accuracy of measure of risk exposure.

Basel II is flexible enough to allow national supervisory authorities the freedom to adopt supplementary measure of capital adequacy for banking organizations in their jurisdictions. The absolute rules on minimum paid-up capital or shareholders' funds in Nigeria should therefore serve as supplement to the risk-based capital standards of Basel II. However, its imposition should not be too abrupt and too high to induce disruptive panic in the banking system. Banks should be given enough time to comply through adequate phased-in program.

The CBN should recognize the relationship that exists between the amount of capital held by the bank against its risk and the strength and effectiveness of the bank's risk management and internal control process. Increased capital should not be viewed as the only option for addressing increased risks confronting the bank. Other means for addressing risk such as strengthening the level of provision and reserves and improving internal controls must also be considered. Overall, capital should not be regarded as substitute for addressing fundamentally inadequate control or risk management process.

Moving towards the adoption of Basel II in the near future may not be a first priority for Nigeria in terms of what is needed to strengthen its supervision. The CBN should consider carefully the cost implications of the New Accord for the banking system before developing timetable for its implementation.

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Appendix

Table 1: The Standardized Approach Using Standard & Poor's Methodology

Claim	Assessment					
	AAA to AA-	A+ to A-	BBB+ To BBB-	BB+ to B-	Below B-	Unrated
Sovereign	0% (1)	20% (2)	50% (3)	100% (4-6)	150% (7)	100% (8)
Banks : Option 1[a] Option 2[b]	20% 20% (20%)[c]	50% 50% (50%)	100% 50% (20%)	100% 100% (50%)	150% 150% (150%)	100% 50% (20%)
				BB+ to BB-	Below BB-	Unrated
Corporate	20%	50%	100%	100%	150%	100%
Retail Mortgages Other retail						40% 75%

   a. Risk weighting based on risk weighting of sovereign in which the bank is incor   porated, but one category less favourable.
   b. Risk weighting based on the assessment of the individual bank.
   c. Claims on banks of a short original maturity, less than three months, would generally receive a weighting that is one category more favourable than the usual risk weight on the bank's claim.

Sources: BIS (2001)

Table 2: Capital Requirements (%) as Rating Fall

Rating	PD	Current Capital	Standardized Approach	IRB Foundation
AAA[a]	0.03	8	1.6	1.13
AA	0.03	8	1.6	1.13
A	0.03	8	4.0	1.13
BBB	0.2	8	8.0	3.61
BB	1.4	8	8.0	12.35
B	6.6	8	12.0	30.96
CCC	15.0	8	12.0	47.04

Table 3: BRW$_C$ Associated with Representative PD Values

PD (%)	BRW$_C$
0.03	14
0.05	19
0.1	29
0.2	45
0.4	70
0.5	81
0.7	100
1	125
2	192
3	246
5	331
10	482
15	588
20	625

Source: BIS (2001)

Table 4: BRW$_R$ Associated with Representative PD Values

PD(%)	BRW$_R$
0.03	6
0.05	9
0.10	14
0.2	21
0.4	34
0.5	40
0.7	50
1	64
2	104
3	137
5	195
10	310
15	401
20	479
30	605

Source: BIS (2001)