# CENTRAL BANK OF NIGERIA

# Guidance Notes on the Calculation of Capital Requirement for Credit Risk

# STANDARDIZED APPROACH

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# Chapter 1 Overview

This guideline establishes methodologies for the calculation of capital requirement for credit risk exposures under "Pillar 1" using the Standardised Approach.

Under this approach, a bank shall apply risk-weights to its on-balance sheet and off-balance sheet exposures in accordance with the risk classes set out in this guideline for regulatory capital purposes. Risk-weights are based on credit rating grades or fixed risk-weights as provided in this guideline and are broadly aligned with the supervisory view of the likelihood of counterparty default. A bank shall, where appropriate, use the ratings of External Credit Assessment Institutions (ECAIs) recognized[1] by the Central Bank of Nigeria (CBN) or as otherwise specified to determine the credit rating grades of an exposure.

A bank may use eligible credit risk mitigation (CRM) techniques in determining the capital requirement for an exposure as specified in Chapter 4 of this guideline.

[1]CBN will publish the names of approved ECAI from time to time.

# Chapter 2 Standardized Approach for Credit Risk

## 1. Introduction

For the purpose of capital computation for credit risk under Standardized Approach, a bank shall take into account all on-balance sheet and off-balance sheet exposures in the banking book except where such exposures;

a. are required to be deducted from bank's capital; or
b. are treated as "securitization exposure"

A bank's exposure to counterparties under OTC derivative contracts, credit derivative contracts or repo-style transactions booked in its trading book are also subjected to credit risk capital charge under standardised approach.

## 2. External credit assessment

### 2.1 Scope of application of external credit assessments institutions

A bank shall use its chosen ECAIs and their external credit assessments consistently for each type of exposure, for both risk weighting and risk management purposes. A Bank shall not "cherry-pick" the assessments provided by different ECAIs.

A bank shall not recognise the effects of CRM if such CRM is already reflected in the issue-specific external credit assessment of the exposure.

### 2.2 Use of single and multiple assessment

Where a bank has two external credit assessments which map into different credit quality grades, it shall assign the exposure to the credit rating associated with the higher risk weight. Where a

bank has three or more external credit assessments which map into two or more different credit grades, it shall assign the exposure to the credit grade associated with the higher of the two lowest risk weights. For illustration, if there are three external credit assessments mapping into credit grades with risk weights of 0%, 20% and 50%, and then the applicable risk weight is 20%.

## 2.3 Use of unsolicited rating

A rating would be treated as solicited only if the issuer of the instrument has requested the ECAI for the rating and has accepted the rating assigned by the agency. As a general rule, banks should use only solicited rating from the chosen ECAI. No ratings issued by the ECAI on an unsolicited basis should be considered for risk weight calculation as per the Standardized Approach without the approval of the CBN.

## 2.4 Issuer and issue rating

Where an exposure has an issue-specific external credit assessment, a bank shall use such assessment. Where an exposure does not have an issue-specific external credit assessment the following principles shall apply:

a) if there is an issue-specific external credit assessment for another exposure to the same obligor which maps to a risk weight that is lower than that applicable to an unrated exposure, a bank may use the issue-specific assessment for the other exposure only if the exposure without an issue-specific assessment ranks pari-passu with or is senior to the exposure with the issue-specific assessment in all respects;

b) if the obligor has an issuer external credit assessment which maps to a risk weight that is lower than that applicable to an unrated exposure, a bank may use the issuer assessment of the obligor only if the exposure is a senior claim;

Where either the issuer or a single security has a low quality rating which maps into a risk weight equal to or higher than that which applies to unrated exposures, an unrated exposure on the same borrower or issuer will be assigned the same risk weight as is applicable to the low quality rating (instead of the risk weight for unrated exposures).

## 2.5 Domestic and foreign currency exposures

A credit assessment that refers to an item denominated in the borrower's domestic currency cannot be used to derive a risk weight for another exposure to that same borrower that is denominated in a foreign currency.

Where unrated exposures are risk weighted based on the rating of an equivalent exposure to that borrower, the general rule is that foreign currency ratings would be used for exposures in foreign currency. Domestic currency ratings, if separate, would only be used to risk weight claims denominated in the domestic currency[2].

## 2.6 Short term and long term credit assessment

Where a short-term exposure is assigned a 150% risk weight, all unrated exposures to the counterparty whether short-term or long-term shall receive a 150% risk weight. Where a short-term exposure is assigned a 50% risk weight, no unrated short-term exposure shall receive a risk weight of less than 100%.

When a specific short-term assessment for a short-term exposure on a bank maps into a less favourable (higher) risk weight than the general preferential treatment for short- term exposures, the general short-term preferential treatment for interbank exposures cannot be used. All unrated

[2]Notwithstanding the above, where an exposure arises through a bank's participation in a loan extended, or has been guaranteed against convertibility and transfer risk, by a multilateral development bank whose preferred creditor status, is recognized in the market, the credit assessment on the borrower's domestic currency item may be used for risk weight purposes, to the extent guaranteed by the MDB.

short-term exposures should receive the same risk weighting as that implied by the specific short-term assessment.

# 3. Classification of exposure and risk weight determination

A bank shall classify each of its exposures, according to obligor or nature of the exposure, into one of the following classes:

1) Exposures to central governments or central banks;
2) Exposures to public sector entities;
3) Exposures to state governments and local authorities;
4) Exposures to multilateral development banks;
5) Exposures to supervised institutions;
6) Exposures to corporate and other persons
7) Regulatory retail portfolio
8) Exposures secured by mortgages on residential properties
9) Exposures secured by mortgages on commercial real estates
10) Past Due exposures
11) High risk exposures
12) Unsettled and failed transactions
13) Other exposures

## 3.1 Exposures to central governments or central banks

Exposures to central governments and central banks will be risk weighted in accordance with the table 1 below:

Table 1: Risk Weights for Central Governments & Central Banks

| Credit rating | AAA to AA- | A+ to A- | BBB+ to BBB- | BB+ to B- | Below B- | Unrated |
|---|---|---|---|---|---|---|
| ECA risk score | 1 | 2 | 3 | 4-5 | 6 | Unrated |
| Risk weight | 0% | 20% | 50% | 100% | 150% | 100% |

Notwithstanding the provisions of this paragraph, a risk weight of 0% shall be assigned to the following:

a. Exposures to Federal Government of Nigeria (FGN) and Central Bank of Nigeria (CBN);
b. Instruments issued by other entities backed by express guarantee of the FGN;
c. Inter-bank transactions guaranteed by the FGN or CBN; and
d. Inter-bank transactions among supervised institutions collateralized by FGN Bonds, Treasury Bills or other similar sovereign bills.

## 3.2 Exposures to public sector entities

Exposures to domestic Public Sector Entities (PSEs[3]) shall be assigned a risk weight of 100% regardless of the length of the residual maturities of the exposures. Public sector entities include both commercial and non-commercial entities owned by federal government, state government or a local government.

The exposure on a foreign PSE shall be risk weighted according to the credit rating grade applicable to the jurisdiction where the PSE is located.

[3]The CBN may adjust the risk weights applicable to these entities when deemed necessary.

## 3.3 Exposures to state governments and local authorities

Exposures to State and Local Governments in Nigeria shall receive the following risk weights:

a) 20% risk weight for State Government bonds that meet the eligibility criteria for classification as liquid assets by the CBN;
b) 100% risk weight for other State and Local Government bonds and exposures.

Exposures to foreign state governments and local governments will be assigned sovereign risk weight of their jurisdictions.

## 3.4 Exposures to Multilateral Development Banks

Exposures to Multilateral Development Banks (MDBs) will be assigned risk weights according to the credit ratings as set out in table 2below.

Table 2: Risk weights for exposures on multilateral development banks

| Credit rating | AAA to AA- | A+ to A- | BBB+ to BBB- | BB+ to B- | Below B- | Unrated |
|---|---|---|---|---|---|---|
| Credit quality grade | 1 | 2 | 3 | 4-5 | 6 | Unrated |
| Risk weight | 20% | 50% | 50% | 100% | 150% | 100% |

However, a risk weight of **0%** shall apply to exposures to the following MDBs, regardless of any external credit rating assigned:

a) International Bank for Reconstruction and Development (IBRD);
b) International Finance Corporation (IFC);
c) African Development Bank (ADB);
d) Asian Development Bank (ADB)

e) European Bank for Reconstruction and Development (EBRD)
f) Inter-American Development Bank (IADB)
g) European Investment Bank (EIB)
h) European Investment Fund (EIF)
i) Nordic Investment Bank (NIB)
j) Caribbean Development Bank (CDB)
k) Islamic Development Bank (IDB)
l) Council of Europe Development Bank (CEDB)
m) International Islamic Liquidity Management Corporation (IILMC)
n) Any other MDBs that may be specified from time to time by the CBN.

## 3.5 Exposures to supervised institutions

Exposures to banks incorporated in a given country, other than Nigeria, will be assigned a risk weight one category less favourable than that assigned to exposures on the sovereign of that country as set out in table 3 below;

Table 3: Risk weights for exposures on supervised institutions

| Credit rating | AAA to AA- | A+ to A- | BBB+ to BBB- | BB+ to B- | Below B- | Unrated |
|---|---|---|---|---|---|---|
| Credit quality grade | 1 | 2 | 3 | 4-5 | 6 | Unrated |
| Risk weight | 20% | 50% | 100% | 100% | 150% | 100% |

Short-term exposures to supervised institutions in Nigeria with an original maturity of three months or less shall be assigned a risk weight of 20%while a risk weight of 100% shall be assigned to long-term exposures.

For capital adequacy purpose, a bank's aggregate exposure in eligible capital instruments of other banks and financial institutions (other than subsidiaries[4]) shall not exceed 10% of its own capital (i.e. Tier 1 capital after regulatory adjustment). The amount in excess of 10% of capital will be deducted from investor bank's capital (50% from T 1capital and 50% from T 2 capital). Investments in capital eligible instruments to the extent of permissible limit, issued by supervised institutions, will be assigned risk weight of 100% where they are not deducted from regulatory capital.

## 3.6 Exposures to corporate and other persons

This class includes exposures to corporate, insurance companies and collective investment schemes. Exposures to natural persons and small and medium sized entities (SMEs), which cannot be classified under "regulatory retail", shall also be treated as exposure to corporate.

The table 4 below specifies the credit ratings with the risk weights for corporate exposures. **However, all corporate exposures will, in the interim, be treated as unrated.**

Table 4: Risk weights for corporate exposures

| Credit rating | AAA to AA- | A+ to A- | BBB+ to BB- | Below BB- | Unrated |
|---|---|---|---|---|---|
| Credit quality grade | 1 | 2 | 3-4 | 5-6 | Unrated |
| Risk weight | 20% | 50% | 100% | 150% | 100% |

[4] For exposure on capital eligible instruments of subsidiary, please refer to Para 4.7 of "Guidance Note on Regulatory Capital"

## 3.7 Regulatory retail portfolio

Claims included in the regulatory retail portfolio shall be assigned a risk weight of 75% provided they meet the following criteria:

a) **Orientation criterion** – The exposure is to an individual person or a group of persons or to a small business. Small business will include sole proprietorship, partnership or small and medium-size enterprises (SMEs).

b) **Product criterion -** the exposure takes the form of any of the following:

i. A revolving credit exposure or line of credit including exposure relating to overdraft facilities;

ii. A personal term loan or lease, including instalment loan, vehicle finance or lease, student and educational loans and personal finance; or

iii. Small business facilities or commitments.

The following exposures will not be included as part of regulatory retail portfolio:

1. securities such as bond and equities, listed or not;
2. mortgage loan that qualify for inclusion in "exposures secured by mortgage on residential property";
3. past due exposures;

**c) Granularity criterion**

In order to ensure that the regulatory retail portfolio of a bank is sufficiently diversified, no aggregate amount of all form of exposures to counterparty (even those that individually satisfy other conditions above) shall exceed 0.20% of the aggregate amount of the bank's regulatory retail portfolio.

In relation to granularity criterion, aggregate exposure (gross exposure without taking any form of credit risk mitigation into account) to counterparty will be computed on the assumption that:

i. In the case of on-balance sheet exposure, the amount of the exposure is the outstanding balance and for revolving credit, outstanding balance or the limit whichever is higher;
ii. In the case of off-balance sheet exposure, other than OTC derivative transaction and credit derivative contract, the amount of exposure is the credit equivalent amount (notional amount, net of specific provision, multiplied by the CCF);
iii. In the case of OTC derivative transactions and credit derivative contracts, the amount of exposure is the credit equivalent amount of the exposure.

All past due exposures will be excluded while computing the amount of aggregate exposure in relation to granularity criterion.

**d) Low value of individual exposures**

The maximum aggregate retail exposure (before the effect of credit risk mitigation) to one counterparty and its related counterparties must not exceed an absolute threshold of 100 million naira.

## 3.8 Exposures secured by mortgages on residential properties

Exposures secured by residential property for purchase/construction in Nigeria, except past due exposures, shall be risk-weighted **75%** subject to the under-listed conditions;

i. The loan to value ratio (LTV) is less than or equal to 80%;
ii. lending must be fully secured by first legal mortgages on residential property;

iii. the residential property must be occupied or intended to be occupied by the borrower or rented/to be rented by the borrower to a third party;

iv. the residential property must be valued according to prudent valuation rules prescribed by the CBN;

v. the bank must be satisfied that the risk of the borrower is not dependent solely on the performance of the underlying property serving as collateral but rather on the capacity of the borrower to repay the debt from other sources;

vi. the value of the property must be monitored on a frequent basis and at a minimum once every three years and more frequently where there are indications that there are significant changes in market conditions; and

vii. the property must be adequately insured;

**Where these conditions are not satisfied, the exposure shall attract a risk weight of 100%.**

LTV ratio should be computed as a percentage of the total outstanding in the account (without any netting) as the numerator and the realisable value of the residential property mortgaged to the bank as the denominator.

Bank's exposure to one counterparty up to two properties will be categorised under "exposures secured by mortgage on residential property" whereas exposure for the third property and above will be treated as commercial real estate.

## 3.9 Exposures secured by mortgages on commercial real estates

Exposures secured by mortgages on commercial real estate located in Nigeria will be risk-weighted at 100%.

## 3.10 Past due exposures

The unsecured portion of past due exposures (other than a qualifying residential mortgage loan), net of specific provisions (including partial write-offs), will be risk-weighted as follows:

a) 150% weight when specific provisions are less than 20% of the outstanding amount of the past due exposure ;
b) 100% weight when specific provisions are at least 20%of the outstanding amount of the past due exposure.

Qualifying residential mortgage loan that are past due, will be risk-weighted net of specific provisions (including partial write-offs), as follows:

a) 100% risk weight when specific provisions are less than 20% of the outstanding amount of the exposure;
b) 50% risk weight when specific provisions are at least 20% of the outstanding amount of the exposure.

For the purpose of computing the level of specific provisions in past due exposures for deciding the risk-weighting, all past due exposures of a single counterparty (without netting the value of the eligible collateral) should be considered in the denominator.

Past due or defaulted exposures shall include; bad debts, substandard loans, and restructured exposures. Specifically, a default is considered to have occurred with regard to a particular obligor when either or both of the two following events have taken place.

i. The bank considers that the obligor is unlikely to pay its credit obligations to the banking group in full, without recourse by the bank to actions such as realizing security (if held).

ii. The obligor is past due more than 90 days on any material credit obligation to the banking group. Overdrafts will be considered as being past due once the customer has breached an advised limit or been advised of a limit smaller than current outstanding.

For the purpose of defining the secured portion of the past due exposures, eligible collateral will be the same as recognised for credit risk mitigation purposes.

## 3.11 High risk exposures

The following exposures are regarded as high risk exposures and are assigned specific risk weights as follows:

a) Investments in venture capital firms will be risk weighted 150%;
b) Non-publicly traded equity investments will be risk-weighted at 150%;
c) Investment in non-financial firms with negative financial results over the past two years, will be risk-weighted at 200%.
d) Where exposure to a particular industry within a sector (as defined by the International Standard Industrial Classification of Economic Sectors as adopted by CBN) is in excess of 20% of total credit facilities of the bank, the risk weights of the entire exposures to that industry will be 150%. If, for instance, the total exposure of a bank to food manufacturing industry within the manufacturing sector is in excess of 20% of the total credit facilities, the entire exposure to food manufacturing industry will be risk weighted at 150%.

## 3.12 Unsettled and failed transactions

A bank shall comply with the requirements, described below, to calculate the credit-risk weighted exposure amount for any unsettled transaction on securities, foreign exchange instruments and commodities.

### 3.12.1 Delivery vs. Payment (DVP) transactions

A bank shall apply a risk weight to any exposure arising from receivables that remains unpaid or undelivered in respect of an unsettled DVP transaction in accordance with Table 5 below.

Table 5: Risk weight to exposure on failed transactions

| Number of Business Days after Agreed Settlement Date | Risk weight |
|---|---|
| From 0 to 4 | 0% |
| From 5 to 15 | 100% |
| From 16 to 30 | 625% |
| From 31 to 45 | 937.50% |
| 46 day or more | 1250% |

### 3.12.2 Non-DVP transactions

A bank, which has fulfilled its obligations under the first contractual payment or delivery leg of a non-DVP transaction, shall regard as a loan exposure to its counterparty any outstanding receivables after the end of the first contractual payment or delivery date. If the receivables remain unpaid or undelivered after the second contractual payment or delivery date, the bank shall risk weight the exposure arising from receivable in the following manner:

a) according to the risk weight of the counterparty under the credit risk framework if the exposures remain unpaid or undelivered up to and including the fourth business day after the second contractual payment or delivery date;

b) 1250% risk weight to such receivables and replacement cost if the receivable remain unpaid or undelivered on or after the fifth business day after the second contractual payment or delivery date

## 3.13 Other exposures

**0% risk weight**

i. Cash and gold bullion held in bank's own vault;

**20% risk weight**

i. Cheques and other items in transit.

**100% risk weight**

i. Investment in premises, plant and equipment and other fixed assets;
ii. Prepayments;
iii. Any other assets not specified above.

# 4. Measurement of off-balance sheet exposures

## 4.1 Off-balance sheet exposures other than OTC derivative transactions

The notional amount of an off-balance sheet instrument does not always reflect the amount of the credit risk. The notional amount of the instrument must be multiplied by a credit conversion factor to derive a credit equivalent amount. Broad types of credit conversion factors are detailed in the table 6below.

Table 6: Credit conversion factors for non-market-related off-balance sheet transactions

| Nature of transaction | Credit conversion factor (%) |
|---|---|
| Direct credit substitutes | 100 |
| Performance-related contingencies such as bid bonds, performance bonds, etc. | 50 |
| short-term, self-liquidating trade-related contingencies; | 20 |
| unutilised portions of commitments with an original maturity of one year or less, or that are unconditionally cancellable at any time | 0 |

The resulting credit equivalent amount is then treated as an on-balance sheet instrument and is assigned the weight appropriate to the counterparty or, if relevant, the weight assigned to the guarantor or the collateral security.

The categories of credit conversion factors are outlined below.

**High risk: CCF – 100%**

i. Guarantees having the character of credit substitutes;

ii. Acceptances;
iii. Endorsements on bills not bearing the name of another bank;
iv. Irrevocable standby letters of credit having the character of credit substitutes;
v. Spot and forward purchase commitments for securities and other financial instruments other than foreign exchange;
vi. Spot and forward deposits and loans to be made;
vii. The unpaid portion of partly paid-up shares and securities,
viii. Assets transferred with option for repurchase upon demand by transferee;
ix. Other lending commitments of certain utilization.

**Above average risk: CCF- 50%**

i. Transaction-related contingencies (for example, bid bonds, performance bonds, warranties, and standby letters of credit related to a particular transaction);
ii. Commitments with an original maturity exceeding one year, including underwriting commitments and commercial credit lines;
iii. Revolving underwriting facilities (RUFs), note issuance facilities (NIFs) and other similar arrangements;
iv. Undrawn credit facilities (lending commitments of uncertain utilization, commitments to provide guarantees or acceptance facilities) with an original maturity of more than one year.

**Moderate risk: CCF- 20%**

i. Short-term, self-liquidating trade-related contingencies, including commercial/ documentary letters of credit;
ii. Undrawn credit facilities with original maturity up to 1 year

**Low risk: CCF- 0%**

i. Undrawn credit facilities that provide for automatic cancellation due to deterioration in a borrower's creditworthiness;
ii. Commitments with an original maturity of one year or less or that are unconditionally cancellable at any time without prior notice.

## 4.2 OTC derivative transactions

A bank is not exposed to credit risk for the full notional amount of their contracts (notional principal amount), but only to the potential cost of replacing the cash flow (on contracts showing a positive value) if the counterparty defaults. In calculating a bank's pre-settlement counterparty credit risk exposures arising from interest rate and foreign exchange rate related OTC derivative transactions for capital adequacy purposes, the bank shall include all its OTC derivative transactions held in the banking and trading books which give rise to pre-settlement counterparty credit risk.

The credit equivalent amounts are calculated using either the Original Exposure Method or the Current Exposure Method and are assigned the risk weight appropriate to the counterparty.

### 4.2.1 Original Exposure Method

The credit equivalent amount of an interest rate and foreign exchange rate related OTC derivative transaction shall be determined by multiplying the notional principal amount of the transaction by the appropriate CCF according to the nature of the derivative transaction and its maturity, as specified in table 7 below.

Table 7: Conversion factors for Original Exposure Method

| | OTC Derivative Transaction | Original maturity | | |
|---|---|---|---|---|
| | | One year or less | From one to two years | For each additional year |
| a | Interest Rates | 0.50% | 1.00% | 1.00% |
| b | Foreign Exchange Rate and Gold | 2.00% | 5.00% (i.e. 2% + 3%) | 3.30% |

### 4.2.2 Current Exposure Method

A bank using the current exposure method shall calculate exposure, for the pre-settlement counterparty exposure arising from an OTC derivative transaction that is not covered by a qualifying bilateral netting agreement, by adding –

a) the replacement cost (obtained by marking-to-market) of the OTC derivative transaction or in the case of a transaction with negative replacement cost, a value of zero; and

b) the amount for potential future exposure obtained by applying the appropriate add-on factor set out in Table 8 to the notional amount of the OTC derivative transaction;

**E = Max (RC or 0) + NA * Add-on factor**

Where E = exposure,

RC = replacement cost and

NA = notional amount

Table 8:Add-on Factors for computation of Potential Future Exposure (Add-on)

| | OTC Derivative Transaction | Remaining maturity | | |
|---|---|---|---|---|
| | | One year or less | Over one year to five years | Over five years |
| a | Interest Rates | 0.00% | 0.50% | 1.50% |
| b | Foreign Exchange Rate and Gold | 1.00% | 5.00% | 7.50% |

For an OTC derivative transaction to a single counterparty that is covered by a qualifying bilateral netting agreement, a bank, using the current exposure method, shall calculate exposure for the pre-settlement counterparty exposure arising from that netting by adding –

a) the net replacement cost (obtained by marking-to-market) of all OTC derivative transactions with that counterparty or in the case where there is a negative replacement cost, a value of zero; and

b) an add-on, $A_{NET}$ for potential future exposure (Add-on) which is calculated as follows:

$$\mathbf{A_{NET} = 0.4 \times A_{GROSS} + 0.6 \times NGR \times A_{GROSS}}$$

Where -

i. "**$A_{GROSS}$**" refers to the sum of individual add-on amounts (calculated by multiplying the notional amount of each OTC derivative transaction by the appropriate add-on factor set out in Table 8 of all OTC derivative transactions with that counterparty; and

ii. "**NGR**" refers to the ratio of the net current replacement cost to the gross current replacement cost for all OTC derivative transactions subject to qualifying bilateral netting agreements with that counterparty.

No potential future exposure would be calculated for single currency floating/floating interest rate swaps. The exposure on these contracts would be evaluated solely on the basis of their current exposure, i.e. the replacement cost.

# Chapter 3 Standardised Approach for Securitization exposures

## 1. Operational Requirements for recognition of risk transfer

### 1.1 Operational requirements for traditional securitizations

An originating bank may exclude securitised exposures from the calculation of risk-weighted assets only if all of the following conditions have been met. Banks meeting these conditions must still hold regulatory capital against any securitization exposures they retain.

a) Significant credit risk associated with the securitised exposures has been transferred to third parties;

b) The transferor does not maintain effective or indirect control over the transferred exposures. The assets are legally isolated from the transferor in such a way that the exposures are put beyond the reach of the transferor and its creditors, even in bankruptcy or receivership. These conditions must be supported by an opinion provided by a qualified legal counsel.

   The transferor is deemed to have maintained effective control over the transferred credit risk exposures if it: (i) is able to repurchase from the transferee the previously transferred exposures in order to realize their benefits; or (ii) is obligated to retain the risk of the transferred exposures. The transferor's retention of servicing rights to the exposures will not necessarily constitute indirect control of the exposures;

c) The securities issued are not obligations of the transferor. Thus, investors who purchase the securities only have claim to the underlying pool of exposures.

d) The transferee is an SPE and the holders of the beneficial interests in that entity have the right to pledge or exchange them without restriction.

e) Clean-up calls must satisfy the conditions set out in paragraph 1.2

f) The securitization does not contain clauses that –

   i. require the originating bank to alter systematically the underlying exposures such that the pool's weighted average credit quality is improved unless this is achieved by selling assets to independent and unaffiliated third parties at market prices;

   ii. allow for increases in a retained first loss position or credit enhancement provided by the originating bank after the transaction's inception; or

   iii. increase the yield payable to parties other than the originating bank, such as investors and third-party providers of credit enhancements, in response to a deterioration in the credit quality of the underlying pool;

## 1.2 Operational requirements and treatment of clean-up calls

If a securitization includes a clean-up call, the bank which has the ability to exercise the clean-up call shall ensure that:

a) the exercise of the clean-up call is at its discretion;
b) the clean-up call is not structured to avoid allocating losses to credit enhancements or positions held by investors or in any way structured to provide credit enhancement; and
c) the clean-up call is exercisable by the bank only when 10% or less of the original underlying exposures or securities issued remain or, for synthetic securitization, the bank purchasing protection must hold capital against the entire amount of the securitized exposures as if they did not benefit from any credit protection.

Securitization transactions, that include a clean-up call that does not meet all of the criteria stated above, result in a capital requirement for the originating bank. For a traditional securitization, the underlying exposures must be treated as if they were not securitised. Additionally, banks must not recognise any gain-on-sale in regulatory capital. For synthetic securitizations, the bank purchasing protection must hold capital against the entire amount of the securitised exposures as if they did not benefit from any credit protection.

If a clean-up call, when exercised, is found to serve as a credit enhancement, the exercise of the clean-up call must be considered a form of implicit support provided by the bank and capital will be maintained for the implicit support along with adequate disclosure as required by supervisory guidelines.

# 2. Deductions from capital

A bank shall deduct from its capital (Tier 1 and Tier 2 capital) -

a) Any gain-on-sale in a securitization transaction where the bank is an originating bank;
b) Any credit enhancing interest-only strip recorded by the bank as originating bank in a securitization transaction;
c) Any rated securitization exposure of the bank with –
    i. long term credit quality grade of 4 or 5 where the bank is the originator;
    ii. long term credit quality grade of 5 where the bank is the investor;
d) Any unrated securitization of the bank except where the securitization exposure is-
    i. the most senior tranche in the securitization transaction;
    ii. To a second loss tranche or better in an ABCP programme.
    iii. In respect of a liquidity facility which is not an eligible liquidity facility.

Any of the above deductions shall be:

a) based on outstanding book value in case of an on-balance sheet securitization exposure and credit equivalent amount in case of an off-balance sheet exposure;
b) 100% from Tier 1 if the deductible item is gain-on-sale in a securitization transaction;
c) 50% from Tier 1and 50% from Tier 2 for all other exposures.

# 3. Risk weights

The risk-weighted asset amount of a securitization exposure is computed by multiplying the amount of the position by the appropriate risk weight determined in accordance with the following tables. For off-balance sheet exposures, banks must apply a CCF and then risk weight the resultant credit equivalent amount. If such an exposure is rated, a CCF of 100% must be applied. Risk weights for long term and short term securitization exposures are set out in the tables 9 and 10 below.

Table 9: Risk weight - long term securitization exposure

| External Credit Assessment | AAA to AA- | A+ to A- | BBB+ to BBB- | BB+ to BB- | B+ and below or unrated |
|---|---|---|---|---|---|
| Securitization Exposures | 20% | 50% | 100% | 350% | 1250% |
| Re-Securitization Exposures | 40% | 100% | 225% | 650% | 1250% |

Table 10: Risk Weights - Short-term securitization exposure

| External Credit Assessment | **A-1/P-1** | **A-2/P-2** | **A-3/P-3** | **All other ratings or unrated** |
|---|---|---|---|---|
| Securitization Exposures | 20% | 50% | 100% | 1250% |
| Re-securitization Exposures | 40% | 100% | 225% | 1250% |

# 4. Exceptions to general treatment of unrated securitization exposures

The unrated securitization exposures must be risk weighted at 1250% with the following exceptions:

i. the most senior exposure in an unrated securitization,
ii. exposures that are in a second loss position or better in ABCP programs; and
iii. eligible liquidity facilities;

## 4.1 Treatment of unrated most senior securitization exposures

If the most senior exposure in a securitization of a traditional or synthetic securitization is unrated, a bank that holds or guarantees such an exposure shall determine the risk weight by applying the "look-through" treatment, provided the composition of the underlying pool is known at all times. A bank is not required to consider interest rate or currency swaps when determining whether an exposure is the most senior in a securitization for the purpose of applying the "look-through" approach.

In the look-through treatment, the unrated most senior position receives the average risk weight of the underlying exposures subject to supervisory review. Where the bank is unable to determine the risk weights assigned to the underlying credit risk exposures, the unrated position must be risk weighted at 1250%.

## 4.2 Treatment of exposures in a second loss position or better in ABCP programmes

A risk weight of 1250% is not required for those unrated securitization exposures provided by a sponsoring bank to ABCP programs, that satisfy the following requirements:

a) The exposure is economically in a second loss position or better and the first loss position provides significant credit protection to the second loss position;
b) The associated credit risk is the equivalent of investment grade or better; and
c) The bank holding the unrated securitization exposure does not retain or provide the first loss position.

Where these conditions are satisfied, the risk weight is greater of (i) 100% or (ii) the highest risk weight assigned to any of the underlying individual exposures covered by the facility.

## 4.3 Credit conversion factors for off-balance sheet exposures

A bank must determine whether, according to the criteria outlined below, an off-balance sheet securitization exposure qualifies as an 'eligible liquidity facility'. All other off-balance sheet securitization exposures will receive a 100% CCF.

### 4.3.1 Eligible liquidity facilities

A liquidity facility, provided by a bank as part of a securitization transaction, is an eligible liquidity facility where:

a) Facility documentation clearly identifies and limits the circumstance under which the facility may be drawn;

b) Drawings under the facility are limited to the amount which is likely to be paid from the liquidation of the underlying exposures of the securitization transaction and any credit enhancement provided by the originating bank. In addition, the facility must not cover any losses incurred in the underlying pool of exposures prior to a draw, or be structured such that draw-down is certain (as indicated by regular or continuous draws);
c) The facility is subject to an asset quality test which precludes it from being drawn to cover credit risk exposures that are already in default. In addition, if the exposures that a liquidity facility is required to fund are externally rated securities, the facility can only be used to fund securities that are externally rated investment grade at the time of funding;
d) The facility cannot be drawn after all applicable (e.g. transaction-specific and programme-wide) credit enhancements from which the liquidity would benefit have been exhausted;
e) The facility is not capable of being drawn after all credit enhancements of the securitization exposure, have been exhausted; and
f) Repayment of drawing on the facility is not subordinated to the claims of investors in the securitization issues.

Where these conditions are met, a bank shall apply-

a) a 20% CCF to the undrawn portion of the eligible liquidity facility if the facility has original maturity of one year or less; and
b) a 50% CCF to undrawn portion of the eligible liquidity facility if the facility has original maturity of more than one year;

However, if an external rating of the facility itself is used for risk-weighting the facility, a 100% CCF must be applied.

The bank shall apply a CCF of 0% to the undrawn portion of the eligible liquidity facility, if the facility is available:

a) in the event of general market disruption;

b) to advance funds to pay investors in the securitization issue (in the event of general market disruption) and which, once drawn, is secured by underlying assets, and must rank at least *pari-passu* with the claims of holders of the capital market instruments.

A bank shall deduct the undrawn portion of a liquidity facility, which is not an eligible liquidity facility and is unrated, from its capital.

### 4.3.2 Overlapping exposures

A bank may provide two or more facilities which may be drawn in respect of the same securitization transaction leading to duplicate coverage provided by the bank to the underlying exposures. In other words, the facilities provided by a bank may overlap since a draw on one facility may preclude (in part) a draw under the other facility. In the case of overlapping facilities provided by the same bank, it is only required to hold capital once for the position covered by the overlapping facilities (whether they are liquidity facilities or credit enhancements).

Where the overlapping facilities are subject to different conversion factors, the bank must attribute the overlapping part to the facility with the highest conversion factor. However, if overlapping facilities are provided by different banks, each bank must hold capital for the maximum amount of the facility.

## 4.4 Capital requirement for early amortisation provisions

Early amortisation provisions are mechanisms that, once triggered, allow investors to be paid out prior to the originally stated maturity of the securities issued.

An originating bank is required to hold capital against all or a portion of the investors‟ interest (i.e. against both the drawn and undrawn balances related to the securitised exposures) when:

a) it sells exposures into a structure that contains an early amortisation feature; and
b) The exposures sold are of a revolving nature. These involve exposures where the borrower is permitted to vary the drawn amount and repayments within an agreed limit under a line of credit (e.g. credit card receivables and corporate loan commitments);

For a bank subject to the early amortisation treatment, the total capital charge for all of its positions will be subject to a maximum capital requirement (i.e. a "cap") equal to the greater of (i) that required for retained securitization exposures, or
(ii) The capital requirement that would apply had the exposures not been securitised;

In addition, banks must deduct the entire amount of any gain-on-sale and risk weight the credit enhancing interest-only strip (I/Os) arising from the securitization transaction.

A bank is not required to calculate a capital requirement for early amortisations in the following situations:

a) Replenishment structures where the underlying exposures do not revolve and the early amortisation ends the ability of the bank to add new exposures;
b) Transactions of revolving assets containing early amortisation features that mimic term structures (i.e. where the risk on the underlying facilities does not return to the originating bank);
c) Structures where a bank securitises one or more credit line(s) and where investors remain fully exposed to future draws by borrowers even after an early amortisation event has occurred;
d) The early amortisation clause is solely triggered by events not related to the performance of the securitised assets or the selling bank, such as material changes in tax laws or regulations.

The capital requirement for securitization exposures shall reflect the type of mechanism through which an early amortization is triggered. For risk-based capital purposes, an early amortization provision will be considered either controlled or non-controlled.

### 4.4.1 Determination of CCFs for controlled and non-controlled early amortisation features

A controlled early amortisation provision must meet all of the following conditions.

a) The bank must have an appropriate capital/liquidity plan in place to ensure that it has sufficient capital and liquidity available in the event of an early amortisation;
b) Throughout the duration of the transaction, including the amortisation period, there is the same pro rata sharing of interest, principal, expenses, losses and recoveries based on the bank's and investors' relative shares of the receivables outstanding at the beginning of each month;
c) The bank must set a period for amortisation that would be sufficient for at least 90% of the total debt outstanding at the beginning of the early amortisation period to have been repaid or recognised as in default; and
d) The pace of repayment should not be any more rapid than would be allowed by straight-line amortisation over the period set out in criterion (c).

An early amortisation provision that does not satisfy the conditions for a controlled early amortisation provision will be treated as a non-controlled early amortisation provision.

In the case of securitizations involving **retail revolving assets** that are unconditionally cancellable without notice and are subject to an early amortization provision that is triggered when the excess spread falls to a certain level, the appropriate conversion factor shall be based on a comparison between the three-month average excess spread and the contractually established excess spread level at which excess spread is required to be trapped.

In cases where such a transaction does not require excess spread to be trapped, the trapping point is deemed to be 4.5 percentage points.

The bank must divide the excess spread level by the transaction's excess spread trapping point to determine the appropriate segments and apply the corresponding conversion factors, as outlined in table 11.

The appropriate conversion factor shall be determined separately for each retail securitization transaction with controlled and non-controlled early amortization provisions, expressed as the ratio between the three-month average excess spread and trapping level excess spread. Table 11 below sets out the CCF for securitization exposures;

Table 11: Credit Conversion Factor (CCF) for securitization exposure

| 3-month average excess spread Credit Conversion Factor (CCF) | | |
|---|---|---|
| Ratio between the average excess spread and trapping level excess spread | Securitizations with "controlled "early amortization provisions | Securitizations with "non-controlled" early amortization provisions |
| 133.33% of trapping point or more | 0% | 0% |
| less than 133.33% to 100% of trapping point | 1% | 5% |
| less than 100% to 75% of trapping point | 2% | 15% |
| less than 75% to 50% of trapping point | 10% | 50% |
| less than 50% to 25% of trapping point | 20% | 100% |
| less than 25% | 40% | 100% |

All other securitized revolving exposures (i.e. those that are committed and all non-retail exposures) with controlled early amortization features will be subject to a CCF of 90%against the off-balance sheet exposures.

All other securitized revolving exposures (i.e. those that are committed and all non- retail exposures) with non-controlled early amortization features will be subject to a CCF of 100%against the off-balance sheet exposures.

# Chapter 4 Credit risk mitigation

## 1. Introduction

This section of the guideline sets out the principles for the recognition of credit risk mitigation (CRM) techniques that a bank may use under the Standardised Approach to Credit Risk for the purpose of calculating its capital requirements.

Banks use a number of techniques to mitigate the credit risks to which they are exposed. The framework set out in this chapter is applicable to the banking book exposures in the standardised approach. The use of CRM techniques reduces or transfers credit risks but it may simultaneously increase other risks (residual risks). Banks should employ robust procedures and processes to control these risks. If there are significant residual risks including concentration risk, arising from use of CRM techniques, banks are required to maintain additional capital under pillar 2.

## 2. CRM approaches

The types of CRM techniques described in the guidelines are listed below:

a) Financial collaterals
b) Netting
c) Guarantee and credit derivatives

### 2.1 Treatment of pools of CRM techniques

In the case where a bank has multiple CRM techniques covering a single exposure (e.g. a bank has both collateral and guarantee partially covering an exposure), the bank will be required to subdivide the exposure into portions covered by each type of CRM technique (e.g. portion covered by collateral, portion covered by guarantee) and the risk-weighted assets of each portion

must be calculated separately. When credit protection provided by a single protection provider has differing maturities, they must be subdivided into separate protection as well.

## 2.2 Minimum requirements for recognition of CRM techniques

In order for a bank to obtain capital relief from the use of any CRM technique, the following conditions shall be met under the comprehensive approach:

a) All documentation used in collateralised transactions and for documenting on-balance sheet netting and guarantees must be binding on all parties and legally enforceable in all relevant jurisdictions. A bank must have undertaken sufficient legal review to be satisfied with the legal enforceability of the documentation and shall be expected to undertake periodic reviews to ensure on-going enforceability.

b) Where a bank, acting as an agent, arranges a repo-style transaction (i.e. repurchase/reverse repurchase and securities lending/borrowing transactions) between a customer and a third party and provides a guarantee to the customer that the third party will perform on its obligations, then the risk to the bank is the same as if the bank had entered into the transaction as a principal. In such circumstances, a bank shall be required to calculate capital requirements as if it were itself the principal.

# 3. Financial Collaterals in CRM

A bank shall apply Comprehensive Approach to all its on- and off-balance sheet banking book exposures that are subject to credit risk mitigation using eligible financial collaterals. Comprehensive Approach allows offset of collateral against exposures, by effectively reducing the exposure amount by the value ascribed to the collateral. Mismatches in the maturity of the underlying exposure and the collateral shall be allowed under the comprehensive approach. A capital

requirement shall be applied to a bank on both sides of a collateralised transaction, e.g. both repo and reverse repo agreements shall be subject to capital requirements.

## 3.1 Minimum conditions for use of financial collaterals

a) There must be a formal written contractual agreement between the lender and the party lodging the collateral which establishes the lender's direct, explicit, irrevocable and unconditional recourse to the collateral. In the case of cash collateral, this may include a contractual right of set-off on credit balances, but a common law right of set-off is insufficient on its own to satisfy this condition.

b) The legal mechanism by which collateral is pledged or transferred must allow the bank the right to liquidate or take legal possession of the collateral in a timely manner. The bank must take all steps necessary to satisfy the legal requirements applicable to its interest in the collateral. This would include clear and robust procedures for the timely liquidation of collateral to ensure that any legal conditions required for declaring the default of the counterparty and liquidating the collateral are observed and that the collateral can be liquidated promptly.

c) In the event of default, any requirement on the lender to serve notice on the party lodging the collateral must not unnecessarily impede the lender's recourse to the collateral.

d) A bank must have clear and robust procedures for the timely liquidation of collateral to ensure that any legal conditions required for declaring the default of the counterparty and liquidating the collateral are observed and that the collateral can be liquidated promptly.

e) Where the collateral is held by an independent custodian or an equally independent third party, the bank must take reasonable steps to ensure that the custodian segregates the collateral from its own assets. Deposits held with banks other than the lending bank shall

be recognised as eligible collateral if they are openly pledged or assigned to the lending bank and such pledge or assignment is legally effective and enforceable in all relevant jurisdictions.

f) Collateral in the form of securities issued by the counterparty to the credit exposure (or by any person or entity related or associated with the counterparty) is considered to have a material positive correlation with the credit quality of the original counterparty and is therefore not eligible collateral.

## 3.2 Eligibility of financial collateral

The following collateral instruments, mentioned in table 12 below, are eligible for recognition in the comprehensive approach:

Table 12: Eligible collateral for comprehensive approach.

| Collateral instruments that are eligible under the *Comprehensive Approach* | |
|---|---|
| 1 | Deposits with the bank (as well as certificates of deposit or comparable instruments issued by the lending bank) which is incurring the counterparty exposure |
| 2 | Gold |
| 3 | Debt securities issued by FGN, State Governments and Supervised Institutions; |
| 4 | Debt securities rated by an ECAI where these are either:<br>i. at least BBB- and above when issued by entities other than FGN and Supervised Institutions ; or<br>ii. at least A-3/P-3 for short-term debt instruments<br>In all other cases, banks will seek the approval of CBN before recognising such instruments as eligible collateral. |
| 5 | Equities (including convertible bonds) that are listed in exchanges in Nigeria. |

| | |
|---|---|
| | Banks will seek the approval of CBN for using equity shares, as CRM, traded in exchanges in other countries. |

## 3.3 Comprehensive approach

In the comprehensive approach, a bank shall calculate its adjusted exposure to a counterparty for capital adequacy purposes in order to take account of the effects of collaterals. Using haircuts, a bank is required to adjust both the amount of the exposure to the counterparty and the value of any collateral received in support of that counterparty to take account of possible future fluctuations in the value of either, due to movement in risk factors in the market. This will produce volatility adjusted amounts for both exposure and collateral. Unless either side of the transaction is cash, the volatility adjusted amount for the exposure will be higher than the exposure and for the collateral it will be lower.

### 3.3.1 Calculation of net credit exposure

**On-balance sheet exposure** - A bank shall calculate net credit exposure of on-balance sheet exposure using credit risk mitigation by applying the following formula:

$$E^* = \max \{0, [E \times (1 + H_e) - C \times (1 - H_c - H_{fx})]\}$$

Where:

$E^*$ = the net exposure value after risk mitigation

$E$ = the current value of the exposure

$H_e$ = haircut appropriate to the exposure

$C$ = the current value of the collateral received

$H_c$ = haircut appropriate to the collateral

$H_{fx}$ = haircut appropriate for currency mismatch between the collateral and exposure

**Off-balance sheet exposure (other than OTC derivative transaction)**–A bank shall calculate net credit exposure of off-balance sheet exposure using credit risk mitigation by applying the following formula:

$$\mathbf{E^* = max \{0, [E \times (1 + H_e) - C \times (1 - H_c - H_{fx})]\} \times CCF}$$

where:

E* = the net exposure value after risk mitigation

E = the current value of the exposure

$H_e$ = haircut appropriate to the exposure

C = the current value of the collateral received

$H_c$ = haircut appropriate to the collateral

$H_{fx}$ = haircut appropriate for currency mismatch between the collateral and exposure

CCF = CCF applicable to the off-balance sheet exposure

**OTC derivative transaction** - A bank shall calculate net credit exposure to an obligor in respect of an OTC derivative transaction using credit risk mitigation by applying the following formula:

$$\mathbf{E^* = max \{0, [E - C \times (1 - H_c - H_{fx})]\}}$$

Where:

E* = the net exposure value after risk mitigation

E = credit equivalent amount of the OTC derivative transaction (aggregating current market value and the potential future exposure (add-on))

$H_e$ = haircut appropriate to the exposure

C = the current value of the collateral received

$H_c$ = haircut appropriate to the collateral

$H_{fx}$ = haircut appropriate for currency mismatch between the collateral and exposure

Where the collateral is a basket of assets, the haircut on the basket shall be

$$\mathbf{H = \Sigma_i a_i Hi}$$

Where $a_i$ is the weight of the asset in the basket (as measured by units of currency) and *Hi* is the haircut applicable to that asset.

### 3.3.2 Standard supervisory haircuts

The standard supervisory haircuts are applied to the security (Hc) with reference to the rating of the issuer and to the exposure (He) with reference to the rating of the counterparty.

The standard supervisory haircuts (assuming daily mark-to-market, daily re-margining and a 10-business day holding period) are expressed as percentages in table 13 below:

Table 13: Standard Supervisory Haircuts

| Issue rating by ECAI for debt securities | Residual Maturity | Sovereigns (%) | Other issuers (%) |
|---|---|---|---|
| AAA to AA-/A-1 (long and short positions), FGN bonds & T-bills and State Government bonds | =< 1 year | 0.50 | 1.00 |
| | >1 year, < 5 years | 2.00 | 4.00 |
| | > 5 Years | 4.00 | 8.00 |
| A+ to BBB-/ A-2/A-3/P-3 and unrated bank securities | =< 1 year | 1.00 | 2.00 |
| | >1 year, < 5 | 3.00 | 6.00 |

| | | | |
|---|---|---|---|
| | years | | |
| | > 5 Years | 6.00 | 12.00 |
| BB+ to BB- | | 15 | NA |
| Main index equities (including convertible bonds) and Gold | | 15 | |
| Other equities (including convertible bonds) listed on a recognized exchange. | | 25 | |
| Cash in the same currency | | 0 | |

The standard supervisory haircut for currency risk where exposure and collateral are denominated in different currencies is 8% (also based on a 10-business day holding period and daily mark-to-market)

For transactions in which the bank lends non-eligible instruments (e.g. non-investment grade corporate debt securities), the haircut to be applied on the exposure should be the same as the one for equity traded on a recognised exchange that is not part of a main index.

**Adjustment for different holding periods and non-daily mark-to-market or re-margining**

For some transactions, depending on the nature and frequency of the revaluation and re-margining provisions, different holding periods are appropriate. The framework for collateral haircuts distinguishes between repo-style transactions (i.e. repo/reverse repos and securities lending/borrowing), other capital-market-driven transactions (i.e. OTC derivatives transactions and margin lending) and secured lending. In capital-market-driven transactions and repo-style transactions, the documentation contains re-margining clauses; in secured lending transactions, it generally does not.

The minimum holding period for various products is summarised in the following table 14:

Table 14: Transaction type and minimum holding period

| Transaction type | Minimum holding period | Condition |
|---|---|---|
| Repo-style transaction | five business days | daily re-margining |
| Other capital market transactions | ten business days | daily re-margining |
| Secured lending | twenty business days | daily revaluation |

When the frequency of re-margining or revaluation is longer than the minimum, the minimum haircut numbers will be scaled up depending on the actual number of business days between re-margining or revaluation using the square root of time formula below:

$$H = \frac{H_M \sqrt{\{NR + (T_M - 1)\}}}{\sqrt{T_M}}$$

Where:

*H* = haircut

$H_M$= haircut under the minimum holding period

$T_M$= minimum holding period for the type of transaction

*NR* = actual number of business days between re-margining for capital market transactions or revaluation for secured transactions.

When a bank calculates the volatility on a $T_N$ day holding period which is different from the specified minimum holding period $T_M$, the $H_M$ will be calculated using the square root of time formula:

$$H_M = \frac{H_N \sqrt{T_M}}{\sqrt{T_N}}$$

Where:

$T_N$= holding period used by the bank for deriving $H_N$

$H_N$= haircut based on the holding period $T_N$

For example, for banks using the standard supervisory haircuts, the 10-business day haircuts provided in Table 13, will be the basis and this haircut will be scaled up or down depending on the type of transaction and the frequency of re-margining or revaluation using the formula below:

$$H = H_{10}\frac{\sqrt{\{NR + (T_M - 1)\}}}{\sqrt{10}}$$

Where:

$H$ = haircut

$H_{10}$= 10-business day standard supervisory haircut for instrument

$NR$ = actual number of business days between re-margining for capital market transactions or revaluation for secured transactions.

$T_M$= minimum holding period for the type of transaction

**Conditions for zero Haircut**

For repo-style transactions where the following conditions are satisfied, and the counterparty is a ***core market participant*** (i.e. FGN, CBN, or licensed banks in Nigeria)**,** a bank may choose not to apply the haircuts specified in the comprehensive approach and may instead apply a haircut of zero:

a) Both the exposure and the collateral are cash or a sovereign security qualifying for a 0% risk weight in the standardised approach;
b) Both the exposure and the collateral are denominated in the same currency;
c) Either the transaction is overnight or both the exposure and the collateral are marked-to-market daily and are subject to daily re-margining;
d) Following a counterparty‘s failure to re-margin, the time that is required between the last mark-to-market before the failure to re-margin and the liquidation of the collateral is considered to be no more than four business days;
e) The transaction is settled across a settlement system proven for that type of transaction;
f) The documentation covering the agreement is standard market documentation for repo-style transactions in the securities concerned;
g) The transaction is governed by documentation specifying that if the counterparty fails to satisfy an obligation to deliver cash or securities or to deliver margin or otherwise defaults, then the transaction is immediately terminable; and
h) Upon any default event, regardless of whether the counterparty is insolvent or bankrupt, the bank has the unfettered, legally enforceable right to immediately seize and liquidate the collateral for its benefit.

### 3.3.3 Collateralised OTC derivatives transactions

Under the Current Exposure Method, the calculation of the counterparty credit risk capital charge for an OTC derivative transaction will be as follows:

**Capital charge = [(RC + add-on) - CA] x r x 10% or 15%**

Where:
RC = the replacement cost,
Add-on = the amount for potential future exposure,

CA = the volatility adjusted collateral amount under the comprehensive approach or zero if no eligible collateral is applied to the transaction, and

r = the risk weight of the counterparty.

### 3.3.4 Maturity mismatch

A maturity mismatch exists where the residual maturity of the term of lodgement of the collateral is less than the maturity of the exposure covered by the collateral. Where there is a maturity mismatch, the collateral may only be recognised for capital adequacy purposes where the original maturity of the term of lodgement of the collateral is greater than or equal to 12 months. If the original maturity of the term of lodgement of the collateral is less than 12 months, the collateral will not be eligible unless the term of lodgement matches the maturity of the underlying exposure. In all cases where there is a maturity mismatch, the collateral will not be eligible where it has a residual maturity of three months or less.

Where there is a maturity mismatch between collateral and the underlying exposure, for capital adequacy purposes a bank must apply the following adjustment:

$$\mathbf{Pa = P \times \{(t-0.25)/(T-0.25)\}}$$

Where:

Pa = value of the collateral adjusted for maturity mismatch

P = collateral amount adjusted for any haircuts

t = min (T, residual maturity of the term of lodgement of the collateral) expressed in years

T = min (5, residual maturity of the exposure) expressed in years.

# 4. Netting

## 4.1 On-balance sheet netting

For capital adequacy purpose, a bank may compute net exposure of loans and deposit of a specific obligor using the comprehensive approach for on-balance sheet exposure. Assets (loans) are treated as exposure and liabilities (deposits) as collateral. The haircuts will be zero except when a currency mismatch exists.

A bank shall ensure that the following conditions are met for eligibility for using on-balance sheet netting as a CRM metric:

a) The bank has a well-founded legal basis for concluding that the netting or offsetting agreement is enforceable in each relevant jurisdiction regardless of whether the counterparty is insolvent or bankrupt;
b) The bank is able at any time to determine those assets and liabilities with the same counterparty that are subject to the netting agreement;
c) The bank monitors and controls its roll-off risks; and
d) The bank monitors and controls the relevant exposures on a net basis,

## 4.2 Netting of Repo-style and OTC derivative transactions

A bank shall recognise the effects of bilateral netting agreements covering repo-style transactions on a counterparty-by-counterparty basis if the agreements are legally enforceable in each relevant jurisdiction upon the occurrence of an event of default and regardless of whether the counterparty is insolvent or bankrupt.

In addition, netting agreements must:

a) provide the non-defaulting party the right to terminate and close-out in a timely manner all transactions under the agreement upon an event of default, including in the event of insolvency or bankruptcy of the counterparty;
b) provide for the netting of gains and losses on transactions (including the value of any collateral) terminated and closed out under it so that a single net amount is owed by one party to the other;
c) allow for the prompt liquidation or set-off of collateral upon the event of default; and
d) In addition to the provisions required in (a) to (c) above, be legally enforceable in each relevant jurisdiction upon the occurrence of an event of default and regardless of the counterparty's insolvency or bankruptcy.

The master netting agreement, for OTC derivatives and repo-style transactions, is an agreement, in writing, between two parties, that sets out standard terms that apply to all the transactions entered into between those parties. Each time that a transaction is entered into, the terms of the master agreement do not need to be re-negotiated and apply automatically. Under the master netting arrangement, a bank can net its positive and negative exposures with the counterparty to a single netted exposure for capital adequacy purpose.

For a bank using the standard supervisory haircuts or own-estimate haircuts, the framework below shall apply to take into account the impact of master netting agreements:

$$E^* = \max \{0, [(\Sigma (E) - \Sigma(C)) + \Sigma (E_s \times H_s) + \Sigma (E_{fx} \times H_{fx})]\}$$

Where:

$E^*$ = the exposure value after risk mitigation

E = current value of the exposure

C = the value of the collateral received

$E_s$ = absolute value of the net position in a given security

$H_s$ = haircut appropriate to Es

$E_{fx}$ = absolute value of the net position in a currency different from the settlement currency

$H_{fx}$ = haircut appropriate for currency mismatch

For OTC derivative transactions, a bank shall calculate the credit equivalent amount of its net credit exposure to counterparty by adding together the net current exposure and the net potential exposure as described under comprehensive approach for treatment of CRM.

# 5. Guarantee and credit derivative contracts

## 5.1 Operational requirements for guarantee

The following conditions must be met for the credit protection deriving from a guarantee (counter-guarantee) or credit derivative to be recognised:

a. the credit protection must be direct;
b. the extent of the credit protection must be clearly defined and incontrovertible;
c. the credit protection contract must not contain any clause, the fulfilment of which is outside the direct control of the lender, that
    i. would allow the protection provider to unilaterally cancel the protection;
    ii. would increase the effective cost of protection as a result of deteriorating credit quality of the protected exposure;
    iii. would prevent the protection provider from being obliged to pay out in a timely manner in the event that the original obligor fails to make any payments due; or
    iv. could allow the maturity of the credit protection to be reduced by the protection provider; and
d. it must be legally effective and enforceable in all jurisdictions which are relevant at the time of the conclusion of the credit agreement.

In addition to the legal certainty requirements, for a guarantee to be recognised, the following conditions must be satisfied:

a) on the qualifying default/non-payment of the counterparty, the bank must have the right to pursue in a timely manner the guarantor for any monies under the claim in respect of which the guarantee is provided;
b) the guarantor may make one lump sum payment of all monies under the claim to the bank or the guarantor may assume the future payment obligations of the counterparty covered by the guarantee;
c) the bank must have the right to receive any such payments from the guarantor without first having to take legal actions in order to pursue the counterparty for payment;
d) the guarantee must be an explicitly documented obligation assumed by the guarantor;
e) the guarantee must cover all types of payments the underlying obligor is expected to make in respect of the claim; and
f) Where a guarantee covers payment of principal only, interest and other amounts not covered by the guarantee must be treated as the uncovered portion.

## 5.2 Operational requirements for credit derivative contract

In order for a credit derivative contract to be recognised, the following conditions must also be satisfied:

a. the credit events specified by the contracting parties must, at a minimum, cover:
    i. failure to pay the amounts due under terms of the underlying obligation that are in effect at the time of such failure (with a grace period that is closely in line with the grace period in the underlying obligation);
    ii. bankruptcy, insolvency or inability of the obligor to pay its debts, or its failure or admission in writing of its inability generally to pay its debts as they become due, and analogous events; and

iii. restructuring of the underlying obligation involving forgiveness or postponement of principal, interest or fees that results in a credit loss event (i.e. charge-off, specific provision or other similar debit to the profit or loss account)

b. the credit derivative shall not terminate prior to expiration of any grace period required for a default on the underlying obligation to occur as a result of a failure to pay, subject to the provisions of paragraph covering maturity mismatch;

c. In the case of credit derivatives allowing for cash settlement, a robust valuation process must be in place in order to estimate loss reliably. There must be a clearly specified period for obtaining post-credit-event valuations of the underlying obligation.

d. if the protection purchaser's right/ability to transfer the underlying obligation to the protection provider is required for settlement, the terms of the underlying obligation must provide that any required consent to such transfer may not be unreasonably withheld;

e. The identity of the parties responsible for determining whether a credit event has occurred must be clearly defined. This determination must not be the sole responsibility of the protection provider. The protection buyer must have the right/ability to inform the protection provider of the occurrence of a credit event.

## 5.3 Eligible guarantor and credit protection provider

Guarantee and credit protection provided by sovereign entities, central banks and banks will be recognised for treatment of CRM. For determining the risk weight of the foreign banks incorporated outside Nigeria, the rating of the respective foreign sovereign with one rating grade less favourable, will be taken.

For the purposes of credit risk mitigation, the following types of credit derivatives and instruments are recognised:

a) Credit default swaps;
b) Total return swaps;
c) Credit linked notes;

## 5.4 Currency mismatch

Where the credit protection is denominated in a currency different from that in which the exposure is denominated (i.e. there is a currency mismatch), the amount of the exposure deemed to be protected (GA) shall be reduced by the application of a haircut $H_{FX}$ as follows:

$$\mathbf{GA = G \times (1 - H_{FX})}$$

Where:

G = nominal amount of the credit protection

$H_{FX}$ = haircut appropriate for the currency mismatch between the credit protection and the underlying obligation

## 5.5 Maturity mismatch

For the purposes of calculating risk-weighted assets, a maturity mismatch occurs when the residual maturity of a guarantee/credit protection is less than the maturity of the underlying exposure.

**Definition of maturity**

Under all CRM treatments, effective maturity of the underlying exposure and of the guarantee/collateral is defined as:

a) the longest possible remaining time before the counterparty is scheduled to fulfil its obligation, taking into account any grace period; and

b) the shortest possible maturity for the guarantee/collateral, taking into account embedded options that may reduce the term of the credit protection;

A guarantee/collateral shall be recognised only when its original maturity is greater than or equal to 12 months.

The maturity of guarantee/collateral for exposures with original maturities of less than 12 months must be matched in order to be recognized.

In all cases, guarantee/collateral with maturity mismatches shall not be recognised when it has a residual maturity of 3 months or less.

**Adjustment for maturity mismatch**

Where there is a maturity mismatch between the exposure and the credit protection, the following adjustment shall be applied:

**Pa = P x (t - 0.25) / (T - 0.25)**

Where:

Pa = value of the credit protection adjusted for maturity mismatch

P = credit protection (e.g. collateral amount, guarantee amount) adjusted for any haircuts

t = min (T, residual maturity of the credit protection arrangement) expressed in years

T = min (5, residual maturity of the exposure) expressed in years.

## Annexure 1 Categories of off-balance sheet exposures

The definitions in this section apply to off-balance sheet exposures. The term "off-balance sheet exposures", as used in this guideline, encompasses guarantees, commitments, derivatives, and similar contractual arrangements whose full notional principal amount may not necessarily be reflected on the balance sheet. Such exposures are subject to a capital charge irrespective of whether they have been recorded on the balance sheet at market value or not.

The credit equivalent amount of Securities Financing Transactions (SFT) and derivatives that expose a bank to counterparty credit risk is to be calculated. SFT are transactions such as repurchase agreements, reverse repurchase agreements, security lending and borrowing, and margin lending transactions, where the value of the transactions depends on the market valuations and the transactions are often subject to margin agreements.

The counterparty credit risk is defined as the risk that the counterparty to a transaction could default before the final settlement of the transaction's cash flows. An economic loss would occur if the transactions or portfolio of transactions with the counterparty has a positive economic value at the time of default. Unlike a bank's exposure to credit risk through a loan, where the exposure to credit risk is unilateral and only the lending bank faces the risk of loss, the counterparty credit risk creates a bilateral risk of loss: the market value of the transaction can be positive or negative to either counterparty to the transaction. The market value is uncertain and can vary over time with the movement of underlying market factors.

## Off-Balance sheet items (other than OTC derivative)

**Direct credit substitutes**

Direct credit substitutes include guarantees or equivalent instruments backing financial claims. With a direct credit substitute, the risk of loss to the bank is directly dependent on the creditworthiness of the counterparty.

Examples of direct credit substitutes include:

1) guarantees given on behalf of customers in respect of their financial obligations and to satisfy these obligations should the customer fail to do so; for example, guarantees of:
   i. payment for existing indebtedness for services
   ii. payment with respect to a purchase agreement
   iii. lease, loan or mortgage payments
   iv. payment of uncertified cheques
   v. remittance of (sales) tax to the government
   vi. payment of existing indebtedness for merchandise purchased
   vii. payment of an unfunded pension liability

2) standby letters of credit or other equivalent irrevocable obligations, serving as financial guarantees, such as letters of credit supporting the issue of commercial paper,

3) risk participation in bankers' acceptances and risk participation in financial letters of credit (Financial letter of credit is a legal instrument which provides assurance to the beneficiary that payment will be made to the beneficiary in the event of failure of the seller or service provider to discharge his obligation under the contract). Risk participation constitutes guarantees by the participating bank such that, if there is a default by the underlying obligor, they will indemnify the selling bank for the full principal and interest attributable to them,

4) securities lending transactions, where the bank is liable to its customer for any failure to recover the securities lent, and

5) credit derivatives in the banking book where a bank is selling credit protection;

**Transaction-related contingencies**

Transaction-related contingencies relate to the on-going business activities of counterparty, where the risk of loss to the reporting bank depends on the likelihood of a future event that is independent of the creditworthiness of the counterparty. Essentially, transaction-related contingencies are guarantees that support particular performance of non-financial or commercial contracts or undertakings, rather than supporting customers' general financial obligations. Performance-related guarantees specifically exclude items relating to non-performance of financial obligations.

Performance-related and non-financial guarantees include items such as:

1) Performance bonds, warranties and indemnities. Performance standby letters of credit represent obligations backing the performance of non-financial or commercial contracts or undertakings. These include arrangements backing:
   i. subcontractors' and suppliers' performance
   ii. labour and material contracts
   iii. delivery of merchandise, bids or tender bonds
   iv. guarantees of repayment of deposits or prepayments in cases of non-performance,
2) Customs and excise bonds. The amount recorded for such bonds should be the bank's maximum liability.

**Trade-related contingencies**

These include short-term, self-liquidating trade-related items such as commercial and documentary letters of credit issued by the bank that are, or are to be, collateralized by the underlying shipment.

Letters of credit issued on behalf of counterparty back-to-back with letters of credit of which the counterparty is a beneficiary ("back-to-back" letters) should be reported as documentary letters of credit.

Letters of credit advised by the bank for which the bank is acting as reimbursement agent should not be considered as a risk asset.

**Sale and Repurchase Agreements**

A repurchase agreement is a transaction that involves the sale of a security or other asset with the simultaneous commitment by the seller that, after a stated period of time, the seller will repurchase the asset from the original buyer at a pre-determined price. A reverse repurchase agreement consists of the purchase of a security or other asset with the simultaneous commitment by the buyer that, after a stated period of time, the buyer will resell the asset to the original seller at a pre-determined price. In any circumstance where they are not reported on-balance sheet, they should be reported as an off-balance sheet exposure with a 100% credit conversion factor.

**Forward Asset Purchases**

A commitment to purchase a loan, security, or other asset at a specified future date, usually on pre-arranged terms.

**Forward/Forward Deposits**

An agreement between two parties whereby one will pay and the other receive an agreed rate of interest on a deposit to be placed by one party with the other at some pre-determined date in the future. Such deposits are distinct from future forward rate agreements in that, with forward/forwards, the deposit is actually placed.

**Partly Paid Shares and Securities**

These are transactions where only a part of the issue price or notional face value of a security purchased has been subscribed and the issuer may call for the outstanding balance (or a further instalment), either on a date pre-determined at the time of issue or at an unspecified future date.

**Note Issuance/Revolving Underwriting Facilities**

These are arrangements whereby a borrower may issue short-term notes, typically three to six months in maturity, up to a prescribed limit over an extended period of time, commonly by means of repeated offerings to a tender panel. If at any time the notes are not sold by the tender at an acceptable price, an underwriter (or group of underwriters) undertakes to buy them at a prescribed price.

## Over-the-counter (OTC) derivative contracts

**Future/Forward Rate Agreements**

These are arrangements between two parties where at some pre-determined future date a cash settlement will be made for the difference between the contracted rate of interest and the current market rate on a pre-determined notional principal amount for a pre-determined period.

**Interest Rate Swaps**

In an interest rate swap, two parties contract to exchange interest service payments on the same amount of notional indebtedness. In most cases, fixed interest rate payments are provided by one party in return for variable rate payments from the other and vice versa. However, it is possible

that variable interest payments may be provided in return for other variable interest rate payments.

**Interest Rate Options and Currency Options**

An option is an agreement between two parties where the seller of the option for compensation (premium/fee), grants the buyer the future right, but not the obligation, to buy from the seller, or to sell to the buyer, either on a specified date or during a specified period, a financial instrument or commodity at a price agreed when the option is arranged. Other forms of interest rate options include interest rate cap agreements and collar (floor/ceiling) agreements.

**Forward Foreign Exchange Contracts**

A forward foreign exchange contract is an agreement between a bank and a counterparty in which the bank agrees to sell to or purchase from the counterparty a fixed amount of foreign currency at a fixed rate of exchange for delivery and settlement at a specified date in the future or within a fixed optional period.

**Cross Currency Swaps**

A cross currency swap is a transaction in which two parties exchange currencies and the related interest flows for a period of time. Cross currency swaps are used to swap fixed interest rate indebtedness in different currencies.

**Cross Currency Interest Rate Swaps**

Cross currency interest rate swaps combine the elements of currency and interest rate swaps.

**Financial and Foreign Currency Futures**

A future is a standardized contractual obligation to make or take delivery of a specified quantity of a commodity (financial instrument, foreign currency, etc.) on a specified future date at a specified future price established in a central regulated marketplace.

**Precious Metals Contracts and Financial Contracts on Commodities**

Precious metals contracts and financial contracts on commodities can involve spot, forward, futures and option contracts. Precious metals are mainly gold, silver, and platinum. Commodities are bulk goods such as grains, metals and foods traded on a commodity exchange or on the spot market. For capital purposes, gold contracts are treated the same as foreign exchange contracts.

## Annexure 2 Securitization – Definitions and terminologies

- ABCP program – Asset backed commercial paper (ABCP) means a program where commercial paper with an original maturity of one year or less which is backed by assets or other exposures held in a bankruptcy-remote SPE is predominantly issued.
- Banking book - means all on-balance sheet and off-balance sheet exposures of a bank other than its trading book positions.
- Clean-up call – A clean-up call is an option which permits the originator in the securitization transaction to repurchase the outstanding securitization issues once the amount of the outstanding securitization issues, or of the underlying exposures that have not been repaid, has fallen below a level specified in the documentation.

  In the case of traditional securitizations, this is generally accomplished by repurchasing the remaining securitization exposures. In the case of a synthetic transaction, the clean-up call may take the form of a clause that extinguishes the credit protection.
- Credit derivative - means any contract which transfers the credit risk of a reference obligation or set of reference asset(s) from the protection buyer to the protection seller, such that the protection seller has an exposure to the reference asset(s).
- Credit enhancement - means a contractual arrangement in which a bank retains or assumes a securitization exposure that, in substance, provides some degree of credit protection to other parties to the securitization.
- Credit-enhancing interest-only strip - A credit-enhancing interest-only strip *(I/O)* is an on-balance sheet asset that (i) represents a valuation of cash flows (expected future excess spread) related to future margin income, and (ii) is subordinated to the claims of other parties to the transaction.
- Credit risk mitigation (CRM) - means any technique used by a bank to reduce the credit risk associated with any exposure which the bank holds.

- Early amortisation provision- means a contractual clause which requires on the occurrence of defined events, an investor's position to be redeemed prior to the original maturity of the securities issued.

- Eligible liquidity facility – It means an off-balance sheet securitization exposure of the bank arising from a contractual agreement under which the bank provides funding in respect of the securitization transaction to ensure the timeliness of cash flows to investors in the securitization issues in the transaction.

- Excess spread - means any gross finance charge collections and other income received by the trust or SPE after deducting certificate interest, servicing fees, charge-offs, and other senior trust or SPE expenses.
- Gain-on sale - means any increase in the equity capital of a bank which is an originator resulting from the sale of underlying exposures in a securitization.
- Implicit support – means any support that a bank provides to a securitization in excess of its predetermined contractual obligations.
- Netting - means bilateral netting, including –

i. netting by novation, where obligations between two counterparties to deliver a given currency on a given value date under a transaction, are automatically amalgamated with all other obligations under other transactions to deliver on the same currency and value date, thereby extinguishing former transactions with a single legally binding new transaction; and

ii. close-out netting, where some or all of the on-going transactions between two counterparties are terminated due to the default of either counterparty or upon the occurrence of a termination event as defined in the netting agreement, whereupon the values of such transactions are combined and reduced to a single payable sum.

- NGR - means the ratio of the net current replacement cost to the gross current replacement cost
- OTC derivative transaction - means an exchange rate contract, interest rate contract, equity contract, precious metal or other commodity contract or credit derivative contract which is not traded on an exchange.
- Reference asset - means any asset specified under a credit derivative contract used for purposes of either determining cash settlement value or the deliverable asset.
- Re-securitization exposure - means any transaction or scheme involving the tranching of credit risk associated with an exposure or a pool of exposures and which has the following characteristics:
  a) payments in the transaction or scheme depend on the performance of the exposure or pool of exposures;
  b) the subordination of tranches determines the distribution of losses during the on-going life of the transaction or scheme; and
  **c)** junior tranches can absorb losses without interrupting contractual payments to more senior tranches;
- Securitization exposure - means any exposure of a bank to a securitization, and includes -
  a) any on-balance sheet exposure to securities issued pursuant to a securitization (e.g. asset-backed securities, mortgage backed securities and collateralised debt obligations);
  b) any off-balance sheet exposure to a securitization (e.g. through credit enhancements, liquidity facilities, credit derivatives, tranched cover, interest rate swap or currency swap), regardless of whether it was retained by the bank at, or repurchased by the bank after, the origination of the securitization; and
  c) reserve accounts (e.g. cash collateral accounts) recorded as an asset by the originating bank
- Security financing transaction (SFT) - means a securities or commodities financing transaction comprising any one of the following:

a) repo or reverse repo;

b) securities or commodities lending transaction or securities or commodities borrowing transaction;

**c)** Margin lending transaction, for which the value of the transaction depends on market valuation and the transaction is often subject to margin agreements.

- Special purpose entity (SPE) - means a corporation, trust, or other entity established for a specific purpose, the activities of which are limited to those appropriate to accomplish that purpose, and the structure of which is intended to isolate the SPE from the credit risk of an originator or seller of exposures.
- Synthetic securitization transaction – means a securitization transaction where the credit risk of reference pool of underlying exposures are transferred, whole or in part, through the use of credit protection afforded the underlying exposures.
- Traditional securitization transaction – means a securitization transaction where-
  a) The pool of underlying exposures, is sold by the originator, in the transaction to an SPE; and
  b) The cash flows from the pool of underlying exposures are used to service payment to investors or other parties to the transaction.
- Underlying exposure – in relation to a securitization transaction, means one or more on-balance sheet or off-balance sheet exposures in respect of which credit risk is transferred by the originator to other persons in the transaction.

# Annexure 3 Illustration on computation of exposure for collateralized transaction with revised haircut

## A. Particulars of the transactions:

An illustration on computation of exposure for the collateralized transaction with revised haircut is shown below:

| | |
|---|---|
| **Bank has borrowed from counterparty** | N 10 billion |
| **Collateral Provided by the Bank** | 7th FGN Bond 2030 Series |
| **Face Value of the FGN Bond** | N 12 billion |
| **Coupon** | 10% |
| **Market value of the FGN Bond** | N 10.1688 billion |
| **Minimum Holding Period (assumed by the bank)** | 15 Days |
| **Re-margining Period** | Weekly (7 days) |
| **Supervisory Haircut on Security** | 4% (sovereign bond with remaining maturity of more than 5 years with 10 day minimum holding period) |
| **Haircut on Cash** | 0% |

## B. Formula

$$H = \frac{H_M \sqrt{\{NR + (T_M - 1)\}}}{\sqrt{T_M}}$$

Where:

$H$ = haircut

$H_M$= haircut under the minimum holding period

$T_M$= minimum holding period for the type of transaction

$N_R$= actual number of business days between re-margining for capital market transactions or revaluation for secured transactions.

## C. Computation of exposures for collateralized transactions with revised haircut

(In this case, the security lent is the exposure of the bank while cash borrowed is the collateral)

| Sl. No | Items | Particulars | Amounts (in billion Naira) |
|---|---|---|---|
| 1 | **Exposure (before haircut)** | Market value of security | 10.1688 |
| 2 | **Collateral** | Amount borrowed | 10 |
| 3 | **Haircut on Security (HM)** | 4%<br>Under minimum holding period | |
| 4 | **Re-margining period (NR)** | Actual number of business days between re-margining for capital market transactions or revaluation for secured transactions. | 7 days |
| 5 | **Minimum holding period (TM)** | | 15 days |
| 6 | **Revised Haircut (H)**<br>**Use the formula in section B** | 4% * [((7 + (15-1))/10]^0.5 | 5.7966% |

| | | | |
|---|---|---|---|
| 7 | **Exposure Amount (after haircut)** | 10.1688 * (1+5.7966%) | 10.7582 |
| 8 | **Collateral Amount (after haircut)** | 10 x 1.00<br>[haircut being 0% for cash] | 10 |
| 9 | **Net Exposure after adjustment of collateral [7 – 8]** | 10.7582 – 10 | 0.7582 |

# Annexure 4 Illustration on computation of RWA of exposure with financial collateral as credit risk mitigation

## A. Particulars of the transactions:

An illustration on net exposure computation with financial collateral as credit risk mitigation as seen below:

| | |
|---|---|
| **Type of Facility (extended by the bank to a corporate entity)** | Term Loan |
| **Facility Amount (exposure)** | N 15 billion |
| **Haircut for Exposure (Cash)** | 0% |
| **Collateral provided by the borrower** | Lagos State Government Bonds Series 2025 |
| **Coupon** | 12.50% |
| **Face value of the bond (collateral)** | N 8 billion |
| **Market value of the bond (collateral)** | N 8.5 billion |
| **Risk Weight of the above bond issuer (the bond is a liquid security as notified by CBN)** | 20% |
| **Haircut for collateral (Lagos State Government bond)** | 4% |

## B. Formula

$$E^* = \max \{0, [E \times (1 + H_e) - C \times (1 - H_c - H_{fx})]\}$$

Where:

$E^*$ = the net exposure value after risk mitigation

$E$ = the current value of the exposure

$H_e$ = haircut appropriate to the exposure

$C$ = the current value of the collateral received

$H_c$ = haircut appropriate to the collateral

$H_{fx}$ = haircut appropriate for currency mismatch between the collateral and exposure

## C. Computation of RWA for exposure with financial collateral as credit risk mitigation

**COMPREHENSIVE APPROACH**

| Sl. No | Items | Particulars | Amounts (in billion Naira) |
|---|---|---|---|
| 1 | **Exposure (credit facility)** | Haircut as 0% | 15 |
| 2 | **Haircut for collateral (Lagos State Government bond)** | 4% | |
| 3 | **Collateral value** | | 8.5 |
| 4 | **Haircut adjusted collateral value** | 8.5 x (1-0.04) | 8.16 |
| 5 | **Net exposure [1 – 4]** | 15 – 8.16 | 6.84 |
| 6 | **Risk weight of unrated corporate** | 100% | |
| 7 | **RWA of net exposure [5 x 6]** | 6.84 x 100% | 6.84 |