



## **DIRECTIVE N° 02/2018 OF 15/02/ 2018 ON COMPUTATION OF CAPITAL CHARGE FOR CREDIT, MARKET AND OPERATIONAL RISKS AND TREATMENT OF LEVERAGE RATIO OF BANKS**

Pursuant to Law no.48/2017 of 23/09/2017 governing the Central Bank of Rwanda, especially in its Articles 8, 9 and 10;

Pursuant to Law no. 47/2017 of 23 /09/2017 governing the organization of banking, especially in its articles 15,16,17,18, 55; 61, 63, 67 and 117;

Pursuant to Regulation N° 06/2017 of 19/05/2017 on the Capital Requirements for banks especially in its articles 22, 28 and 29;

The National Bank of Rwanda hereafter referred to as "Central Bank" decrees:

### **Article One: Purpose of the Directive**

This Directive aims at establishing the methodologies of treatment of leverage ratio and computation of Risk weighted asset of licensed banks.

### **Article 2: Definition**

In this "Directive", unless defined otherwise, the terms used shall have the same meaning as those in the law governing the organisation of banking and regulation N° 06/2017 of 19/05/2017 on the Capital Requirements for banks.

### **Article 3: Application**

The requirements apply on a standalone ("Solo") level including overseas operations. Subsequently, for the banks incorporated in Rwanda, the scope is extended to the consolidated ("Group") level.

### **Article 4: Internal control and independent reviews**

The bank must conduct periodic reviews of its capital assessment and risk management process to ensure its integrity, accuracy, and reasonableness. Effective control of the capital computation and reporting

requirements must be reviewed by independent internal control, compliance, internal and external audit functions of the bank.

#### **Article 5: Monitoring and reporting**

Notwithstanding the electronic reports submitted through the automated data flow process, banks shall submit to the Central Bank regulatory reports as required by this Directive as at the end of March, June, September and December of each year.

The Central Bank may require such other information as is necessary to evaluate compliance with this directive and may call for adjustments to capital where necessary.

#### **Article 6: Remedial measures**

When the Central Bank determines that a bank is not in compliance with this Directive, it may impose any or all of the corrective actions prescribed in the Regulation on Capital requirements of banks.

#### **Article 7: Administrative sanctions**

Where the Central Bank determines that a bank does not comply with this Directive, it may impose any or all administrative measures specified in the law governing the organisation of banking and in the relevant regulations.

#### **Article 8: Attached guidelines**

Guidelines attached hereunder are part and parcel of this Directive.

#### **Article 9: Repealing provisions**

All prior provisions contrary to this Directive are hereby repealed.

#### **Article 10: Commencement**

This Directive shall come into force on the date of its signature.

Done at Kigali, on 15/02/2018

(sé)

**RWANGOMBWA John**  
**Governor**

# **GUIDELINES ON THE COMPUTATION OF RISK WEIGHTED ASSETS FOR CREDIT, MARKET AND OPERATIONAL RISK, AND TREATMENT OF LEVERAGE RATIO OF BANKS**

## **Contents**

<b>1. OVERVIEW .....</b>	<b>2</b>
<b>1.1 Introduction .....</b>	<b>2</b>
<b>1.2 Definitions and clarifications .....</b>	<b>2</b>
<b>2. CAPITAL CHARGE FOR CREDIT RISK.....</b>	<b>6</b>
<b>2.1 Standardised Approach to Credit Risk: Risk-weighted on balance sheet Credit Exposures .....</b>	<b>6</b>
<b>2.2 Standardised Approach to Credit Risk: Risk-weighted Off-balance sheet Credit Exposures.....</b>	<b>13</b>
<b>2.3 Methodology and recognition of ECAIs.....</b>	<b>19</b>
<b>2.4 Credit risk mitigation .....</b>	<b>22</b>
<b>3. CAPITAL REQUIREMENTS FOR MARKET RISK.....</b>	<b>31</b>
<b>3.1 Introduction.....</b>	<b>31</b>
<b>3.2 Governance and management of market risk .....</b>	<b>32</b>
<b>3.3 Eligibility for trading book.....</b>	<b>32</b>
<b>3.4 Prudent valuation guidance .....</b>	<b>35</b>
<b>3.5 Derogation for small trading book business (“de minimis”).....</b>	<b>37</b>
<b>3.6 Standardised Approach for Market risk .....</b>	<b>37</b>
<b>4. CAPITAL REQUIREMENTS FOR OPERATIONAL RISK .....</b>	<b>51</b>
<b>4.1 Introduction.....</b>	<b>51</b>
<b>4.2 Governance and management of operational risk .....</b>	<b>51</b>
<b>4.3 Sound practices of operational risk management .....</b>	<b>51</b>
<b>4.4 Approach used to compute operational risk exposures .....</b>	<b>51</b>
<b>4.5 Calculation of capital charge for operational risk .....</b>	<b>52</b>
<b>5. CALCULATION OF THE LEVERAGE RATIO (LR) .....</b>	<b>56</b>
<b>5.1 Introduction.....</b>	<b>56</b>
<b>5.2 Calculation of LR .....</b>	<b>56</b>
<b>ANNEXES: .....</b>	<b>58</b>

## 1. OVERVIEW

### 1.1 Introduction

- 1.1.1 This Guideline sets out guidance regarding the completion of the prudential reporting returns on capital requirements, including calculation of risk weighted assets for credit, market and operational risks for banks.
- 1.1.2 Every bank shall be required to use the relevant prudential return reporting modules to complete and calculate capital charge for credit, market and operational risk.
- 1.1.3 The bank's overall minimum capital requirement will be:
  - a) The credit risk requirements laid down in Section 2, excluding debt and equity securities in the trading book, but including the credit counterparty risk on all over the-counter derivatives, whether in the trading or the banking books;  
Plus
  - b) The capital charges for Market risk described in section 3.  
Plus
  - c) The capital charges for operational risk described in Section 4.
- 1.1.4 The Guideline also specifies the prudential reporting of Risk Weighted Assets for credit, operational and market risks for banks.
- 1.1.5 In the event of any further clarifications in completing the returns, please contact the Banking Supervision Department at the Bank on the telephone number below or speak to your persons of contact in the Supervision Department.

Contact Telephone: +250788199000

### 1.2 Definitions and clarifications

- 1.2.1 In this Guideline, unless reasonably implied by contextual usage, the following expressions and words are clarified or shall mean:

#### **Definitions:**

- 1. **“Business Indicator (BI)”**: a combination of the three macro-components of a bank’s income statement: the “interest component”, the “services component”, and the “financial component”, as defined in this Directive for the purpose of the capital requirement for operational risk.
- 2. **“Bank”**: banks and other financial institutions regulated and supervised under the Banking Law.
- 3. **“Banking Book”**: The banking book refers to positions that are not assigned to the trading book. Financial instruments classified in the banking book are not actively traded by the institution but are meant to be held in the books of the financial institution until maturity.
- 4. **“Central Bank”**: the National Bank of Rwanda.
- 5. **“Comprehensive approach”**: the Credit Risk Mitigation technique which allows fuller offset of collateral against exposures, by effectively reducing the exposure amount by the value ascribed to the collateral instruments by applying haircuts to both the collateral and the exposure to take into account possible price fluctuations. Where the exposure and the collateral are held in different currencies, an additional downward adjustment shall be made to the volatility-adjusted collateral amount to take account of possible future fluctuations in exchange rates.

6. **“Counterparty”**: a party to whom a bank has an on- or off-balance sheet credit exposure or a potential credit exposure. That exposure may, for example, take the form of a loan of cash or securities (where the counterparty would traditionally be called the borrower), of securities posted as collateral, of a commitment or of exposure under an OTC derivatives contract.
7. **“Counterparty credit risk” or “CCR”**: a risk that the counterparty to a transaction could default before the final settlement of the transaction's cash flows. —
8. **“Credit Risk”**: a current or prospective risk to earnings and capital arising from an obligor's failure to meet the terms of any contract with the bank or if an obligor otherwise fails to perform as agreed.
9. **“Derivative contract”**: a financial instrument which is valued on the basis of the value of an underlying exposure; and which include: (i) a commodity contract; (ii) an exchange rate contract; (iii) an equity contract; (iv) an interest rate contract; (v) a credit derivative contract; and (vi) a related derivative contract:
10. **“Effective maturity of the collateral”**: the shortest possible term of the credit protection for the collateral taking into account any clause in the documentation supporting the transaction that may reduce that term.
11. **“Effective maturity of the underlying exposure”**: the longest possible remaining time before the counterparty is required to fulfil its obligation, taking into account any grace period.
12. **“Financial asset”**: any asset that is cash, the right to receive cash or another financial asset; or the contractual right to exchange financial assets on potentially favorable terms.
13. **“Financial Instrument”**: any contract that gives to both parties a financial asset of one entity and a financial liability or equity instrument of another entity, including primary instruments, cash instruments and derivative instruments.
14. **“Financial liability”**: the contractual obligation to deliver cash or another financial asset or to exchange financial liabilities under conditions that are potentially unfavorable.
15. **“Foreign exchange risk”**: the risk of loss resulting from the holding or taking of positions denominated in foreign currencies.
16. **“General Market Risk”**: the risk of losses, caused by general adverse movements in the Prices of financial instruments such as debt and equity securities due to adverse movements in market interest rates.
17. **“Group companies”**: refers to a company that covers; to a company covers: (i) Its parent company and any co-subsiaries of that parent; (ii) Its subsidiaries; and (iii) Other companies in which such companies hold 20% or more of the voting rights or ordinary share capital.
18. **“Independent valuer”**: a professional person who possesses the necessary qualifications, ability, knowledge and experience to execute a valuation and who is independent from the credit decision-making process.
19. **“Interest rate risk”**: the risk of loss resulting from the holding or taking positions in debt securities and other interest-related instruments in the trading book.
20. **“Market Risk”**: the risk of losses in on- and off-balance sheet positions arising from movements in market prices.
21. **“Market related Off Balance Sheet (OBS) exposure”**: Over the Counter derivatives contracts and securities finance transactions such as securities lending, repurchase (repos) agreements and reverse repos that are held in the banking and trading books which give rise to off-balance sheet

credit risk. The credit risk on off-balance sheet market-related transactions is the cost to a bank of replacing the cash flow specified by the contract in the event of counterparty default. This will depend, among other things, on the maturity of the contract and on the volatility of rates underlying that type of instrument.

22. **“Non-market related OBS exposure”**: direct credit substitutes, trade and performance related contingent items and other commitments.
23. **“Operational risk”**: the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events and includes legal risk, but excludes strategic and reputational risk.
24. **“Over-the-counter (OTC) transaction” or “contract traded over-the-counter”**: a transaction or contract that is not traded on an exchange that is subject to daily re-margining requirements. OTC includes: an exchange rate contract; an interest rate contract; an equity contract; a precious metal contract; and another commodity contract.
25. **“Positions Held with Trading Intent”**: are those held intentionally for short-term resale and/or with the intent of benefiting from actual or expected short-term price movements or to lock in arbitrage profits, and may include for example proprietary positions, positions arising from client servicing (e.g. matched principal broking) and market making.
26. **“Public Sector Entity”**: a non-commercial administrative body responsible to central governments, regional governments or local authorities, or to authorities that exercise the same responsibilities as regional governments and local authorities, or a non-commercial undertaking that is owned by or set up and sponsored by central governments, regional governments or local authorities, and that has explicit guarantee arrangements, and may include self-administered bodies governed by law that are under public supervision.
27. **“Ordinary shares”**: Issued and fully paid ordinary shares/common stock and non-cumulative perpetual preferred stock (but excluding cumulative preferred stock).
28. **“Related parties”**: any natural person or legal entity as defined in the Banking Law.
29. **“Simple approach”**: the Credit Risk Mitigation technique which allows substitution of the risk weighting of the collateral for the risk weighting of the counterparty for the collateralized portion of the exposure (generally subject to a 20 per cent floor).
30. **“Solicited ratings”**: a rating would be treated as solicited only if the issuer of the instrument has requested the credit rating agency for the rating and has accepted the rating assigned by the agency. The rating agency must be approved by the Central Bank for the purpose of providing ratings for credit risk weight calculation as per the Standardized Approach.
31. **“Specific Market Risk”**: the risk of loss due to adverse movement in the price of an individual financial instrument owing to factors related to the individual issuer.
32. **Small business customer or “SME”**: a “small and medium sized business enterprise” defined as an unlisted company, unincorporated enterprise such as partnership or sole proprietorship with equity investment of not more than 75 million RWFs.
33. **“Third party”**: an entity that is not the registered bank or a member of the banking group that is subject to the same minimum prudential standards and level of supervision as a bank.
34. **“Trading Book”**: consists of positions in financial instruments and commodities held either with trading intent or in order to hedge other elements of the trading book.

### Clarifications:

35. All reporting of amounts shall be of the Rwanda francs amount, in round thousands.
36. **Total exposure amounts:** All total exposures shall be reported net of specific provisions for all balance sheet and off-balance sheet items other than OTC derivative transactions. Specific provisions for OTC derivative transactions shall be deducted from the credit equivalent amount.
37. **Exposures to collective investment schemes** shall be categorized as **equity**, except that: Exposures to a fixed income fund shall be categorized within “Other assets”. Investments in venture capital and private equity schemes “High Risk Assets” shall be categorized within in Others.
38. **Eligible amount for credit risk mitigation:** refers to amount of total exposure amounts that is eligible for adjustment for effect of recognized CRM techniques. The credit risk mitigation technique (CRM) refers to the simple technique the bank shall use to mitigate credit risk and hence reduce the capital requirement of credit exposure. Four types of CRM techniques are recognised for this purpose: Collateral; Netting; Guarantees; and Credit derivatives. In order to be recognised, a CRM technique shall satisfy the relevant operational requirements and conditions set out in section 2.4.
39. **Valuation:** Outstanding liabilities and holdings of assets shall normally be reported at the value outstanding in the bank’s books (i.e. book value), in accordance with the bank’s usual accounting practices. For positions held in the trading book, the bank shall report on a Mark to Market basis as described in section 3.3. For off-balance sheet items (contingents, guarantees, acceptances, etc) the principal amount shall be shown.
40. **Specific provisions:** All loans, advances, bills and securities are to be included in this return net of any specific or earmarked general provisions made. Off-balance sheet items shall also be reported net of specific provisions other than OTC derivative transactions. Specific provisions for OTC derivative transactions shall be deducted from the credit equivalent amount.
41. **Accruals:** In general, the return shall be completed on an accrual rather than a cash basis. Accruals on a claim shall be classified and weighted in the same way as the claim. Accruals that cannot be so classified, e.g. due to systems constraints, shall, with the prior consent of the Central Bank, be categorised within “Other balance sheet exposures”, including prepayments and debtors.
42. **Maturity of assets and off-balance sheet items:** Certain on and off-balance sheet items are to be reported according to their maturity. The reporting requirements for this return are on the basis of a residual maturity of one year or less or more than one year. Banks with overseas offices may discuss the implications of this requirement with the Authority if the reporting of exactly one year maturities are treated differently in the countries in which they are operating. Original/residual maturity- Off-balance sheet commitments shall be reported according to their original maturity.
43. **Loan to Value (LTV):** LTV ratio shall be computed as a percentage with total outstanding in the account (viz. “principal + accrued interest + other charges pertaining to the loan” without any netting) in the numerator and the realisable value of the residential property mortgaged to the bank in the denominator. LTVs shall be assessed on a regular basis, making use of relevant indices and market information where appropriate.

44. **Double counting of exposures arising from the same contract or transaction shall be avoided.** For overdrafts/limits given, only the undrawn portion of a loan commitment shall be reported as an off-balance sheet exposure; the actual amount which has been lent will be reported as a balance sheet asset in the relevant portfolio. Trade-related contingencies such as shipping guarantees for which the exposures have already been reported as letters of credit issued or loans against import bills are not required to be reported as trade-related contingencies. In certain cases, credit exposures arising from derivative contracts may already be reflected, in part, on the balance sheet. For example, the bank may have recorded current credit exposures to counterparties (i.e. mark-to-market values) under foreign exchange and interest rate related contracts on the balance sheet, typically as either sundry debtors or sundry creditors. To avoid double counting, such exposures shall be excluded from the balance sheet assets and treated as off-balance sheet exposures for the purposes of this return.

45. **Netting**

a) On-balance sheet

Debit balances on accounts with the reporting bank may only be offset against credit balances on other accounts with that bank where all the following criteria are met:

- (i) There is formal agreement with the customer(s) to do so, or where a legal right of set-off exists. Such arrangements shall, to the best of the bank's knowledge, be enforceable in a liquidation of the customer(s);
- (ii) Both the debit and credit balances are denominated in the same currency. Thus, for example, a debit balance in RWFs may not be offset against a credit balance in another currency;
- (iii) The debit and credit balances relate to the same customer, or to customers in the same company group, e.g. a parent company and its subsidiary. For a group facility, the facility shall be advised in the form of a net amount and controlled by the bank on that basis. Such an arrangement shall be preferably supported by a full cross guarantee structure;

b) Off-balance sheet

Pending further consideration, net amounts due in respect of foreign exchange transactions may be reported only if the net amount derived is pursuant to the application of a bilateral agreement (between two counterparties) based upon netting by novation. Netting by novation is where obligations between counterparties to deliver given amounts on a given date are automatically amalgamated with all other obligations to deliver the same currency on the same value date and netted. Such netting shall have the effect of legally discharging performances of the original obligation and substituting the single net amount as the sole remaining obligation between the parties for the relevant value date.

## **2. CAPITAL CHARGE FOR CREDIT RISK**

### **2.1 Standardised Approach to Credit Risk: Risk-weighted on balance sheet Credit Exposures**

- 2.1.1 A bank must use the standardised approach to calculate its credit risk capital requirement and shall be required to complete the relevant reporting module provided, as part of the prudential return.
- 2.1.2 A bank's total risk-weighted on-balance sheet credit exposure equals the sum of the risk-weighted amount of each on-balance sheet asset it holds, except the following specifically excluded items as a result of full deduction from capital.



- a) Investment in Subsidiaries-All investments in subsidiaries of the bank, fellow group subsidiaries, joint ventures and associated companies. Associated companies are those with whom the bank has entered into joint ventures or where the bank owns a material shareholding. A shareholding that exceeds 25% would ordinarily be considered material.
  - b) Capital connected lending-All lending of a capital nature to subsidiaries of the bank, fellow group subsidiaries, joint ventures and associated companies.
  - c) Holdings of banks' capital instruments-All investments in other banks' capital instruments not captured above.
  - d) Goodwill and other intangible fixed asset-All intangible assets shall be deducted from capital, including goodwill.
  - e) Others-All items that require a full deduction as a result of specific or general guidance and that do not fall within Portfolios a) to e).
- 2.1.3 The risk-weighted amount of an on-balance sheet asset is determined by multiplying its current book value (including accrued interest or revaluations, and net of any specific provision or associated depreciation) by the relevant risk-weight specified in this Guidance Note.
- 2.1.4 Where an on -balance sheet claim on a counterparty is secured against qualifying collateral, qualifying guarantee or credit derivative, the bank may use the credit risk mitigation techniques detailed in Section 2.4 to reduce the risk-weighted amount of the bank's credit exposure to a counterparty when calculating the bank's capital requirements.
- 2.1.5 The bank must consult the authority in case of doubt about how to determine the risk-weighted amount of a particular on-balance sheet exposure.
- 2.1.6 All banks shall classify their portfolio according to the following asset classes, for risk weighting purposes:
- a) Cash and similar items
  - b) Exposures to Central government or central bank;
  - c) Exposures to Non Central Government and Public Sector entities;
  - d) Exposures to Multilateral Development Banks;
  - e) Exposures to Banks;
  - f) Exposures to Securities firms;
  - g) Exposures to Corporates;
  - h) Retail Exposures;
  - i) Exposures secured by residential property;
  - j) Exposures secured by Commercial Real Estate;
  - k) Past due exposures or exposures in default
  - l) Other exposures.
- 2.1.7 Each Portfolio is mutually exclusive and each asset shall be reported in only one Portfolio. For instance, any asset which is past due shall only be reported in Portfolio k and not elsewhere.
- 2.1.8 The risk weight for an asset in Portfolios b) to g) is generally determined from its credit assessment by an ECAI. These are perhaps more commonly known as rating agencies, and the authority allows banks to use the results of several, these being Moody's, Standard and Poor's and Fitch.

2.1.9 The credit rating grades used in the following section correspond to the ratings of the recognized external credit assessment institution (ECAI) in accordance with Section 2.3.

**a) Cash items**

2.1.10 A 0% risk weight applies to:

- (a) notes and coins held on site; and
- (b) gold bullion held: (i) in own vaults; or (ii) on an allocated basis and backed by gold bullion liabilities.

2.1.11 Cash items in the process of collection (e.g. cheques, drafts and other items drawn on other authorized deposit taking institutions or overseas banks that are payable immediately upon presentation and that are in the process of collection) are to be treated as short-term bank claims and shall be assigned a risk weight of 20%.

**b) Exposures to Central Governments or Central Banks**

2.1.12 Exposures to the Government of Rwanda and the National Bank of Rwanda denominated and funded in Rwandan Francs shall be assigned a risk weight of 0%.

2.1.13 Claims on other sovereigns and central banks denominated and funded in their local currency may be assigned a preferential risk weight where that has been determined by the relevant supervisory authority, subject to the prior written approval of the Central Bank.

2.1.14 Claims on other sovereigns and central banks in a currency other than their local currency, and claims on the Government of Rwanda denominated in currency other than the Rwandan Franc shall be assigned risk weights as specified in Table below:

<b>Credit rating grade</b>	1	2	3	4,5	6	unrated
<b>Risk weight</b>	0%	20%	50%	100%	150%	100%

2.1.15 No exposure (whether on- or off-balance sheet) can be given a lower risk weight than exposures to the central government (the sovereign) of the debtor (or issuer) concerned.

**c) Exposures to Non Central Government Public Sector Entities (PSE)**

2.1.16 Claims on domestic PSEs, denominated and funded in Rwandan Francs, that are guaranteed by Government Rwanda shall be assigned a risk weight of 0%.

2.1.17 Claims on domestic PSEs, denominated in currency other than Rwandan Francs and guaranteed by Government of Rwanda shall be assigned a risk weight similar to claims on sovereigns in currency other than their local currency, in accordance with the table below:

<b>Credit rating grade</b>	1	2	3	4,5	6	unrated
<b>Risk weight</b>	20%	50%	50%	100%	150%	50%

- 2.1.18 Claims on foreign PSEs may be given the same risk weights as applied by the supervisor in their home country, subject to Central Bank approval.

**d) Exposures to Multilateral Development Banks**

- 2.1.19 A risk weight of 0% shall be assigned to claims on rated MDBs. These MDBs are those which fulfill criteria in relation to very high quality long-term issuer ratings; shareholder structure; strong shareholder support demonstrated by the amount of paid-in capital contributed by the shareholders; the amount of further capital the MDBs have the right to call, if required, to repay their liabilities; and continued capital contributions and new pledges from sovereign shareholders; adequate level of capital and liquidity; and strict statutory lending requirements and conservative financial policies. MDBs currently eligible for a 0% risk weight are:

- (a) the World Bank Group comprised of the International Bank for Reconstruction and Development (IBRD) and the International Finance Corporation (IFC), the Asian Development Bank (ADB),
- (b) the African Development Bank (AfDB)
- (c) the European Bank for Reconstruction and Development (EBRD)
- (d) the Inter-American Development Bank (IADB)
- (e) the European Investment Bank (EIB)
- (f) the European Investment Fund (EIF)
- (g) the Nordic Investment Bank (NIB)
- (h) the Caribbean Development Bank (CDB)
- (i) the Islamic Development Bank (IDB), and
- (j) the Council of Europe Development Bank (CEDB).

- 2.1.20 Claims on other MDBs shall be attributed risk weights based on their external credit assessments as set out for claims on banks, without the possibility of using the preferential treatment for short-term claims. The risk weight structure shall be as specified in the table below:

<b>Credit rating grade</b>	1	2	3	4,5	6	unrated
<b>Risk weight</b>	20%	50%	50%	100%	150%	50%

**e) Exposures to Banks**

- 2.1.21 Claims on banks shall be assigned risk weights based on the external credit assessments of the banks, with claims on unrated banks being risk-weighted at 50%. However, no claim on an unrated

bank shall receive a risk weight lower than that applied to claims on its sovereign of incorporation. The risk weight structure is shown in the Table below.

- 2.1.22 Banks shall be allowed to apply a preferential risk weight that is one category more favorable in respect of their short-term claims with an original maturity of three months or less, subject to a floor of 20%. This treatment will be available to both rated and unrated banks, but not to banks risk weighted at 150%.

<b>Credit rating grade</b>	1	2	3	4,5	6	unrated
<b>Risk weight</b>	20%	50%	50%	100%	150%	50%
<b>Risk weight for short term claims</b>	20%	20%	20%	50%	150%	20%

**f) Exposures to Corporates**

- 2.1.23 Claims on corporates including claims on insurance companies shall be risk weighted as specified in table below.

<b>Credit rating grade</b>	1	2	3,4	5,6	unrated
<b>Risk weight</b>	20%	50%	100%	150%	100%

- 2.1.24 Exposures for which such a credit assessment is not available shall be assigned a 100 % risk weight or the risk weight of exposures to the central government of the jurisdiction in which the corporate is incorporated, whichever is the higher.

**g) Exposures to Securities firms**

- 2.1.25 Claims on securities firms shall be treated as claims on corporates.

**h) Retail exposures**

- 2.1.26 Retail exposures shall be risk-weighted at 75%, except as provided in paragraph 2.1.32 for past due exposures (Non-Performing assets). To be included in the regulatory retail portfolio, claims must meet the following four criteria:

- Orientation criterion:** the exposure is to an individual person or persons or to a micro, small and medium-sized business;
- Product criterion:** the exposure takes the form of any of the following: revolving credits and lines of credit (including credit cards and overdrafts), personal term loans and leases (e.g. installment loans, car loans and leases, student and educational loans, personal finance) and

small business facilities and commitments. Securities (such as bonds and equities), whether listed or not, are specifically excluded from this category. Mortgage loans are excluded to the extent that they qualify for treatment as claims secured by residential property.

- c) **Granularity criterion:** the regulatory retail portfolio shall be sufficiently diversified to a degree that reduces the risks in the portfolio, warranting the 75% risk weight. In that respect, no aggregate exposure (that is, not taking any benefit for credit risk mitigation into account) to one counterparty can exceed 0.2% of the overall regulatory retail portfolio and past due loans shall be excluded for purposes of assessing this granularity criteria;
- d) **Low value of individual exposures:** The maximum aggregated retail exposure to one counterparty cannot exceed an absolute threshold of RWF 100,000,000.

Capital risk charge for retail portfolio is calculated in the illustration in Annex III.

**i) Exposures secured by residential property**

2.1.27 Claims or lending that is secured by mortgages on residential property that is or will be occupied by the borrower or rented to individual, will be risk weighted at 50%, subject to the following criteria:

- a) lending must be fully secured by mortgage over a residential property;
- b) the residential property must be valued by recognized valuer approved by the Institute of Property Valuers in Rwanda;
- c) 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;
- d) 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
- e) the property must be adequately insured;
- f) the market value of the property exceeds the exposures in such way that the loan to value (LTV) ratio does not exceed 80%.

2.1.28 LTV shall be assessed on regular basis making use of relevant indices and market information where appropriate.

2.1.29 If the above conditions are not met, the exposure will attract the risk weight for retail exposures (75%), subject to its meeting the following conditions;

- a) Mortgages for which the institution's systems do not hold adequate LTV information; or
- b) Mortgages in jurisdictions other than those where the local regulator is deemed equivalent, has adopted Basel II, has evaluated the local market and deemed to be appropriate;
- c) Residential Mortgages that meet all the criteria set out in paragraph one are assigned a weighting of 75% for that portion above 80% LTV.

2.1.30 Residential Mortgages that do not meet the criteria set out above, are assigned a risk weight of 100%.

2.1.31 Exposures or any part of an exposure fully and completely secured by mortgages on commercial real estate, excluding past due exposures will attract a risk weight of 100%.

Capital risk charge for residential mortgage portfolio is calculated in the illustration in Annex IV.

**j) Past due exposures.**

2.1.32 Past due exposures or exposures in default will be treated as follows:

- a) Any unsecured loan facility or any unsecured part of a loan facility that is past due for more than 90 days, net of specific provisions, will be risk-weighted at 150%.
- b) For the purpose of defining the secured part of the past due item, eligible collateral and guarantees shall be those eligible for credit risk mitigation purposes.
- c) A secured loan facility that is past due for more than 90 days, net of specific provisions will be risk-weighted at 100% or the risk weight of its exposure class, whichever is the highest.

**k) Other balance sheet exposures**

2.1.33 The standard risk weight for all other assets shall be risk weighted as follows.

- a) For Tangible fixed assets such as Premises, plant and equipment, other fixed assets for own use, and other interests in realty shall be risk weighted at 100%. Included are investments in land, premises, plant and equipment and all other fixed assets of the bank which are held for its own use, including any fixed asset held by the bank as lessee under a finance lease. Other interest in land which is not occupied or used in the operation of the bank's business shall also be reported here.
- b) Equity investment shall be risk weighted at 100%. This includes investments in equity of other entities and holdings of collective investment schemes (Equity holdings in investment trusts and holdings of "units" in unit trusts or mutual funds). Included are investments in commercial entities, other than those where a deduction from capital base is required. Collective investment schemes shall be included unless they are fixed income (only debt investments, not equity)-in which case, this shall be considered in other assets.
- c) High Risk Assets-Investments in venture capital and private equity, including investments in collective investment schemes holding such investments shall be included in "others assets" and weighted at 100%.
- d) Others assets, including prepayments and debtors-Accrued interest, prepayments and debtors shall be classified here and weighted according to the underlying counterparty (0-100%). This includes unrestricted fixed income collective investment schemes in which case they are categorized as:
  - Corporate if the CIS can invest in corporate as well as bank, PSE and sovereign debt;
  - Bank if it can invest in bank as well as PSE and sovereign debt;
  - PSE if it can invest in only PSE and sovereign debt; or
  - Sovereign if restricted to only sovereign debt.

2.1.34 Other unallocated amounts none other than above, including unallocated interest, shall be weighted at 100%.

## **2.2 Standardised Approach to Credit Risk: Risk-weighted Off-balance sheet Credit Exposures**

- 2.2.1 The total risk weighted assets for off-balance sheet exposure (OBS) is the sum of risk weighted assets for market related and non-market related OBS transactions as indicated in paragraphs below.
- 2.2.2 The risk-weighted amount of the OBS transaction that gives rise to credit exposure is generally calculated by means of a two-step process:
- a) First, the nominal principal amounts of off-balance sheet items as listed in Annex I are multiplied by the appropriate credit conversion factors (CCFs), and;
  - b) Second, the resulting credit equivalent or potential exposure amount is multiplied by the risk-weight applicable to the counterparty or to the purpose for which the bank has extended finance or the type of asset, whichever is higher.
- 2.2.3 Where the transaction is secured by eligible collateral, guarantee or credit derivative, credit risk mitigation guidelines detailed in section 2.4 may be applied may be used to reduce the regulatory capital charge of the exposure.

### **Categorization and determination of risk weighted assets for non-market related off-balance sheet exposures other than OTC derivatives**

- 2.2.4 The bank shall categorize off-balance sheet exposures into the following standard items and report:
- a) The principal amount; and
  - b) The amount after allowing for credit risk mitigation and applying CCF, categorised by risk weight.
- 2.2.5 The credit conversion factors for non-market related off-balance sheet transactions are specified in the Annex I.
- 2.2.6 Except for the following, the applicable risk weight for an off-balance sheet item is determined by reference to the risk weight allocated to the counterparty of the exposure, in accordance with the relevant instructions under Section 2.1. The exceptions are:
- “Direct credit substitutes”;
  - “Asset sales with recourse”;
  - “Forward asset purchases”;
  - “Partly paid-up shares and securities”; and
  - Exposures arising from the selling of credit derivative contracts booked in the bank’s banking book reported as “Direct credit substitutes”.
- 2.2.7 For these, the applicable risk weight to an exposure shall be:
- a) In the case of “Direct credit substitutes”, “Asset sales with recourse” and “Forward asset purchases”, the risk weight is determined by reference to the risk weight allocated to the underlying asset;
  - b) In the case of “Partly paid-up shares and securities”, use the risk weight for the equities in question (usually 100%); and
  - c) In the case of exposures arising from the selling of credit derivative contracts booked in the bank’s banking book reported as “Direct credit substitutes”, the risk weight is normally determined by reference to the risk weight of the relevant reference entity.

- 2.2.8 Where the non-market-related off-balance sheet transaction is an undrawn or partially undrawn facility, the amount of undrawn commitment to be included in calculating a bank's off-balance sheet non-market-related credit exposures is the maximum unused portion of the commitment that could be drawn during the remaining period to maturity. Any drawn portion of a commitment forms part of a bank's on-balance sheet credit exposure.
- 2.2.9 With regard to irrevocable commitments to provide off-balance sheet facilities, the original maturity will be measured from the commencement of the commitment up until the time the associated facility expires. For example, an irrevocable commitment, with an original maturity of six months, to provide finance with a nine-month term, is deemed to have an original maturity of 15 months.
- 2.2.10 Irrevocable commitments to provide off-balance sheet facilities shall be assigned the lower of the two applicable credit conversion factors. For example, an irrevocable commitment with an original maturity of six months to provide a guarantee in support of a counterparty for a period of nine months, attracts the 50 per cent credit conversion factor applicable to the commitment.
- 2.2.11 All commitments are to be included in the capital ratio calculation regardless of whether or not they contain "material adverse change" clauses or any other provisions which are intended to relieve a bank of its obligations under certain conditions.
- 2.2.12 For any non-market-related off-balance sheet transaction that gives rise to credit risk, but is not specifically identified in Annex I, a bank must consult the Central Bank on the appropriate credit conversion factor to be used for calculating the credit equivalent amount of that particular transaction for capital adequacy purposes. Central Bank may, in writing, determine an appropriate credit conversion factor for the transaction (having regard to the risk entailed by the transaction and the credit conversion factors applicable to similar transactions).

**Determination of risk weighted assets for market related off-balance sheet transactions  
(OTC Derivatives)**

- 2.2.13 To calculate the risk weight for market related OBS, a bank must include all of their market related transactions held in the banking and trading book which give rise to OBS credit risk by calculating the risk weighted assets for market related OBS.
- 2.2.14 The credit risk on OBS market-related transactions is the cost to a bank of replacing the cash flow specified by the contract in the event of counterparty default.
- 2.2.15 This will depend, among other things, on the maturity of the contract and on the volatility of rates underlying that type of instrument. Exemption from capital charge is permitted for:
- a) Foreign exchange contracts with BNR
  - b) Instruments traded on future and option exchanges, which are subject to daily mark-to-market and margin payment.
- 2.2.16 The following financial instruments and transactions will be treated as market related off-balance sheet items subject to counterparty credit risk capital requirements:
- i) All credit derivatives, unless they are contracted to hedge positions in the banking book will be considered part of trading book and will be subject to both credit and market risk capital requirement.



- ii) Repurchase/reverse repurchase, securities lending held in trading book are subject to both credit and market risk capital requirement.

2.2.17 The Market-related OBS transactions include the following:

- a) Interest rate contracts - these include single currency interest rate swaps, basis swaps, forward rate agreements, interest rate futures, interest rate options purchased and any other instruments of a similar nature
- b) Foreign exchange contracts - these include cross currency swaps (including cross currency interest rate swaps), forward foreign exchange contracts, currency futures, currency options purchased, hedge contracts and any other instruments of similar nature
- c) Equity contracts - these include swaps, forwards, purchased options and similar derivative contracts based on individual equities or equity indices.
- d) Precious metal contracts (other than gold) – these include swaps, forwards, purchased options and similar derivative contracts based on precious metals such as silver and platinum;
- e) Other commodity contracts (other than precious metals) – these include swaps, forwards, purchased options and similar derivative contracts based on energy contracts, agricultural contracts and any other non-precious metal commodity contracts; and
- f) Other market-related contracts – these include any contracts covering other items giving rise to credit risk.

2.2.18 The credit equivalent amount of an OBS market-related transaction, whether held in the banking or trading book, will be determined by using the current exposure (also known as mark-to-market) method.

2.2.19 Banks must calculate the current replacement cost by marking contracts to market, thus capturing the current exposure without any need for estimation, and then adding a factor (the "add-on") to reflect the potential future exposure over the remaining life of the contract.

2.2.20 The credit equivalent amount of these instruments under this current exposure method shall be the sum of:

- a) The current exposure, which is the total replacement cost (obtained by “marking to market”) all of its contracts with positive value; and
- b) An amount for potential future credit exposure, which is derived by applying the CCF, according to the residual maturity, to the notional principal amount or face value of the contracts as specified below:

**Table 1. CCF for Market-related OBS transactions**

<b>Residual maturity</b>	<b>Interest-rate contracts</b>	<b>Foreign-exchange contracts and gold</b>	<b>Equity</b>	<b>Precious metal contracts (other than gold)</b>	<b>Other commodities or other market related contracts</b>
1 year or less	Nil	1 %	6%	7%	10%
> 1 year to 5 years	0.5 %	5 %	8%	7%	12%
Over 5 years	1.5 %	7.5 %	10%	8%	15%

Note:

- For contracts with multiple exchanges of principal, the factors are to be multiplied by the number of remaining payments in the contract.
- For contracts that are structured to settle outstanding exposure following specified payment dates and where the terms are reset such that the market value of the contract is zero on these specified dates, the residual maturity would be set equal to the time until the next reset date. In the case of interest rate contracts with remaining maturities of more than one year that meet the above criteria, the add-on factor is subject to a floor of 0.5%.
- No potential future credit exposure would be calculated for single currency floating/floating interest rate swaps; the credit exposure on these contracts would be evaluated solely on the basis of their mark-to-market value.
- Current credit exposure is defined as the sum of the positive mark-to-market value (or replacement cost) of these contracts.
- Potential future credit exposure is determined by multiplying the notional principal amount of each of these contracts (regardless of whether the contract has a zero, positive or negative mark-to-market value) by the relevant credit conversion factor specified in the above table according to the nature and residual maturity of the instrument.
- The notional or nominal principal amount, or value, of a contract is the reference amount used to calculate payment streams between counterparties to a contract.
- Potential future credit exposure shall be based on effective rather than apparent notional amounts. In the event that the stated notional amount of a contract is leveraged or enhanced by the structure of the transaction, a bank must use the effective notional amount when calculating potential future credit exposure. For example, a stated notional amount of \$1 million with payments based on an internal rate of two times the bank bill rate would have an effective notional amount of \$2 million.
- For contracts that are structured to settle outstanding exposures following specified payment dates and where the terms are reset such that the mark-to-market value of the contract is zero on these specified dates, then the residual maturity shall be set equal to the time until the next reset date. In the case of interest rate contracts with these features with a remaining maturity of more than one year, the credit conversion factor to be applied is subject to a floor of 0.5 per cent even if there are reset dates of a shorter maturity.

- For contracts with multiple exchanges of principal, the credit conversion factors are to be multiplied by the number of remaining payments (i.e. exchanges of principal) still to be made under the contract.
- Contracts which do not fall within one of the five categories listed in above table to this Guidance Note shall be treated in the same way as “other commodities” contracts.
- No potential future credit exposure is calculated for single currency floating / floating interest rate swaps; the credit exposure on these contracts is evaluated solely on the basis of their mark-to-market value.

2.2.21 Once the credit equivalent amount for the total replacement cost (an exchange rate, interest rate contracts, etc) has been determined using the current exposure method, that amount shall then be weighted according to the risk weight of the counterparty, or if relevant, that of the guarantor or the collateral as indicated in Section 2.1.

2.2.22 A bank may net off-balance sheet claims and obligations arising from market-related contracts across both the banking and trading books, arising from contracts with a single counterparty, where the relevant obligations are covered by eligible bilateral netting arrangements.

#### **Determination of risk weighted assets for settlement/delivery risk**

2.2.23 The following capital treatment is applicable to all transactions on debt instruments, equities, foreign currencies and commodities (excluding repurchase and reverse repurchase agreements and securities or commodities lending and securities or commodities borrowing) that give rise to a risk of settlement or delivery. This may include transactions through recognised clearing houses that are subject to daily mark-to-market and payment of daily variation margins and that involve a mismatched trade.

2.2.24 Banks are encouraged to develop, implement and improve systems for tracking and monitoring the credit risk exposure arising from unsettled transactions as appropriate for producing management information that facilitates action on a timely basis.

2.2.25 Banks must closely monitor securities and foreign exchange transactions that have failed, starting from the day they fail for producing management information that facilitates action on a timely basis. Failed transactions give rise to risk of delayed settlement or delivery.

2.2.26 Transactions on securities, foreign exchange contracts or commodities may be settled via the following:

- a) **Delivery-versus-payment (DvP)**, which provides simultaneous exchanges of securities for cash, hence failure of transactions settled through a delivery-versus-payment system (DvP), providing simultaneous exchanges of securities for cash, expose banks to a risk of loss on the difference between the transaction valued at the agreed settlement price and the transaction valued at current market price (i.e. positive current exposure).

For DvP Transactions – If the payments have not yet taken place five business days after the settlement date, banks are required to calculate a capital charge by multiplying the positive current exposure of the transaction by the appropriate factor in column A of the table 2. In order to capture the information, banks will need to upgrade their information systems in

order to track the number of days after the agreed settlement date and calculate the corresponding capital charge.

**Table 2. Risk Weight for DvP**

Number of working days after due settlement date	Column A (%)
5-15	8
16-30	50
31-45	75
46 or more	100

- b) **Non-DvP or free-delivery system;** a failed transactions where cash is paid without receipt of the corresponding receivable (securities, foreign currencies, or gold,) or, conversely, deliverables were delivered without receipt of the corresponding cash payment (non-DvP, or free delivery) expose banks to a risk of loss on the full amount of cash paid or deliverables delivered. For the case of cross-border transactions, one day or more has elapsed since it made that payment or delivery.

For non-DvP Transactions (free deliveries), the bank shall calculate the capital charge for free deliveries as follows;

- (i) If the dates when two payment legs are made are the same according to the time zones where each payment is made, it is deemed that they are settled on the same day. Therefore from/after the first contractual payment /delivery leg, and if the second leg has not been received by the end of the business day-the bank that has made the payment will treat its exposure as a loan in the same way as it does for other banking book exposure set forth on the standardised approach to credit risk.  
For example: if a bank in Tokyo transfers Yen on day X (Japan Standard Time) and receives corresponding US Dollar via CHIPS on day X (US Eastern Standard Time), the settlement is deemed to take place on the same value date.
- (ii) However, if five business days after the second contractual payment / delivery date the second leg has not yet effectively taken place, the bank that has made the first payment leg will deduct from capital the full amount of the value transferred plus replacement cost, if any. This treatment will apply until the second payment / delivery leg is effectively made.

2.2.27 The Central Bank may use its discretion to waive capital charges in cases of a system wide failure of a settlement or clearing system, until the situation is rectified. Failure by a counterparty to settle a trade in itself will not be deemed a default for purposes of credit risk under this framework.

## **2.3 Methodology and recognition of ECAIs**

### **Responsibility**

- 2.3.1 The capital requirement for credit risk is based on the risk assessment made by External Credit Assessment Institutions (ECAIs) recognized by BNR for capital adequacy purposes. The BNR is responsible for the recognition of any external credit assessment institution (ECAI) whose credit ratings may be used by banks for the purposes of this guideline even though their approval to operate in Rwanda is the responsibility of the Capital Market Authority.
- 2.3.2 Banks are required to assign a risk weight to all their on-balance sheet and off-balance sheet exposures. Risk weights are based on external credit rating (solicited) which is mapped in rating grade or a fixed weight that is provided by BNR.

### **Scope of application of External Ratings**

- 2.3.3 Once approved by the Capital Market Authority, an ECAI willing to provide credit ratings for banks shall apply for recognition by the Central Bank. The list of recognized ECAIs shall be published on the website of the Central Bank.
- 2.3.4 Banks shall use the chosen credit rating agencies and their ratings consistently for each type of claim, for both risk weighting and risk management purposes. Banks will not be allowed to “cherry pick” the assessments provided by different credit rating agencies. If a bank has decided to use the ratings of some of the chosen credit rating agencies for a given type of claim, it can use only the ratings of those credit rating agencies, despite the fact that some of these claims may be rated by other chosen credit rating agencies whose ratings the bank has decided not to use.
- 2.3.5 Banks shall not use one agency’s rating for one corporate bond, while using another agency’s rating for another exposure to the same counter-party, unless the respective exposures are rated by only one of the chosen credit rating agencies, whose ratings the bank has decided to use.
- 2.3.6 Banks shall use solicited ratings from eligible ECAIs in the table below. The Central Bank may, however, allow banks to use unsolicited /internal credit risk ratings in the same way as solicited ratings if they are satisfied that the credit assessments of unsolicited/internal credit risk ratings are not inferior in quality to the general quality of solicited ratings. To be used for rating purposes by the bank, internal credit risk ratings shall have a Probability of Default (PD) corresponding to a credit rating that are comparable to the general quality of solicited ratings.

**Table 3. Mapping of ECAIs ratings to credit quality grades**

Eligible ECAIs rating grades		Fitch	Moody's	S&P
Mapping to credit quality steps - Long term credit assessment	1	AAA to AA-	Aaa to Aa3	AAA to AA-
	2	A+ to A-	A1 to A3	A+ to A-
	3	BBB+ to BBB-	Baa1 to Baa3	BBB+ to BBB-
	4	BB+ to BB-	Ba1 to Ba3	BB+ to BB-
	5	B+ to B-	B1 to B3	B+ to B-
	6	CCC+ and below	Caa1 and below	CCC+ and below
		Unrated	Unrated	Unrated
Mapping to credit quality steps - Short term credit assessment	1	F1+ to F1	P-1	A-1+ to A-1
	2	F2	P-2	A-2
	3	F3	P-3	A-3
	4	below F3	NP	below A-3
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Note:

- Any other ECAIs that will have gotten approval from CMA shall be taken into consideration by mapping its ratings to credit quality steps as indicate above.
- Banks must disclose the names of the credit rating agencies that they use for the risk weighting of their assets, the risk weights associated with the particular rating grades as determined by BNR through the mapping process for each eligible credit rating agency.
- Restrictions on the use of inferred assessments:** Credit rating for one entity within a corporate group cannot be used to risk weight other entities within the same group i.e. each entity within a same corporate group needs to get credit rating individually.
- Credit assessments may be used for determining rating grades only if they have been solicited from a rating agency, and paid for, by: (a) the issuer or rated counterparty; or (b) a commercial associate of the issuer or rated counterparty.
- Issuer vs issue assessment:** When a rating agency has produced an issue-specific credit assessment of a claim, the rating grade for the claim is determined by the issue-specific credit assessment of that claim. Where a bank invests in a particular issue that has an issue-specific assessment the risk weight of the claim will be based on this assessment. Otherwise, bank may use issuer rating for that specific issue.
- Credit assessment of the issuer:** In circumstances where the borrower has a high quality credit assessment, which applies to senior unsecured claims on that issuer; then other unassessed claims of a highly assessed issuer will be treated as unrated. However, If either

that issuer or a single issue has a low quality assessment (with a risk weight equal to or higher than that which applies to unrated claims), then an unassessed claim on the same issuer will be assigned the same risk weight as is applicable to the low quality assessment.

- **Short & Long term assessments:** A credit assessment of a short-term claim cannot be used to determine the rating grade for a long-term claim, except as specifically provided for. For the purposes of these requirements a long-term issuer credit assessment is to be treated as a credit assessment of a senior unsecured long-term claim on the issuer.
  - For risk-weighting purposes, short-term rating is a probability factor of an individual going into default within a year. This is in contrast to long-term rating which is evaluated over a long timeframe.
  - Short-term assessments are deemed to be issue-specific and may only be used for short-term (within 12 months original maturity) claims against banks (local as well as foreign) and corporate. They cannot be generalized to other short-term claims. Otherwise, it will be considered as ‘unrated’ status.
  - If an issuer has a long-term exposure with an external long term rating that warrants a risk weight of 150 per cent, all unrated claims on the same counter-party, whether short-term or long-term, shall also receive a 100 per cent risk weight or as specified otherwise, unless the bank uses recognized credit risk mitigation techniques for such claims.
  - An unassessed claim is a claim for which no issue-specific credit assessment has been produced by a rating agency that is listed.
- **Multiple assessments:** If there are two assessments by ECAs chosen by a bank which map into different risk weights, the higher risk weight will be applied. If there are three or more assessments with different risk weights, the assessments corresponding to the two lowest risk weights shall be referred to and the higher of those two risk weights will be applied.

### Criteria for recognising ECAs

2.3.7 An ECAI to be eligible for recognition must satisfy the at least 6 criteria, described below:

- a) **Objectivity:**
  - (i) The methodology for assigning credit assessments must be rigorous, systematic, and subject to some form of validation based on historical experience.
  - (ii) Moreover, assessments must be subject to ongoing review and responsive to changes in financial condition. Before being recognized by supervisors, an assessment methodology for each market segment, including rigorous back testing, must have been established for at least one year and preferably three years.
- b) **Independence:**

An ECAI shall be independent and shall not be subject to political or economic pressures that may influence the rating. The assessment process shall be as free as possible from any constraints that could arise in situations where the composition of the board of directors or the shareholder structure of the assessment bank may be seen as creating a conflict of interest.
- c) **International access/Transparency:**

The individual assessments, the key elements underlying the assessments and whether the issuer participated in the assessment process, shall be publicly available on non-selective basis, unless they are private assessments. In addition, the general procedures, methodology and assumptions for arriving at assessments used by the ECAI shall be publicly available.

d) ***Disclosure:***

An ECAI shall disclose the following information: its code of conduct; the general nature of its compensation arrangements with assessed entities; assessment methodologies, including the definition of default, the time horizon, and the meaning of each rating; the actual default rates experienced in each assessment category; and the transitions of the assessments, e.g. the likelihood of AA credit ratings becoming A over time.

e) ***Resources:***

An ECAI shall have sufficient resources to carry out high quality credit assessments. These resources shall allow for substantial ongoing contact with senior and operational levels within the entities assessed in order to add value to the credit assessments. Such assessments shall be based on methodologies combining qualitative and quantitative approaches.

f) ***Credibility:***

To some extent, credibility is derived from the criteria above. In addition, the reliance on an ECAI's external credit assessments by independent parties (investors, insurers, trading partners) is evidence of the credibility of the assessments of an ECAI. The credibility of an ECAI is also underpinned by the existence of internal procedures to prevent the misuse of confidential information. In order to be eligible for recognition, an ECAI does not have to assess firms in more than one country.

## **2.4 Credit risk mitigation**

### **General requirements for credit risk mitigation**

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

- 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 ongoing enforceability.
- b) The legal mechanism by which collateral is pledged or transferred must ensure that the bank has the right to liquidate or take legal possession of it, in a timely manner, in the event of the default, insolvency or bankruptcy of the counterparty (and, where applicable, of the custodian holding the collateral). A bank shall take all steps necessary to fulfill requirements under the law applicable to the bank's interest in the collateral for obtaining and maintaining an enforceable security interest, i.e. by registering, or for exercising a right to net or set off in relation to title transfer collateral.
- c) The credit quality of the counterparty and the value of the collateral must not have a material positive correlation, e.g. securities issued by the counterparty of the credit exposure (or by



any person or entity related or associated with the counterparty) would provide little protection and would therefore not be eligible collateral.

- d) Banks 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) With the exception of cash collateral, collateral must be held by an independent custodian, or an equally independent third party, or by the bank. 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) 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.
- g) The bank must satisfy to Central Bank that it has adequate risk management processes to control those risks to which the bank may be exposed as a result of carrying out credit risk mitigation practices.
- h) Banks must ensure that sufficient resources are devoted to the orderly operation of margin agreements with OTC derivative and securities-financing counterparties, as measured by the timeliness and accuracy of its outgoing calls and response time to incoming calls.

2.4.2 Notwithstanding that credit risk mitigation has been taken into account for the purposes of calculating risk-weighted assets, banks shall continue to undertake full credit risk assessment of the underlying exposure and be in a position to demonstrate the fulfillment of this requirement to the BNR.

2.4.3 The effects of credit risk mitigation must not be double counted. Therefore no additional recognition of credit risk mitigation is permitted for claims with an issue-specific rating that already takes into account credit risk mitigation.

2.4.4 Credit risk mitigation techniques are recognized under this guideline only if they meet the requirements set out in this section. Only recognized credit risk mitigation techniques may be taken into account in determining the risk weight for an exposure.

2.4.5 No transaction in which recognised credit risk mitigation techniques are used shall receive a higher capital requirement than the same transaction where such techniques are not used.

2.4.6 No transaction in which Credit Risk Mitigation techniques are used shall receive a higher capital requirement than an otherwise identical transaction where such techniques are not used.

## **The Approach for credit risk mitigation**

- 2.4.7 For banking book exposures, the bank shall adopt the simple approach and apply the chosen approach to all banking book exposures where recognised credit risk mitigation techniques have been used.
- 2.4.8 In the simple approach, the risk weight of the mitigant is substituted for the risk weight of the counterparty for the collateralized portion of an exposure (generally subject to a risk weight floor of 20%). The uncollateralized portion of a claim will be assigned to the risk weight appropriate to the counterparty.
- 2.4.9 Under the simple approach, the substitution method is used for eligible collateral, guarantees and credit derivatives, adjusted where applicable to take account of currency or maturity mismatches.

## **Credit Mitigation Techniques**

- 2.4.10 Banks may use a number of techniques to mitigate the credit risks to which they are exposed.
- 2.4.11 Credit risk mitigation techniques may be used for the purposes of determining risk weights only if the following documentation requirements are met:
- a) The documentation used for credit risk mitigation must be binding on all parties and legally enforceable in all relevant jurisdictions.
  - b) The enforceability of the documentation must be verified through periodic legal reviews.
- 2.4.12 The following credit risk mitigants are recognised under this framework:
- a) collateral posted by a counterparty or by a third party on behalf of the counterparty;
  - b) guarantees; and
  - c) credit derivatives.
  - d) Repo/reverse repo transactions

## **Collateralized transactions**

- 2.4.13 A collateralized transaction is one in which:
- a) banks have a credit exposure or potential credit exposure; and
  - b) that credit exposure or potential credit exposure is hedged in whole or in part by collateral posted by a counterparty or by a third party on behalf of the counterparty.
- The forms of collateral eligible for credit risk mitigation are financial collateral (cash or securities):
1. *Cash and Gold*
    - a) cash on deposit with the lender;
    - b) a certificate of deposit or other similar instrument issued by the lender;
    - c) Gold
  2. *Rated debt securities*

A debt security that has an issue-specific rating agency assessment and is either—

    - a) a claim on a sovereign, central banks, multilateral development bank or other international organization, public sector entity, bank or corporate that has which

securities have a credit assessment by an eligible ECAI or export credit agency, which has been determined by the BNR to be associated with credit quality a rating grade of 1, 2, or 3 or a risk weighting of 0%; or

- b) a long-term claim on a sovereign that has a rating grade of 1, 2, 3, or 4;

3. *Unrated debt securities*

Debt securities issued by institutions which securities do not have a credit assessment by an eligible ECAI may be recognised as eligible collateral if they fulfil the following criteria

- a) issued by another bank; and
- b) listed on a recognized exchange; and
- c) classified as senior debt; and
- d) issued by a bank that has other rated issues of the same seniority which have a rating grade of 1, 2, or 3.
- e) the bank will need to seek the approval of the BNR before recognizing such instruments as eligible collateral.

4. *Equity securities*

An equity security that is included in the Rwanda Stock Exchange (RSE) or an overseas equivalent.

- a) Equities (including convertible bonds) that are included in a main index. (These include equities in RSE).
- b) Undertakings for Collective Investment in Transferable Securities (UCITS) and mutual funds where
  - (i) a price for the units is publicly quoted; and
  - (ii) the UCITS/mutual fund is limited to investing in instruments listed above.

- 2.4.14 A capital charge will be applied to banks on either side of the collateralized transaction: for example, both repos and reverse repos will be subject to capital charges. Likewise, both sides of a securities lending and borrowing transaction will be subject to explicit capital charges, as will the posting of securities in connection with a derivative exposure or other borrowing.

### **Collateral requirements**

- 2.4.15 Under the simple approach for credit risk mitigation, collateral is recognised for credit risk mitigation purposes only if:

- a) the collateral is pledged for at least the life of the exposure, and
- b) is marked to market with a minimum frequency of 6 monthly.
- c) The release of collateral must be conditional on the repayment of the exposure. However, collateral may be reduced in proportion to the amount of any reduction in the exposure amount.

- 2.4.16 A collateral is recognized for credit risk mitigation purposes if the following requirements are also met:

- a) **Low correlation.**

The credit quality of the obligor and the value of the collateral must not have a material positive correlation.

Securities issued by the counterparty or any person related to, or associated with, the counterparty, or by any other person whose credit quality has a material positive correlation with the credit quality of the original counterparty, are not eligible for recognition under this framework.

**b) Legal certainty**

- (i) Banks shall ensure that there must be a formal written contractual agreement between the lender (or party holding the claim) and the party lodging the collateral which establishes the lender's direct, explicit, irrevocable and unconditional recourse to the collateral.
- (ii) Banks shall fulfil any contractual and statutory requirements in respect of, and take all steps necessary to ensure, the enforceability of the collateral arrangements under the law applicable to their interest in the collateral. That is lender has the right to liquidate or take legal possession of it immediately in the event of the default, insolvency, statutory management, voluntary administration, receivership, or bankruptcy of the counterparty or custodian of the collateral, or where any other credit event permitting enforcement of collateral occurs.
- (iii) Banks shall have conducted sufficient legal review confirming the enforceability of the collateral arrangements in all relevant jurisdictions.
- (iv) They shall re-conduct such review as necessary to ensure continuing enforceability.

**c) Operational requirements**

- (i) The collateral arrangements shall be properly documented, with a clear and robust procedure for the timely liquidation of collateral.
- (ii) Banks shall employ robust procedures and processes to control risks arising from the use of collateral — including risks of failed or reduced credit protection, valuation risks, risks associated with the termination of the credit protection, concentration risk arising from the use of collateral and the interaction with the bank's overall risk profile.
- (iii) The bank shall have documented policies and practices concerning the types and amounts of collateral accepted.
- (iv) Banks shall calculate the market value of the collateral, and revalue it accordingly, with a minimum frequency of once every six months and whenever the bank has reason to believe that there has occurred a significant decrease in its market value.
- (v) Where the collateral is held by a third party, the bank must take reasonable steps to ensure that the third party segregates the collateral from its own assets.
- (vi) The residual maturity of the protection must be at least as long as the residual maturity of the exposure.

- (vii) The lender must take all steps necessary to fulfil requirements under the law applicable to its interest in the collateral for obtaining and maintaining an enforceable security interest. This includes clear and robust procedures for the immediate 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.
- (viii) Cash collateral must be lodged with the lender. If cash collateral is in the form of a certificate of deposit or bank bill issued by the lender, the lender must retain physical possession of the instrument until the collateral obligations have been extinguished.
- (ix) Other forms of collateral (i.e. non-cash collateral) must be held by an independent custodian or third party or by the lender. If the collateral is held by someone other than the lender, the lender must ensure that the custodian segregates the collateral from its own assets.
- (x) If collateral is held by a third party, the third party must indemnify or guarantee the borrower's obligations to the lender in a way that is legally robust.

### **Guarantees**

- 2.4.17 Banks are permitted to take account of such credit protection in calculating capital requirements where guarantees are direct, explicit, irrevocable, legally enforceable and unconditional.
- 2.4.18 A range of guarantors and protection providers are recognized. Only guarantees provided by the following are recognised under this guideline:
  - a) Sovereigns, sovereign entities (including BIS, IMF, European Central Bank and European Community as well as those MDBs referred to in this guideline), banks and primary dealers with a lower risk weight than the counterparty;
  - b) Corporates, financial companies (including insurance companies) and other entities with a rating grade of 1 or 2 in the standardized approach or better. This would include guarantee cover provided by parent, subsidiary and affiliate companies when they have a lower risk weight than the obligor. The rating of the guarantor shall be an entity rating which has factored in all the liabilities and commitments (including guarantees) of the entity.
- 2.4.19 A substitution approach will be applied whereby only guarantees issued by or protection provided by entities with a lower risk weight than the counterparty under the standardized approach to credit risk will lead to reduced capital charges, since the protected portion of the counterparty exposure is assigned the risk weight of the guarantor or protection provider, whereas the uncovered portion retains the risk weight of the underlying counterparty.

### **Minimum requirements for guarantees and counter-guarantees**

- 2.4.20 For the credit protection deriving from a guarantee to be recognized the following conditions shall be met:
  - a) the credit protection shall be direct;
  - b) the extent of the credit protection shall be clearly defined and incontrovertible;

- c) the credit protection contract shall not contain any clause, the fulfillment of which is outside the direct control of the lender, that:
  - (i) would allow the protection provider unilaterally to cancel the protection;
  - (ii) would increase the effective cost of protection as a result of deteriorating credit quality of the protected exposure;
  - (iii) could 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.
  - (i) The guarantee is an explicitly documented obligation assumed by the guarantor;
  - (ii) On the qualifying default/non-payment of the counterparty, the bank may in a timely manner pursue the guarantor for any monies outstanding under the documentation governing the transaction. The guarantor may make one lump sum payment of all monies under such documentation to the bank, or the guarantor may assume the future payment obligations of the counterparty covered by the guarantee. 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;
- e) The guarantee must cover all types of payment the obligor is required to make under the documentation including interest, margin payments etc. Where the guarantee covers payment of principal only, interests and other uncovered payments shall be treated as an unsecured amount.
- f) Where an exposure is protected by a guarantee which is counter-guaranteed by a central government or central bank, a regional government or local authority, a public sector entity, claims on which are treated as claims on the central government in whose jurisdiction they are established, a multi-lateral development bank to which a 0 % risk weight is assigned, or a public sector entity, claims on which are treated as claims on banks, the exposure may be treated as protected by a guarantee provided by the entity in question, provided the following conditions are satisfied:
  - (i) the counter-guarantee covers all credit risk elements of the claim;
  - (ii) both the original guarantee and the counter-guarantee meet the requirements for guarantees set out in this section, except that the counter-guarantee need not be direct; and
  - (iii) the Central Bank is satisfied that the cover is robust and that nothing in the historical evidence suggests that the coverage of the counter-guarantee is less than effectively equivalent to that of a direct guarantee by the entity in question.

## Credit derivatives

- 2.4.21 The following credit derivatives are recognised under this guideline:
- a) Single name credit default and total rate of return swaps that provide credit protection equivalent to guarantees. However, where a bank buys credit protection through a total return swap and records the net value of the asset that is protected (either through reductions in fair value or by an addition to reserves), the credit protection will not be recognised.
  - b) Cash-funded credit-linked notes issued by the bank against exposures in the banking book which fulfil the criteria for credit derivatives are treated as cash collateralised transactions.
- 2.4.22 For a credit derivative to be recognized for credit risk mitigation purposes, the following conditions must be met:
- a) It must represent a direct claim on the protection provider and must be explicitly referenced to specific exposures or a pool of exposures so that the extent of cover is clearly defined and incontrovertible.
  - b) The protection provider must not be a connected person of the bank.
  - c) It must be irrevocable. There must be no clause that would allow the protection provider to cancel cover unilaterally or that would increase the effective cost of cover as a result of deteriorating credit quality in the hedged exposure.
  - d) It must be unconditional. There shall be no clause in the contract that could prevent the protection provider from being obliged to pay out immediately in the event that the original counterparty fails to make the payments due.
  - e) There must be sufficient credit risk transfer under the credit derivative contract. At a minimum this requires that credit events under the terms of the credit derivative contract cover:
    - (i) Failure to pay an amount due under the terms of the underlying exposure that is 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) The bankruptcy, insolvency, statutory management, administration or receivership of the obligor of the underlying exposure; the inability or failure of the obligor to pay its debts; the obligor's admission in writing that it is unable to pay its debts as those debts become due; or analogous events.
    - (iii) The restructuring of the underlying obligation including forgiveness or postponement of principal, interest, or fees that results in a credit loss event (i.e. charge off, allowance for impairment or similar debit to the profit and loss account). However, where the restructuring of the underlying exposure is not included within the terms of the contract but all other requirements for credit risk transfer are met, 60% of the amount of credit protection purchased or 60% of the underlying exposure, whichever is the lesser, may be recognized for capital adequacy purposes.
  - f) No mismatch between credit risk hedges and the corresponding exposure. Mismatches refer to differences in amounts, maturities, or currencies between the exposure and the hedge.
  - g) The credit derivative must not terminate prior to the expiration of any grace period required for a default on the underlying obligation to occur as a result of a failure to pay.

- 2.4.23 For credit risk mitigation purposes, credit derivatives, with the exception of cash-funded credit-linked notes, are treated in a similar manner to guarantees. This means that where an underlying exposure is protected by a credit derivative from an eligible protection seller, the portion of the claim that is protected by the credit derivative may be weighted according to the risk weight appropriate to the protection seller. The unprotected portion of the exposure must be risk weighted according to the risk weight of the counterparty.

#### **Repo and reverse repo**

- 2.4.24 Banks are permitted to take Repo and reverse repo transactions on account of credit protection in calculating capital requirements where:
- a) are carried out with a Government of Rwanda, National Bank of Rwanda and banks.
  - b) the transaction is settled across a settlement system proven for that type of transaction.
  - c) the documentation covering the agreement is standard market documentation for repo-style transactions in the securities concerned.
  - d) 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.
  - e) 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
  - f) allow for the prompt liquidation or set-off of collateral upon the event of default; and
  - g) be, together with the rights arising from the provisions required in (d) to (f) above, legally enforceable in each relevant jurisdiction upon the occurrence of an event of default and regardless of the counterparty's insolvency or bankruptcy.

#### **Calculating the effect of credit risk mitigation on RWAs**

- 2.4.25 Those portions of claims protected by credit risk mitigant shall exceptionally receive low risk weights. The exceptions to the 20% floor on risk-weight floor are:
- a) A risk weight of 0% shall be assigned where the exposure and the collateral are denominated in the same currency, and either:
    - (i) the collateral is gold or cash on deposit with or an equivalent instrument such as a certificate of deposit issued by the bank; or
    - (ii) the collateral is in the form of securities eligible for a 0 % risk weight, and its market value has been discounted.
  - b) Over the counter derivative transactions in the banking book shall be risk-weighted at 0 % where:
    - (i) they are subject to daily mark-to-market;
    - (ii) they are fully collateralised by cash; and
    - (iii) there is no currency mismatch.
  - c) Such transactions collateralised by sovereign securities qualifying for a risk weight of 0% in the standardised approach shall receive a risk weight of 0%.



- d) Repurchase/reverse repurchase transaction which fulfil the criteria in paragraph 2.4.24, may receive a risk-weight of 0%. If the counterparty to the transactions is not a core market participant, the transaction shall be risk-weighted at 10 %. By core market participants include: Central Government and the National Bank of Rwanda; local and foreign banks.
- e) Credit derivatives and guarantees transaction shall be receive risk weight of 20% provided the requirements in paragraph 2.4.22 for credit derivatives and paragraph 2.4.20 for guarantees and section are fulfilled.

Capital risk charge for on and off-balance sheet portfolio is calculated as illustrated in Annex V and VI.

### **Treatment of pools of credit risk mitigation techniques**

- 2.4.26 Where a bank has multiple credit risk mitigation techniques covering a single exposure (e.g. where both eligible collateral and guarantee partially cover an exposure), the bank will be required to divide the exposure into portions covered by each type of credit risk mitigation technique. The risk-weighted assets of each portion must be calculated separately.

## **3. CAPITAL REQUIREMENTS FOR MARKET RISK**

### **3.1 Introduction**

- 3.1.1 This part sets out the methodology for measuring capital requirements for market risk exposure.
- 3.1.2 The methodology measures potential exposure to economic losses arising from adverse movements in interest rates, equity prices and exchange rates, in addition to capital requirements for credit and operational risks.
- 3.1.3 The market risk positions subject to capital charge requirement are:
  - a) The risks pertaining to interest rate related instruments and equities in the trading book; and
  - b) Foreign exchange risk and commodities (including open position in precious metals) throughout the bank (both banking and trading books).
- 3.1.4 On-balance sheet assets held in the trading book are subject to only the market risk capital requirements. On-balance sheet assets held outside the trading book and funded by another currency and unhedged for foreign exchange exposure are subject to both the market risk (i.e., foreign exchange) and credit risk capital requirements.
- 3.1.5 Derivative, repurchase/reverse repurchase, securities lending and other transactions booked in the trading book are subject to both the market risk and the counterparty credit risk capital requirements. This is because they face the risk of loss due to market fluctuations in the value of the underlying instrument and due to the failure of the counterparty to the contract. The counterparty risk weights used to calculate the credit risk capital requirements for these transactions must be consistent with those used for calculating the capital requirements in the banking book.
- 3.1.6 Positions held with trading intent are those held intentionally for short-term resale and/or with the intent of benefiting from actual or expected short-term price movements or to lock in arbitrage

profits and may include, for example, proprietary positions, positions arising from client servicing (e.g. matched principal broking), and market making.

### **3.2 Governance and management of market risk**

- 3.2.1 Banks are also required to maintain strict risk management systems to monitor and control intra-day exposures to market risks.
- 3.2.2 The board of directors of the bank shall approve a broad risk management policy that pertains to risks arising from adverse movements in market prices. In this regard, the board bears responsibility for the establishment of an adequate management framework that is consistent with the policies and strategies as defined in the market risk management policy.
- 3.2.3 Banks must have clearly defined policies and procedures for valuation of investments and determining which exposures to include in, and exclude from, the trading book for the purpose of calculating their regulatory capital.
- 3.2.4 Compliance with these policies and procedures must be fully documented and subject to periodic Internal audit.
- 3.2.5 The minimum set of key points that must be addressed by the policies and procedures for overall management of a firm's trading book:
  - a) The activities the banking corporation considers to be trading and as constituting part of the trading book for regulatory capital purposes;
  - b) The extent to which an exposure can be marked-to-market daily by reference to an active, liquid two-way market;
  - c) The extent to which the banking corporation can and is required to generate valuations for the exposure that can be validated externally in a consistent manner;
  - d) The extent to which legal restrictions or other operational requirements would impede the banking corporation's ability to effect an immediate liquidation of the exposure;
  - e) The extent to which the banking corporation is required to, and can, actively risk manage the exposure within its trading operations; and
  - f) The extent to which the banking corporation may transfer risk or exposures between the banking and the trading books, and criteria for such transfers.
- 3.2.6 Banks are required to manage the market risks in their books on an ongoing basis and ensure that the capital requirements for market risks are being maintained on a continuous basis, i.e. at the close of each business day.
- 3.2.7 In addition, positions shall be frequently and accurately valued, and the portfolio shall be actively managed.
- 3.2.8 Capital for market risk would not be relevant for securities, which have already matured and remain unpaid. These securities will attract capital only for credit risk. On completion of 90 days delinquency, these will be treated on par with NPAs for deciding the appropriate risk weights for credit risk.

### **3.3 Eligibility for trading book**

- 3.3.1 A trading book consists of positions in financial instruments and commodities held either with trading intent or in order to hedge other elements of the trading book. To be eligible for trading

book capital treatment, financial instruments must either be free of any restrictive covenants on their tradability or able to be hedged completely.

3.3.2 Trading book for the purpose of capital adequacy will include:

- (i) Securities included under the Held for Trading category
- (ii) Securities included under the Available for Sale category
- (iii) Open gold position limits
- (iv) Open foreign exchange position limits
- (v) Trading positions in derivatives, and
- (vi) Derivatives entered into for hedging trading book exposures.

3.3.3 The following are the basic requirements in order for positions to be eligible to receive trading book capital treatment:

- a) Financial instruments must be free of any restrictive covenants on their tradability and be able to be hedged completely. In addition, positions shall be frequently and accurately valued, and the portfolio shall be actively managed.
- b) Positions held with trading intent are those held intentionally for short-term resale and/or with the intent of benefiting from actual or expected short-term price movements or to lock in arbitrage profits, and may include for example proprietary positions, positions arising from client servicing (e.g. matched principal broking) and market making.
- c) In relation to positions eligible to receive trading book capital treatment, a bank shall ensure that the following are in place:
  - 1) well documented trading strategy for the position/instrument or portfolios, approved by senior management (which would include expected holding horizon);
  - 2) clearly defined policies and procedures for the active management of the position, which must require that:
    - (i) positions be managed on a trading desk;
    - (ii) position limits are set and monitored for appropriateness;
    - (iii) dealers have the autonomy to enter into/manage the position within agreed limits and according to the agreed strategy;
    - (iv) positions are marked to market at least daily and when marking to model the parameters must be assessed on a daily basis;
    - (v) positions are reported to senior management as an integral part of the bank's risk management process; and
    - (vi) positions are actively monitored with reference to market information (assessment shall be made of the market liquidity or the ability to hedge positions or the portfolio risk profiles). This would include assessing the

quality and availability of market inputs to the valuation process, level of market turnover, sizes of positions traded in the market, etc.

- 3) clearly defined policy and procedures to monitor the positions against the bank's trading strategy (including the monitoring of turnover and stale positions (up to one year) in the bank's trading book).
- d) The bank must have an established policy for allocating transactions (including internal deals) to the trading or non-trading (i.e. banking) book, as well as procedures to ensure compliance with such policy.
- e) There must be a clear audit trail at the time each transaction is entered into.
- f) The Central Bank will examine the adequacy of such policy and procedures and their consistent implementation. For this purpose, a bank which engages in trading activities shall annually submit to the Central Bank a policy statement covering:
  - (i) the definition of trading activities;
  - (ii) the financial instruments which can be traded or used for hedging the trading book portfolios; and
  - (iii) the principles for transferring positions between the trading and the banking books.
- g) A bank must ensure that there is no abusive switching between books
- h) The Central Bank shall deem transactions to carry a trading intent on the part of the bank if:
  - (i) the positions arising therefrom are marked to market on a daily basis as part of the internal risk management process;
  - (ii) the positions are not, or not intended to be, held to maturity; and the positions satisfy other criteria the banking bank applies on its trading portfolio.

3.3.4 Notwithstanding these requirements for trading book, open equity investments in hedge funds, private equity investments do not meet the definition of the trading book, owing to significant constraints on the ability of institutions to liquidate these positions and value them reliably on a daily basis.

3.3.5 Banks shall closely monitor securities, commodities, and foreign exchange transactions that have failed, starting the first day they fail. A capital charge for failed, unsettled securities, commodities, and foreign exchange transactions that are not processed through a delivery-versus-payment (DvP) or payment-versus-payment (PvP) mechanism shall be calculated in accordance with paragraph 2.2.26 – Settlement Risk.

3.3.6 Other eligibility criteria for specific instruments include;

- a) Internal Hedges: When a bank hedges a banking book credit risk exposure using a credit derivative booked in the trading book (i.e. using an internal hedge), the banking book exposure is not deemed to be hedged for capital purposes unless the bank purchases, from an eligible

third-party protection provider, a credit derivative meeting the requirements of section 2.4 – Credit Risk Mitigation. Where such third-party protection is purchased and is recognized as a hedge of a banking book exposure for regulatory capital purposes, neither the internal nor external credit derivative hedge would be included in the trading book for regulatory capital purposes.

- b) Regulatory Capital Instruments: Positions in a bank's own eligible regulatory capital instruments are deducted from capital. Positions in other bank's, securities firm's, and other financial entity's eligible regulatory capital instruments, as well as intangible assets, will receive the same treatment as stipulated under this guideline for such assets held in the banking book.
- c) Repo-style Transactions: Term trading-related repo-style transactions that a bank accounts for in its banking book may be included in the bank's trading book for regulatory capital purposes so long as all such repo-style transactions are included. For this purpose, trading-related repo-style transactions are defined as only those that meet the requirements of this section and for which both legs are in the form of either cash or securities eligible for inclusion in the trading book. Regardless of where they are booked, all repo-style transactions are subject to a banking book counterparty credit risk charge.

### **3.4 Prudent valuation guidance**

- 3.4.1 Banks are required to mark to market their trading positions on a daily basis. This may equate to the application of Mark-to-market or fair value accounting of positions.
- 3.4.2 Banks calculating the capital requirement for market risk must meet conditions for the prudent valuation of positions in the trading book set out below.
- 3.4.3 This guidance is especially important for positions without actual market prices or observable inputs to valuation, as well as less liquid positions, which raise supervisory concerns about prudent valuation. The valuation guidance set forth below is not intended to require banks to change valuation procedures for financial reporting purposes. Supervisors shall assess a bank's valuation procedures for consistency with this guidance. That assessment will determine whether a bank must take a valuation adjustment for regulatory purposes.
- 3.4.4 A framework for prudent valuation practices shall at a minimum include components described below:

#### **a) Systems and Controls**

- 3.4.5 Banks must establish and maintain adequate systems and controls sufficient to give the management and the Bank's supervisors the confidence that valuation estimates are prudent and reliable. These systems must be integrated with other risk management systems within the organisation (such as credit analysis). Such systems must be supported by:
  - (i) Board-approved policies and procedures on valuation process. This includes clearly defined responsibilities of the various parties involved in the valuation process, sources of market information and review of their appropriateness, frequency of independent valuation,

- method of determining closing prices, procedures for adjusting valuations, end of the month and ad-hoc verification procedures; and
- (ii) Clear and independent (i.e. independent of front office) reporting lines for the department accountable for the valuation process.

**b) Valuation methodologies**

- 3.4.6 Marking-to-market is at least the daily valuation of positions at readily available close out prices that are sourced independently. Examples of readily available close out prices include exchange prices, screen prices, or quotes from several independent reputable brokers.
- 3.4.7 Banks must mark-to-market as much as possible. The more prudent side of the bid/offer shall be used unless the institution is a significant market maker in a particular position type and it can close out at mid-market. Banks shall maximise the use of relevant observable inputs and minimise the use of unobservable inputs when estimating fair value using a valuation technique. However, observable inputs or transactions may not be relevant, such as in a forced liquidation or distressed sale, or transactions may not be observable, such as when markets are inactive. In such cases, the observable data shall be considered, but may not be determinative.

**c) Independent price verification**

- 3.4.8 Independent price verification is distinct from daily mark-to-market. It is the process by which market prices are regularly verified for accuracy. While daily marking-to-market may be performed by dealers, verification of market prices shall be performed by a unit independent of the dealing room, at least monthly (or, depending on the nature of the market/trading activity, more frequently). It need not be performed as frequently as daily mark-to-market, since the objective, i.e. independent, marking of positions, shall reveal any error or bias in pricing, which shall result in the elimination of inaccurate daily marks.
- 3.4.9 Independent price verification entails a higher standard of accuracy in that the market prices or model inputs are used to determine profit and loss figures, whereas daily marks are used primarily for management reporting in between reporting dates. For independent price verification, where pricing sources are more subjective, e.g. only one available broker quote, prudent measures such as valuation adjustments may be appropriate.

**d) Valuation adjustments**

- 3.4.10 Banks must establish and maintain procedures for considering valuation adjustments which shall be deducted in the calculation of CET1 Capital. The following valuation adjustments shall be formally considered where relevant: unearned credit spreads, close-out costs, operational risks, early termination, investing and funding costs, future administrative costs.
- 3.4.11 In addition, banks shall consider the need for establishing an appropriate adjustment for less liquid positions. The appropriateness of the adjustments shall be subjected to an ongoing review. Reduced liquidity could arise from structural and/or market events. In addition, close-out prices for concentrated positions and/or stale positions are more likely to be adverse. Banks shall, at the minimum, consider several factors when determining whether valuation adjustment is necessary for less liquid items. These factors include the amount of time it would take to hedge out the risks

within the position, the average volatility of bid/offer spreads, the availability of market quotes (number and identity of market makers), and the average and volatility of trading volumes.

### **3.5 Derogation for small trading book business (“de minimis”)**

- 3.5.1 The capital charges in respect of instruments relating to interest rates and to equities shall not apply provided that the size of their business (on and off-balance sheet trading-book);
- (i) does not ordinarily exceed 5 % of the bank’s total business (on and off-balance sheet) and the total positions of the trading book business does not exceed Rwf 500 million, and;
  - (ii) its overall net open foreign exchange position does not exceed 2% of its Total capital.
- 3.5.2 In order to calculate the ratios of the trading book business to the bank’s total business, both the balance sheet business and the off-balance sheet business shall be summed. For this purpose, bonds will be taken at their market value or their par value, equities will be taken at their market value, and derivatives will be taken at their market value or the par value of their underlying assets. Long positions and short positions will be summed without regard to their signs.
- 3.5.3 However, the bank must include the relevant trading book positions in the calculation of capital requirements for credit risk as counterparty credit risk.

### **3.6 Standardised Approach for Market risk**

- 3.6.1 Banks are required to determine capital charge for Market risk by using the standardized approach.
- 3.6.2 Under this approach, banks are to calculate their total capital requirement using a “building-block” approach, by summing up the individual capital requirements for the four various categories of market risk (interest rate risk, equity risk, foreign exchange risk and commodity price risk).
- 3.6.3 Within the interest rate and equity position risk categories, separate capital charges for specific risk and the general market risk arising from debt and equity positions are calculated. For commodities and foreign exchange, there is only a general market risk capital requirement.
- 3.6.4 In line with its respective internal market risk management policy, every bank is required to review and distinguish all assets and liabilities entries that have to be classified either in the trading book or in its banking book. The methodology proposed under the standardized approach shall therefore become applicable for every bank that holds trading book position exceeding the derogation for small trading book business.
- 3.6.5 For the purpose of determining the overall capital requirements for the bank, the total market risk capital requirement is multiplied by 12.5 (reciprocal of 8% minimum requirement for which the Basel framework is calibrated) to derive the risk weighted assets equivalent.

#### **Measurement of capital charge for interest rate risk**

- 3.6.6 Banks must calculate two separate charges for determining the minimum capital requirement. Instruments in the trading book, such as debt securities of fixed or floating rate and nonconvertible preference shares and other convertible debt that trades like debt securities, will attract a calculation for:
- a) Specific risk of each security, and
  - b) General risk in the portfolio (where long and short positions in different securities or instruments can be offset).

3.6.7 General risk may be calculated using either the ‘Maturity method’ utilizing a maturity ladder or ‘Duration method’, which is considered more accurate and is based on calculating price sensitivity of each position separately.

**a) Calculation of specific risk capital charge**

3.6.8 The specific risk capital charge is calculated by first multiplying the absolute market values of the net positions in the trading book by their respective risk factors. The risk factors, as set out below in Table 4, correspond to the category of the obligor and the residual maturity of the instrument.

3.6.9 Net positions are arrived at by applying permitted offsets of long and short positions in identical issues (including derivative contracts – see paragraph 2.2.17). Even if the issuer is the same, no offsetting is permitted between different issues to arrive at a net holding since differences in currencies, coupon rates, liquidity, call features, etc., mean that prices may diverge in the short run.

**Table 4: Specific risk categories and factors**

Category	External credit assessment grading (referred in the annex)	Residual term to final maturity	Specific risk factors
Government	Government of Rwanda	All	0.00%
	Other governments		
	1	All	0.00%
	2, 3	6 months or less	0.25%
		Greater than 6 months but not exceeding 24 months	1.00%
		Greater than 24 months	1.60%
	4, 5, 6	All	12.00%
	Unrated	All	10%
Qualifying	All	6 months or less	0.25%
		Greater than 6 months but not exceeding 24 months	1.00%
		Greater than 24 months	1.60%
Other	All	All	12.00%



1. The category “*government*” includes all forms of debt instruments (including but not limited to bonds, treasury bills and other short-term instruments) that have been issued by, fully guaranteed by, or fully collateralized by securities issued by:
  - (i) The Government of Rwanda; or
  - (ii) Agents of the Government of Rwanda, whose debts are, by virtue of their enabling legislation, direct obligations of the parent government.
2. The government category also includes all forms of debt instruments that are issued by, fully guaranteed by, or fully collateralized by securities issued by central governments that:
  - (i) Have been rated, and whose rating is reflective of the issuing country’s creditworthiness; or
  - (ii) Are denominated in the local currency of the issuing government, and funded by liabilities booked in that currency.
3. The Central Bank reserves the right to apply a specific risk factor to securities issued by certain foreign governments, especially to securities denominated in a currency other than that of the issuing government.
4. The category of “qualifying” with risk charges between **0.25%** and **1.6%** depend on the residual term to maturity. This category includes:
  - (i) Securities issued by local governments, public sector entities and multilateral development financial banks, or other securities that are deemed to be of comparable investment quality by the reporting bank – the latter to be demonstrated to Central Bank on request.
  - (ii) Debt securities issued by banks in countries rated investment grade (see Table 4) or higher by recognized rating agencies, which have implemented the present Capital Accord. This will be subject to the express understanding that supervisory authorities in such countries undertake prompt remedial action if a bank fails to meet the capital standards set forth in the Accord.
  - (iii) Debt securities issued by corporate entities with securities listed on a recognized stock exchange that is internally classified as pass or special mention.
5. The third category “other” will receive a specific risk charge of 12%. This category will include “non-qualifying” corporate debt (i.e. debt issued by corporate entities that are internally classified substandard) and any other interest rate related securities not covered in other securities described above. For illustration on the calculation of specific risk charge-use Annex VII.

Table 5 provides the minimum ratings constituting investment grade for recognized credit rating agencies (the list of rating agencies may be expanded with agencies recognized by the BNR).

**Table 5: Minimum ratings for investment grade**

Rating agency	Minimum ratings	
	Securities	Money market
Moody's Investors Service (Moody's)	Baa3	P-3
Standard & Poor's (S&P)	BBB-	A-3
Fitch Rating Services (Fitch)	BBB-	F3

**b) Calculation of General market interest rate risk**

3.6.10 Banks are required to measure general market risk exposures using the “**maturity method**”. The capital requirement for general market risk is designed to capture the risk of loss arising from changes in market interest rates. Positions are allocated across a maturity ladder and the capital charge is then calculated as a sum of following four components:

- (i) The net short (short position is not allowed in Rwanda except in derivatives) or long position across the trading book;
- (ii) The basis risk factor: a small proportion of the matched positions in each time-band (the “*vertical disallowance*”);
- (iii) The yield curve risk factor: a larger proportion of the matched positions across different time-bands (the “*horizontal disallowance*”);
- (iv) A net factor for positions in options, where appropriate (see paragraph 3.6.34 to 3.6.41 on the treatment of options).

In this regard, the capital charge will be calculated on the basis of the following considerations:

- a) Bank's underlying trading issues may exist in long or short and both (i.e., related to interest rate derivative/hedge). Where trading issues relate to only long position, then total capital charge is to be calculated using the capital charge weight as stated in Table 6; and
- b) Where any transaction relates to both long and short position (i.e., related to interest rate derivative/hedge) then total capital charges is to be calculated using Table 7 and Table 8.

3.6.11 Techniques of calculating capital charge where any transaction relates to both long and short position (e.g. relate to interest rate derivative/hedge):

- a) Separate maturity ladders shall be used for each currency, and capital charges shall be calculated for each currency separately and then summed, with no offsetting between positions of opposite sign.
- b) Carry forward the net positions in each time-band for 10% vertical disallowance designed to capture basis risk;
- c) Carry forward the net positions in each time-band for horizontal offsetting subject to the disallowances set out in Table 7.

- d) Then the capital charge will be a sum of following components: The net general market risk capital requirement is the sum of the amounts calculated for vertical disallowances plus the amounts horizontal disallowances plus the amount for the net weighted position, multiplied with 12.5% (minimum capital requirements) resulting in the Risk Weighted Asset Equivalent as illustrated in Annex VIII.

The specific steps of calculation using the maturity method are as follows:

- a) The first step is to weight the positions in each time-band by multiplying the corresponding risk weight set in the Table 3. Once all long and short positions are placed into the appropriate time-bands, the long positions in each time-band are summed and the short positions in each time-band are summed.
- b) The summed positions are multiplied by the appropriate risk-weight factor (reflecting the price sensitivity of the positions to changes in interest rates) to determine the risk-weighted long and short market risk positions for each time-band.

**Table 6: Maturity method: zones, time-bands and weight factors**

<b>Zones</b>	<b>Time-bands for coupon 3% or more</b>	<b>Time-bands for coupon less than 3% and zero coupon bonds</b>	<b>Capital charge Risk weight factors (%)</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
1	1 month or less	1 month or less	0.00
	1-3 months	1-3 months	0.20
	3-6 months	3-6 months	0.40
	6-12 months	6-12 months	0.70
2	1-2 years	1-1.9 years	1.25
	2-3 years	1.9-2.8 years	1.75
	3-4 years	2.8-3.6 years	2.25
3	4-5 years	3.6-4.3 years	2.75

5-7 years	4.3-5.7 years	3.25
7-10 years	5.7-7.3 years	3.75
10-15 years	7.3-9.3 years	4.50
15-20 years	9.3 -10.6 years	5.25
over 20 years	10.6-12 years	6.00
	12-20 years	8.00
	over 20 years	12.50
Time bands after decimal represents months i.e 1.9 to be read as 1 year 9 months		

- c) A capital requirement is calculated for the matched weighted position in each time band to address basis risk. The capital requirement is 10% of the matched weighted position in each time band, that is, 10% of the smaller of the risk-weighted long or risk-weighted short position, or if the positions are equal, 10% of either position. For example, if the sum of the weighted longs in a time-band is RWF100 million and the sum of the weighted shorts is RWF90 million, the basis risk charge for the time-band is 10% of RWF90 million, or RWF9 million.
- d) If there is only a gross long or only a gross short position in the time band, a basis risk charge is not calculated. The remainder (i.e., the excess of the weighted long positions over the weighted short positions, or vice versa, within a time band) is called the unmatched weighted position for that time band.
- e) The basis risk charges for each time-band are absolute values, that is, neither long nor short. The charges for all time-bands in the maturity ladder are summed and included as an element of the general market risk capital requirement.
- f) Capital requirements, referred to as the yield curve risk charge, are assessed to allow for the imperfect correlation of interest rates along the yield curve. There are two elements to the yield curve risk charge. The first element is a charge on the matched weighted positions in zones 1, 2 and 3. The second is a capital charge on the matched weighted positions between zones.
  - (i) The matched weighted position in each zone is multiplied by the percentage risk factor corresponding to the relevant zone. The risk factors for zones 1, 2 and 3 are provided in Table 4. The matched and unmatched weighted positions for each zone are calculated as follows. Where a zone has both unmatched weighted long and short positions for various time bands within a zone, the extent to which the one offsets the other is called the matched weighted position for that zone. The remainder (i.e., the excess of the weighted long positions over the weighted short positions, or vice versa, within a zone) is called the unmatched weighted position for that zone.

- (ii) The matched weighted positions between zones are multiplied by the percentage risk factor corresponding to the relevant adjacent zones. The risk factors for adjacent offsetting zones are provided in Table 4.
- (iii) The weighted long and short positions in each of three zones may be offset, so long as the matched portions are attributed a disallowance factor that is part of the capital requirement calculation. The residual net position in each zone may be carried over and offset against opposite positions in adjacent zones, subject to a second set of disallowance factors.
- (iv) To arrive at the matched weighted positions between zones, the unmatched weighted positions of a zone may be offset against positions in other zones as follows.
  - The unmatched weighted long (short) position in zone 1 may offset the unmatched weighted short (long) position in zone 2. The extent to which unmatched weighted positions in zones 1 and 2 are offset is described as the matched weighted position between zones 1 and 2.
  - Then, any residual unmatched weighted long (short) positions in zone 2 may then be matched by offsetting unmatched weighted short (long) positions between zone 2 and zone 3 as provided in Table 5. For example, if the unmatched weighted position for zone 1 was long \$100 and for zone 2 was short (\$200), the capital charge for the matched weighted position between zone 1 and 2 would be 40% of \$100, or \$40. The residual unmatched weighted position in zone 2 (\$100) also could have been carried over to offset a long position in zone 3 and would have attracted a 40% charge.
  - Then, any residual unmatched weighted long (short) positions in zone 1 may then be matched by offsetting unmatched weighted long (short) positions in zone 3. The extent to which the unmatched positions in zones 1 and 3 are offsetting is described as the matched weighted positions between zones 1 and 3.
  - The remaining residual position after all allowable matching has been done attracts a factor of 100%. This residual position is also the overall net open position. It is worth noting that for banks that have only long positions only this factor for the residual position is relevant, as there will be no possibility of doing either horizontal or vertical matching.

**Table 7: Horizontal disallowances**

Zones	Time-bands	Within the zone	Between adjacent zones	Between zones 1 and 3
1	0-1 month	40%	40%	100%
	1-3 months			
	3-6 months			
	6-12 months			
2	1-2 years	30%		
	2-3 years			
	3-4 years			
3	4-5 years	30%	40%	
	5-7 years			
	7-10 years			
	10-15 years			
	15-20 years			
	over 20 years			

**Table 8: Calculation of general market risk**

<b>a) Net weighted position</b>	100% of Net short or long weighted position	100%
<b>b) Vertical disallowances</b>	Sum of 10% of Matched weighted positions in each time bands	10%
<b>c) Horizontal disallowances (Using table no. 4)</b>	Matched weighted position within Time Zone 1	40%

	Matched weighted position within Time Zone 2	30%
	Matched weighted position within Time Zone 3	30%
	Matched weighted position between Time zone 1 & 2	40%
	Matched weighted position between Time zone 2 & 3	40%
	Matched weighted position between Time zone 1 & 3	100%
<b>Total Capital Charge (a+b+c)</b>		

### **Measurement of capital charge for foreign exchange risk**

- 3.6.12 This section sets out a minimum capital standard to cover the risk of holding or taking positions in foreign currencies, including gold.
- 3.6.13 The capital requirement for foreign exchange risk is applied to the entire business, in both the trading and non-trading books for holding or taking positions in foreign currencies, including gold.
- 3.6.14 Banks must calculate a capital charge for foreign exchange risk by computing the net open positions (greater of sum of the net short positions or sum of the net long positions) for currencies and gold. The capital charge would be applied to the higher of the net long positions or the net short positions (including gold).

### **Exemption to capital requirement for foreign currency risk**

- 3.6.15 A bank doing a negligible amount of business in a foreign currency and which does not take foreign exchange positions for its own account is exempted from capital requirements for these positions provided that its foreign currency business, defined as the greater of the sum of its gross long positions and the sum of its gross short positions in all foreign currencies, does not exceed 2% of Total capital.

### **Capital charges for positions in foreign currencies and gold**

- 3.6.16 To calculate the capital charge, banks shall use the “shorthand” method, which treats all currencies equally. Under the shorthand method, the nominal amount (or net present value) of the net position in each foreign currency and in gold is converted into the reporting currency (i.e. RWF) at spot rates. The overall net open position is measured by aggregating:

- a) The sum of the net short positions or the sum of the net long positions, whichever is the greater; plus
  - b) The net position (short or long) in gold, regardless of its sign.
- 3.6.17 The calculated overall net open position is risk weighted 100% (resulting in the Risk weighted Assets Equivalent) and multiplied with the minimum capital requirement (15% for Total Capital including CCB) to arrive at the capital charge for the open currency position.

### **Measuring the exposure in a single currency**

- 3.6.18 Two steps are needed to calculate the capital requirement for foreign exchange risk.
- a) The first is to measure the exposure in a single currency position.
  - b) The second is to measure the risks inherent in a bank's mix of long and short positions in different currencies.
- 3.6.19 The bank's net open position in each currency shall be calculated by summing:
- (i) The net spot position (i.e. all asset items less all liability items, including accrued interest, denominated in the currency in question);
  - (ii) The net forward position (i.e. all amounts to be received less all amounts to be paid under forward foreign exchange transactions, including currency futures and the principal on currency swaps not included in the spot position);
  - (iii) Guarantees (and similar instruments) that are certain to be called and are likely to be irrecoverable;
  - (iv) Net future income/expenses not yet accrued but already fully hedged (at the discretion of the reporting bank);
  - (v) Any other item representing a profit or loss in foreign currencies; and
  - (vi) The net delta-based equivalent of the total book of foreign currency options.
- 3.6.20 Positions in composite currencies need to be reported separately but, when measuring the bank's open positions, may be either treated as a currency in their own right or split into their component parts on a consistent basis.

### **The treatment of interest, other income and expenses**

- 3.6.21 Accrued interest (that is earned but not yet received) shall be included as a position. Accrued expenses shall also be included. Unearned but expected future interest and anticipated expenses may be excluded unless the amounts are certain and the bank has taken the opportunity to hedge them. If the bank includes future income/expenses it shall do so on a consistent basis, and not be permitted to only select expected future flows which reduce its position.



### **The treatment of forward currency positions**

- 3.6.22 Forward currency positions will normally be valued at current spot market exchange rates. Using forward exchange rates would be inappropriate since it would result in the measured positions reflecting current interest rate differentials to some extent.

### **Measurement of capital charge for commodity risk**

- 3.6.23 This section provides a minimum capital requirement to cover the market risk of holding or taking positions in commodities, including precious metals but excluding gold (gold is treated as a foreign currency).
- 3.6.24 Commodities risk shall be captured throughout the trading book and banking book. A bank is required to hold a capital charge to cover the risk of holding or taking positions in commodities.
- 3.6.25 A commodity is defined as a physical product, which is or can be traded on a secondary market. Commodities covered in this section include:
- a) precious metals other than gold;
  - b) agricultural products; and
  - c) minerals (including oil).
- 3.6.26 Banks must calculate a capital charge for commodity risk in respect of physical holdings which can be, or are, traded, including precious metals but excluding gold (covered under foreign exchange risk).
- 3.6.27 Positions in commodities resulting from derivatives contracts or off-balance instruments are also included in this measurement framework. Commodity derivatives and other off-balance-sheet positions that are affected by changes in commodity prices are included in the measurement system (except for options and the associated underlying instrument - refer to paragraph 3.6.28 for a description of their treatment). Commodity derivatives are converted into notional commodity positions using the current spot price.
- 3.6.28 A bank shall use one of the following approaches when measuring commodities position risk namely:
- a) Simplified Approach; or
  - b) Maturity Ladder Approach;
- 3.6.29 Banks adopting any one of the two approaches are expected to be consistent in the method used. They will not be permitted to switch from one approach to the other without the approval of the BNR.

#### **(a) Simplified Approach for capital requirement for commodity risk**

- 3.6.30 The methodology for computing the capital standards for commodities risk is set out the following steps.

- (i) Express each commodity position (spot plus forward) in terms of the standard unit of measurement (barrels, kilos, grams, etc) including commodity derivatives and off-balance sheet positions, which are affected by changes in commodity prices.
- (ii) Convert each position in step 1 at current spot rates into the reporting currency (Rwandan francs).
- (iii) Compute the net long or short position in each commodity.
- (iv) Compute a capital charge of 15% on the overall net open position.
- (v) Compute the gross position in each commodity.
- (vi) Compute a capital charge of 3% of the sum of the bank's gross positions, i.e., the sum of the absolute values of the long and short positions in each commodity.

3.6.31 The capital charge for this commodity is the sum of the 15% and the 3% capital charges. Two capital charges will have to be computed for each commodity namely:

- (i) A capital charge equal to 15% of the overall net long or short position in each commodity; and
- (ii) A capital charge equal to 3% of the sum of the bank's gross positions in each commodity. The capital charge of 3% will protect the bank against basis risk, interest rate risk and forward gap risk.

The total capital charge will be the sum of the capital charges computed under i) and ii) above, as illustrated in Annex X.

#### **Offsetting for commodity risk for capital charge**

3.6.32 When risk is measured for commodities, offsetting between positions is restricted.

- (i) Offsetting is allowed between long and short positions in each commodity to calculate open positions.
- (ii) In general, offsetting is not allowed between positions in different commodities.

#### **(b) Maturity ladder approach for capital requirements for commodity risk**

3.6.33 Every bank shall construct separate maturity ladders for each commodity. For each commodity the following 7 steps have to be followed.

- (i) Express each commodity position (spot plus forward) in terms of the standard unit of measurement (barrels, kilos, grams, etc) and convert in the reporting currency (Rwandan francs) at the current spot price.
- (ii) Each position shall be allocated into the respective time -bands in the maturity ladder according to the remaining maturity. Compute a capital charge for the matched long and short positions in each time -band in the table 8 below, i.e., multiply the sum of the matched short and long positions in each time -band by 1.5% to capture spread risk.

- (iii) Carry forward the unmatched position to the next relevant time -band and apply a capital charge of 0.6% to this residual net position multiplied by the number of time-bands it has been carried forward.
- (iv) Repeat step i) and step iii) for each time -band.
- (v) Apply a capital charge of 15% to the overall net open position.
- (vi) Derive the total capital charge by summing the charges for spread risk, for positions carried forward and for the overall net open position, as illustrated in Annex XI.

**Table 9: The time-band to be used for the maturity ladder**

<b>Zones</b>	<b>Maturity Ladder-Time bands</b>
Zone 1	0-1 month
	>1-3 months
	>3-6 months
	>6-12 months
Zone 2	> 1-2 years
	> 2-3 years
Zone 3	Over 3 years

### **Measurement of capital charge for options**

- 3.6.34 The requirements assume that banks are holding only a limited range of purchased options and are not writing options-unless all their written option positions are hedged by perfectly matched long positions in exactly the same options, in which case no capital charge for market risk is required. In such case, banks shall seek approval of the Central Bank before undertaking any written options business.
- 3.6.35 Regardless of the method used, specific risk related to the issuer of an instrument still applies to options positions for equities, equity indices and corporate debt securities.
- 3.6.36 In addition to these market risk charges, purchased options remain subject to the credit risk capital requirements specified in Credit Risk – market related off balance sheet (counterparty risk).
- 3.6.37 In recognition of the wide diversity of banks’ options activities and the difficulties of measuring price risk for options, banks which solely use purchased options shall use the simplified approach as set out in Table 10.
- 3.6.38 In the simplified approach, the positions for the options and the associated underlying, cash or forward, are not subject to the standardized methodology but are instead “carved-out” and subject to separately calculated capital charges that incorporate both general market risk and specific risk.

- 3.6.39 The capital requirements calculated under this section shall then be added to the capital requirements for interest rate, equity derivatives, foreign exchange and commodities risk as appropriate.
- 3.6.40 The capital charge for foreign exchange and gold options will be based on the method set out in capital charge for foreign exchange (or gold) risk and its derivatives.
- 3.6.41 The capital charge for commodities options will be based on the simplified approach set out in capital charge for commodity risk including its derivatives.

**Table 10. Simplified Method: Capital Charges**

Position Treatment	Position Treatment
Long cash and Long put or Short cash and Long call	The capital charge will be the market value of the underlying security <sup>1</sup> multiplied by the sum of specific and general market risk charges <sup>2</sup> for the underlying less the amount the option is in the money (if any) bounded at zero <sup>3</sup>
Long call or Long put	The capital charge will be the lesser of: (i) the market value of the underlying security multiplied by the sum of specific and general market risk charges for the underlying (ii) the market value of the option <sup>4</sup>

<sup>1</sup> In some cases such as foreign exchange, it may be unclear which side is the "underlying instrument"; this shall be taken to be the asset that would be received if the option were exercised. In addition the nominal value shall be used for items where the market value of the underlying instrument could be zero, e.g., caps and floors and swaptions, etc.

<sup>2</sup> To determine the appropriate specific risk and general market risk factors, refer to the preceding sections on interest rate positions risk, equity risk, foreign exchange risk and commodity risk. Some options (e.g., where the underlying is an interest rate, a currency or a commodity) bear no specific risk but specific risk will be present in the case of options on certain interest rate related instruments (e.g., options on a corporate debt security or corporate bond index) and for options on equities and stock indices (see the section on equity position risk). Accordingly, the combined charge under this measure for currency options will be 8% and for options on commodities, 15% (the additional 3% charge is not added because options are not netted).

<sup>3</sup> For options with a residual maturity of more than six months, the strike price shall be compared with the forward, not current, price. An institution unable to do this must take the in the money amount to be zero.

<sup>4</sup> Where the position does not fall within the trading book (i.e., options on certain foreign exchange or commodities positions not belonging to the trading book), it may be acceptable to use the book value instead.

A worked example of capital computation where the underlying option is equity position risk is given under as illustrated in Annex XII.

## **4. CAPITAL REQUIREMENTS FOR OPERATIONAL RISK**

### **4.1 Introduction**

- 4.1.1 In calculating the capital requirements to cover operational risk, banks are required to assess the links among the various types of risk and identify their possible impact in terms of operational risk.
- 4.1.2 Ensuring full compliance with the regulations would also play an important role in mitigating operational risk.

### **4.2 Governance and management of operational risk**

- 4.2.1 The board of directors plays a key role in establishing an effective and efficient operational risk management and control system and to this end the board and senior management shall;
  - a) Establish the general framework of the system
  - b) Be responsible for its implementation,
  - c) Supervise its operation and
  - d) Verify its overall functionality and compliance with regulatory requirements.
- 4.2.2 Specific attention shall be paid to the processes, functions and other aspects involved in the calculation of the capital requirement. Accordingly, banks' board and management shall have the specific responsibility for:
  - a) Identifying and measuring infrequent, yet severe loss events,
  - b) Identifying the various forms and manner in which operational risks may materialize,
  - c) Assessing the operational risks associated with the introduction of new products, activities, processes and systems.
  - d) Adopting contingency and business continuity plans that ensure their operational resilience and limit losses in the event of severe business disruptions.

### **4.3 Sound practices of operational risk management**

- 4.3.1 A bank is required to develop specific policies and have a prudent documented procedure for allocating income in its current business activities.
- 4.3.2 Regardless of the operational risk capital computation approach adopted, banks are required to comply with principles in "Sound Practices for the Management and Supervision of Operational Risk" (BCBS, February 2003).

### **4.4 Approach used to compute operational risk exposures**

- 4.4.1 Banks are required to implement the Standardised Measurement Approach (SMA) to calculate capital charge for operational risk.
- 4.4.2 Banks are required to project their balance sheet, profit & loss statement (including operational losses) and risk-weighted assets forward in time in order to stress their prudential ratios.
- 4.4.3 Banks are encouraged to adjust their Business Indicator and loss data by continuously developing operational risk models for internal management purposes and to assist with ICAAP, stress testing and calibration of Pillar 2.

- 4.4.4 Internal loss data are most relevant when clearly linked to a bank's current business activities, technological processes and risk management procedures.
- 4.4.5 Therefore banks are required to promptly report (within 2 hours and 24 hours from the occurrence of the event) the incidence reports that includes loss events, in accordance with reporting requirements attached in Annex XIV.

#### 4.5 Calculation of capital charge for operational risk

- 4.5.1 A bank shall divide their macro income statement into three business indicator components and five buckets. A bank shall calculate the capital requirements as a sum of the products of the business indicator attributed to each bucket and the specific regulatory coefficients (alpha) assigned.
- 4.5.2 The detail of the calculation methodology is illustrated below.

$$\text{BI} = \text{Interest component} + \text{Services Component} + \text{Financial component}$$

##### Where:

- (i) **Interest component** is the absolute value of the sum of the net interest income (Interest Income – Interest Expense)
  - (ii) **Services component** is the sum of the fee Incomes, fee Expenses, Other Operating Incomes and other Operating Expenses
  - (iii) **Financial component** is the absolute value of the sum of the Net P&L on Trading and Banking Book.
- 4.5.3 For the purpose of the capital computation for operational risk, the Business Indicator components (as defined in the table 12) is used as a basis for the computation of the capital charge, classified in buckets depending on its volume and multiplied by the corresponding coefficient as indicated below:

**Table 11. The coefficients per bucket**

<b>The coefficients per bucket</b>	
<b>BI (Rwf millions)</b>	<b>Coefficient</b>
0–85	[10%]
>85–850	[13%]
>850–2,550	[17%]
>2,550–25,500	[22%]
>25,500	[30%]

- 4.5.4 The bank shall calculate its operational risk capital requirement by taking the three year moving average and is obtained by multiplying the Business Indicator and the regulatory coefficients in a

layered manner, as per the following formula. The total operational risk capital charge for a bank will be the sum of the incremental capital charges ascribed to each of the relevant buckets.

$$K_{SA} = \left( \sum_{i=1}^3 \sum_{j=1}^5 BI_{ij} * \alpha_j \right) / 3$$

**Where:**

$K_{SA}$  = the capital charge

$BI_{ij}$  = annual value of the BI of the apportioned business activities to bucket j,

j=1...5; in given years, i=1,2,3 years )

$\alpha_j$  = coefficient for bucket “j”

- 4.5.5 For the purpose of determining the overall capital requirements for the bank, the total operational risk capital charge is multiplied by 12.5 (reciprocal of 8% minimum requirement to which the Basel framework is calibrated) to derive the risk weighted assets equivalent as described in the annex XIII.

**Table 12. Definition of the Business Indicator**

Income statement “Segment” or Macro-Component	Income statement “Item”	Use within the Business Indicator	Description of the “Item”	Typical sub-items
“Interest”	Interest income	Abs (Interest Income - Interest Expenses)	Interest income from all financial assets, both primary financial instruments (included either in trading or non-trading books) and hedge accounting derivatives, as well as other interest income.	Interest income from loans and advances
				Interest income from Available For Sales, Held to Maturity. Fair Value Option, Held for Trading
				Interest income from hedge accounting derivatives
				Other interest income
	Interest expense		Interest expense from all financial liabilities, both	Interest expenses from deposits Interest expenses from debt securities issued

			primary financial instruments (included either in trading or non-trading books) and hedge accounting derivatives, as well as other interest expenses	Interest expenses from hedge accounting derivatives
				Other interest expenses
“Services”	Fee and commission income	+	Income received for providing fee-based advices and services referring to both on-balance and off-balance sheet activities. It shall also include income received as provider of financial services	Fee and commission income from:
				- securities (issuance/origination or reception/transmission/execution of orders on behalf of customers)
				- clearing and settlement
				- asset management
				- custody
				- fiduciary transactions
				- payment services
				- structured finance
				- servicing from securitisation activities
				- loan commitments and guarantees given
				- foreign transactions
	Fee and commission expenses	+	Expenses paid for receiving fee-based advices and services referring to both on-balance and off-balance sheet activities. It shall also include all expenses paid for outsourced financial services.	Fee and commission expenses for:
				- clearing and settlement
				- custody
				- servicing fees for securitization activities
	Other operating income	+	Income from ordinary banking operations not classified in other	- loan commitments and guarantees received
				- foreign transactions
				Rental income from investment properties
				Income from financial leasing and operating leasing
				Gains from non-recurrent assets and disposal group classified as held for



			BI items but of similar nature.	sale not qualifying as discontinued operations
	Other operating expenses	+	Expenses and losses from: (i) ordinary banking operations not classified in other BI items but of similar nature (eg fees and commissions, including outsourcing ones), and (ii) operational risk events (not provisioned for in advance).	Expenses for financial leasing and operating leasing Losses from non-recurrent assets and disposal group classified as held for sale not qualifying as discontinued operations Direct charges to the P&L and costs incurred as a consequence of operational risk events (eg fines, penalties and litigation settlements), which have not been provisioned for in advance
<b>“Financial”</b>	Net Profit (Loss) on financial operations	Abs (Net P&L on TB) + Abs (Net P&L on BB)	Net gains/losses on financial operations (both trading and banking books)	Net gains/losses on financial assets and liabilities held for trading (derivatives, debt securities, equity securities, loans and advances, short positions, other assets and liabilities)
				Net gains/losses on financial assets or liabilities measured at fair value through profit or loss
				Realized net gains/losses on financial assets and liabilities not measured at fair value through profit or loss (available for sale financial assets, loans and advances, held to maturity investments, financial liabilities measured at amortized cost)
				Net gains and losses from hedge accounting
				Net exchange differences

**The following sub-items shall not contribute to any of the items of the Business Indicator:**

- Dividend income
- Income and expenses from insurance or reinsurance business
- Premiums paid and reimbursement/payments received for insurance or reinsurance policies purchased

- Recovery of taxes debited to customers
- Administration expenses: staff expenses (including salaries, pension and similar benefits), outsourcing fees paid for the supply of non-financial services (ie logistical, IT, human resources), other administrative expenses (including expenses for IT, utilities, telephone, travel, office supplies, postage etc)
- Expenses on share capital repayable on demand
- Net gains/losses on de-recognition of financial assets, non-financial assets, liabilities not measured at fair value through profit or loss
- Depreciation/amortization (eg on properties, tangible assets, intangible assets)
- Provisions/reversal of provisions (eg on pensions, commitments and guarantees given, legal issues)
- Impairment/reversal of impairment (eg on financial assets, non-financial assets, investments in subsidiaries, joint ventures and associates)
- Negative goodwill recognized in profit or loss
- Share of the profit or loss of investments in subsidiaries, joint ventures and associates
- Income tax, corporate tax (tax based on profits, including current tax and deferred tax)

## 5. CALCULATION OF THE LEVERAGE RATIO (LR)

### 5.1 Introduction

- 5.2.1 Leverage Ratio calculation is to be used by banks to calculate and report the Leverage Ratio.
- 5.2.2 The LR is an additional prudential measure to enhance financial stability by determining capital requirements on the basis of non-risk weighted assets so as to prevent the building up of excessive leverage.

### 5.2 Calculation of LR

- 5.2.1 The leverage ratio shall be calculated as the bank's core capital measure divided by the bank's total exposure measure and shall be expressed as a percentage.
- 5.2.2 Banks shall calculate the leverage ratio as the simple arithmetic mean of the monthly leverage ratios over a quarter (as illustrated in Annex XV).
- 5.2.3 The capital to be measured and considered for LR is defined as the core capital by the capital regulation.
- 5.2.4 The total exposure measure is the sum of the exposure values of:
- a) all (un-weighted) on-balance sheet items, to the extent not deducted when determining the capital measure, plus
  - b) the off-balance sheet items multiplied with their respective Credit Conversion Factors as given in section 2.2 of this guideline, and

- c) the credit derivatives exposures using the Current Exposure Method set out in section 2.2 of this guideline.

**On-Balance Sheet items include:**

- (i) All exposures concerning On-balance sheet, off balance sheet derivatives are measured at net of specific provisions and credit valuation adjustments (applies to derivatives and off-balance sheet items-is the difference between the risk-free portfolio value and the true portfolio value that takes into account the possibility of a counterparty's default- the market value of counterparty credit risk)
- (ii) Netting of loans and deposits not allowed
- (iii) Gross exposures measured through
  - ☐ No netting through collaterals, guarantees, or credit risk mitigation purchased
  - ☐ All measurements in accordance with Accounting IFRS Rules
  - ☐ No netting of offsetting debits and credit balance through netting schemes
- (iv) Items deducted from capital do not contribute to leverage and shall also be deducted from the measures of on-balance sheet exposures
- (v) With regard to positive net present value derivative position which if included in other assets are not to be double counted in off balance sheet items.
- (vi) Any unearned commission on Islamic loan is to be netted from the underlying asset value.
- (vii) All on balance sheets assets item to agree with balances with M-1, with the exception of those on-balance sheet items which are reported net of provisions, and other deductions given above.
- (viii) Other amendments in items from the BCBS document of January 2014.

**Off-Balance Sheet Items including derivatives**

These include Off-Balance Sheet items including credit derivatives, liquidity facilities, unconditional and cancellable commitments, direct credit substitutes, acceptances, standby letters credit, trade letters of credits, guarantees, etc. and positive net present value of derivatives outstanding.

All off- balance sheet items including derivative are to be converted to their cash equivalents utilizing credit conversion factor used for in the section 2.2 of this guideline. Consequently, the following elements must agree.

- All cash equivalent value to agree with like off-balance sheet items and derivatives outstanding.
- Other adjustment to the above items from the BCBS document of January 2014.

Done at Kigali, on 15/02/2018

(sé)

**RWANGOMBWA John**  
**Governor**

## ANNEXES:

### Annex I: Classification and CCF for off-balance sheet items-Non-Market related items

Sr. No.	Instruments	Credit Conversion Factor (%)
1	Direct credit substitutes e.g. general guarantees of indebtedness (including standby L/Cs serving as financial guarantees for loans and securities, credit enhancements), and acceptances (including endorsements with the character of acceptance). (i.e., the risk of loss depends on the credit worthiness of the counterparty or the party against whom a potential claim is acquired)	100
2	Sale and repurchase agreement and asset sales with recourse, where the credit risk remains with the bank. (These items are to be risk weighted according to the type of asset and not according to the type of counterparty with whom the transaction has been entered into.)	100
3	Forward asset purchases, forward deposits and partly paid shares and securities, which represent commitments with certain drawdown. (These items are to be risk weighted according to the type of asset and not according to the type of counterparty with whom the transaction has been entered into.)	100
4	Sale and Repurchase agreements. Lending of banks' securities or posting of securities as collateral by banks, including instances where these arise out of repo style transactions (i.e., repurchase / reverse repurchase and securities lending / securities borrowing transactions)	100
5	Certain transaction-related contingent items (e.g. performance bonds, bid bonds, warranties, indemnities and standby letters of credit related to particular transaction).	50
6	Note issuance facilities and revolving / non-revolving underwriting facilities.	50
7	Short-term self-liquidating trade letters of credit arising from the movement of goods (e.g. documentary credits collateralised by the underlying shipment) for both issuing bank and confirming bank.	20
8	Take-out Finance in the books of taking-over institution	
	(i) Unconditional take-out finance	100
	(ii) Conditional take-out finance	50
9	Commitments	
	Commitments with certain drawdown	100
	Other commitments (e.g., formal standby facilities, credit cards and credit lines) with an original maturity of up to one year	20
	Other commitments (e.g., formal standby facilities and credit lines) with an original maturity of over one year	50
	Similar commitments that are unconditionally cancellable at any time by the bank without prior notice or that effectively provide for automatic cancellation due to deterioration in a borrower's credit worthiness	0
	Irrevocable standby commitments provided under BNR's approved industry support arrangements	0

## **Annex II: Illustration of computation and reporting of risk weighted assets and risk mitigation technique: Balance sheet exposures**

- The first step is to identify the Portfolio to which the underlying claim belongs, based on the instructions set out in section 2.1 to 2.2, then report the whole principal of the claim under the column of “Total Exposure Amount before CRM” in that Portfolio, classified according to the risk weight applicable to that claim.
- For each balance sheet asset, the RWA is calculated by multiplying its “Total Exposure Amount before CRM” by an appropriate risk weight determined by the type of exposure, as set out in Section 2.4.
- The “Total Exposure Amount” is divided into two portions: the portion covered by credit protection and the remaining uncovered portion.
- Where an asset is not covered by any recognised CRM techniques, the amounts reported under the columns headed “Total Exposure Amount before CRM” and “Total Risk Weighted unsecured Exposure” will be the same.
- Total Risk Weighted secured Exposure (Exposures with CRM)

This column is completed for exposures which have recognized credit risk mitigants.

- Where an asset is covered wholly or partially by recognised CRM techniques (see Section 2.4.3), the amount reported under the column of “Amount after CRM” shall be adjusted to reflect the CRM effect.
- Where the asset covered by CRM is not past due, report the amount of the covered portion in the Portfolio to which the credit protection belongs, under the column of “Amount after CRM”, classified according to the risk weight applicable to the credit protection (subject to a 20% floor, which can be reduced in situations set out in section 2.4.1).
- Where the asset covered by CRM is past due, the amount of the covered portion shall be included in Past Due Exposures and reported under the column of “Amount after CRM” in accordance with the risk weight applicable to the credit protection.
- In both cases, the RWA of the covered portion is then calculated by multiplying the amount of the covered portion by the risk weight attributed to the credit protection in accordance with Section 2.4.2.
- However, where the credit protection takes the form of a credit derivative contract with the following features, there are certain additional guidelines the bank shall follow in determining the extent of credit protection.
- Where the contract is a first-to-default credit derivative contract, the bank may recognise regulatory capital relief for the asset within the basket with the lowest risk weight, provided that the principal amount of that asset is less than or equal to the notional amount of the credit derivative. The institution may substitute the risk weight of the protection seller for the risk weight of that asset.
- Where the contract is a second-to-default credit derivative contract, the bank may substitute the risk weight of the protection seller for the risk weight of the reference entity with the second lowest risk weight in the basket of reference entities specified in the contract, but only if:
  - The institution has, as a protection buyer, entered into a first-to-default credit derivative contract relating to the same basket of reference entities;
  - or
  - A reference entity in the basket has defaulted.

- For guarantees and credit derivatives, the value of credit protection to be recorded is their nominal value. However, where the credit protection is denominated in a currency different from that of the underlying obligation, the CRM shall not be considered.
- Where the collateral involves cash deposits, certificates of deposit, cash funded credit-linked notes, or other comparable instruments which are held at a third-party bank in a non-custodial arrangement and unconditionally and irrevocably pledged or assigned to the bank, the collateral will be allocated the same risk weight as that of the third-party bank.
- For collateral, the value of credit protection to be recorded is its market value subject to a minimum revaluation frequency of 6 months for performing assets, and 3 months for past due assets (if this is not achieved then no value can be recognised).
- Total Risk Weighted unsecured Exposure (Exposures without CRM)
  - This column is completed for exposures, which do not have any allowable credit risk mitigants. The Credit Equivalent Exposure column calculates automatically after inputting the Principal Amount before CCF.
  - Lastly, report the amount of the remaining uncovered portion in the Portfolio to which the underlying claim belongs, under the column of “Amount after CRM”, classified according to the risk weight of the underlying claim. The reported RWA of the uncovered portion will then be calculated by multiplying the amount of the uncovered portion by the risk weight of the claim.

#### **Balance sheet example: Collateralised loan**

- ❑ The bank provides a 5-year term loan of RWFs 5,000,000 to an unrated corporate. The loan is secured by debt securities issued by a bank and denominated in Dollars. The bank is incorporated in a country with a country quality rating of “1” and the debt securities have a remaining maturity of 7 years. They are subject to daily revaluation and presently have a market value in RWFs equivalent amount of RWFs 4,200,000.
- ❑ Considerations:
  - A loan to an unrated corporate is subject to a risk weight of 100%.
  - A bank is unrated but incorporated in a country with a country score of “1” is mapped to a risk weight of 0%. Alternatively, the debt securities issued by banking institution is eligible collateral.
  - As the market value of the collateral debt securities is RWFs 4,200,000, the loan is not fully secured-exposure secured is RWFs 4,200,000, while RWFs 800,000 is unsecured.
  - RWA of the loan:  $4,200,000 \times 0\% + 800,000 \times 100\% = \text{RWF } 800,000$ .

## Reporting illustration: balance sheet example:

Standardised Approach-Risk Weighted Assets for Credit Risk																		
Class of Corporate, securities and Insurance entities																		
(Ref: Art 36 & 37 of the Directive)																		
PART I. RISK-WEIGHTED ASSETS: ON BALANCE SHEET (Amounts in '000 RWfs )																		
	Corporate, securities and Insurance entities	Total exposure before CRM ('000 RWfs)	Amount Eligible for Credit Risk Mitigation (CRM) Using the Simple Approach(*)							Amount Eligible for 20% floor on risk weight for guarantee and collaterals					Total Risk Weighted secured Exposure	Total Risk Weighted unsecured Exposure [Unsecured exposure X Risk Weights of Original Counterparties]	Total Risk Weighted assets	
			Distribution of Collateralised Exposures by:							20%	0%	0%	0%	0%				
			Guarantees by Eligible Guarantors	Credit Derivatives	Cash on Deposits eligible for netting	Debt Securities	REPOs	OTC derivatives	Gold									Equities
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)=sum(10) to (14)	(16)	(17)=(15)+(16)
	Performing Exposures																	
Credit quality step	Weight																	
1	20%										0	0	0	0	0	0	0	0
3,4	50%										0	0	0	0	0	0	0	0
5,6	150%										0	0	0	0	0	0	0	0
unrated	100%	5,000				4,200					0	0	0	0	0	0	800	800
	Total	5,000	0	0	0	4,200	0	0	0	0	0	0	0	0	0	0	800	800
	Past Due (net of specific provisions)																	
Secured	100%										0	0	0	0	0	0	0	0
Unsecured	150%																0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	5,000	0	0	0	4,200	0	0	0	0	0	0	0	0	0	0	800	800

### Annex III: Illustration of computation and reporting of risk weighted assets for regulatory retail portfolio

- ☐ The bank has a retail portfolio of RWFs 1,580,409,000 that meets the four qualifying criteria as provided in section 2.1.8.
- ☐ Considerations:
  - The regulatory retail portfolio size is 0.2% X RWFs 1,580,409K= RWFs 3,161K.
  - The retail portfolio that attracts a 75% risk weight will be all exposures by individual or SME with at most value of RWFs 3,161K (the granularity threshold exposure value), which totals to RWFs 549M (value in the green box).
  - The remaining portfolio is risk weighted as corporates.

Reporting illustration: Computation and reporting of RWA for retail portfolio:

Standardised Approach-Risk Weighted Assets for Credit Risk																		
Class of Retail Exposures																		
PART I. RISK-WEIGHTED ASSETS: ON BALANCE SHEET (Amounts in '000 RWFs )																		
	Retail Exposures	Total exposure before CRM ('000 RWFs)	Amount Eligible for Credit Risk Mitigation (CRM) Using the Simple Approach(*)							Amount Eligible for 20% floor on risk weight for guarantee and collaterals					Total Risk Weighted secured Exposure	Total Risk Weighted unsecured Exposure [Unsecured exposure X Risk Weights of Original Counterparties]	Total Risk Weighted assets	
			Distribution of Collateralised Exposures by:															
			Guarantees by Eligible Guarantors	Credit Derivatives	Cash on Deposits eligible for netting	Debt Securities	REPOs	OTC derivatives	Gold	Equities	Guarantees by Eligible Guarantors [Risk Weights of CRM (20%)]	Gold, Cash on Deposits [Risk Weights of CRM (0%)]	Debt Securities [Risk Weights of CRM (0%)]	REPOs/REVERSE REPOs [Risk Weights of CRM (0%)]				OTC derivatives [Risk Weights of CRM (0%)]
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)=sum	(16)	(17)=(15)+(16)
Item	Weight																	
Claims in regulatory retail portfolio	75%	549,130			65,119						0	0	0	0	0	0	363,008	363,008
Claims in outside regulatory retail portfolio	100%	1,031,280									0	0	0	0	0	0	1,031,280	1,031,280
Total		1,580,409	0	0	65,119	0	0	0	0	0	0	0	0	0	0	0	1,394,287	1,394,287
	Past Due (net of specific provisions)																	
Secured	100%										0	0	0	0	0	0	0	0
Unsecured	150%	260,887															391,331	391,331
Total		260,887	0	0	0	0	0	0	0	0	0	0	0	0	0	0	391,331	391,331
TOTAL		1,841,297	0	0	65,119	0	0	0	0	0	0	0	0	0	0	0	1,785,618	1,785,618



## Reporting illustration: Computation and reporting of regulatory retail portfolio and individual exposure:

Loan/Exposure bucket in ' 000 RWFs	Total Number of individuals/SMEs	LCY	FCY	Total	Average value of Exposure	Total after granularity adjust.
>100,000				0	0	0
100,000	1	96,508	0	96,508	96,508	31
95,000	1	90,352	0	90,352	90,352	29
90,000	0	0	0	0	0	0
85,000	0	0	0	0	0	0
80,000	1	78,322	0	78,322	78,322	25
75,000	0	0	0	0	0	0
70,000	0	0	0	0	0	0
65,000	0	0	0	0	0	0
60,000	0	0	0	0	0	0
55,000	1	51,894	0	51,894	51,894	16
50,000	1	45,359	0	45,359	45,359	14
45,000	2	83,588	0	83,588	41,794	13
40,000	2	75,871	0	75,871	37,936	12
35,000	2	65,128	0	65,128	32,564	10
30,000	1	29,669	0	29,669	29,669	9
25,000	1	23,255	0	23,255	23,255	7
20,000	2	34,661	0	34,661	17,330	5
15,000	0	0	0	0	0	0
10,000	52	356,672	0	356,672	6,859	2
5,000	165	418,808	12,022	430,830	2,611	1
< 1,000	685	117,683	617	118,300	173	0
<b>Total</b>	<b>917</b>	<b>1,567,771</b>	<b>12,639</b>	<b>1,580,409</b>	<b>554,626</b>	<b>175</b>
<b>0.2% Granularity Threshold</b>					<b>3,161</b>	

## Annex IV: Illustration of computation and reporting of risk weighted assets for mortgage portfolio

- ❑ The bank has the following qualifying and non-qualifying residential mortgage loans
  - (i) Residential mortgage loan A amounting to RWF95M, with current value of property at RWF100M. The banking institution has not set aside specific provisions (it's a performing loan) for this loan.
  - (ii) Residential mortgage loan B amounting to RWFs75M, with current value of property at RWF100M. The banking institution has already set aside specific provisions amounting to RWF20M for this loan.
- ❑ Considerations:
  - For loan A, the LTV ratio is 95% (95/100), thus would be deemed as non-qualifying. For loan B, as the LTV ratio is 75% (75/100), this category would fall under the qualifying residential mortgages loan category as required in 2.1.9.
  - For qualifying residential mortgage loan portion: As the facility has specific provisions, the exposure would be eligible for the preferential risk weight of 100% as for past due assets.  

$$\begin{aligned} \text{RWA} &= 50\% \times \text{outstanding amount net of specific provisions} \\ &= 100\% \times (75 - 20)\text{M} \\ &= 100\% \times 55\text{M} \\ &= \text{RWF55M} \end{aligned}$$
  - For non-qualifying residential mortgage loan portion: The exposure would be accorded a risk weight of 50% for the qualifying portion of the exposure and 75% for the portion that is over and above LTV of 80%.

$$\begin{aligned}
 \text{RWA} &= 50\% \times \text{portion of } 80\% \text{ LTV} + 75\% \times \text{outstanding amount over and above } 80\% \text{ LTV} \\
 &= 50\% \times (80\% \times 95) + 75\% \{ (100-80)\% \times 95 \} \\
 &= 38\text{M} + 14\text{M} \\
 &= 52\text{M}
 \end{aligned}$$

– Total capital charge for loan A and B is 55M+52M= 107M

Reporting illustration: balance sheet example:

Standardised Approach-Risk Weighted Assets for Credit Risk																	
Class of Exposure secured by residential and commercial properties																	
PART I. RISK-WEIGHTED ASSETS: ON BALANCE SHEET (Amounts in '000 RWFs)																	
Class of Exposure secured by residential and commercial properties	Total exposure before CRM ('000 RWFs)	Amount Eligible for Credit Risk Mitigation (CRM) Using the Simple Approach(*)								Amount Eligible for 20% floor on risk weight for guarantee and collaterals					Total Risk Weighted secured Exposure	Total Risk Weighted unsecured Exposure [Unsecured exposure X Risk Weights of Original Counterparties]	Total Risk Weighted assets
		Distribution of Collateralised Exposures by:								20% Guarantees by Eligible Guarantors [Risk Weights of CRM (20%)]	0% Gold, Cash on Deposits [Risk Weights of CRM (0%)]	0% Debt Securities [Risk Weights of CRM (0%)]	0% REPOs/REVERSE REPOs [Risk Weights of CRM (0%)]	0% OTC derivatives [Risk Weights of CRM (0%)]			
		Guarantees by Eligible Guarantors	Credit Derivatives	Cash on Deposits eligible for netting	Debt Securities	REPOs	OTC derivatives	Gold	Equities								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)=sum (10) to (14)	(16)	(17)=(15)+(16)
Performing Exposures																	
Item	Weight																
Meeting residential property requirements	50%	76,000								0	0	0	0	0	0	38,000	38,000
Mortgages Not meeting residential property requirements but retail portfolio	75%	19,000								0	0	0	0	0	0	14,250	14,250
mortgages not meeting the above, including commercial properties	100%									0	0	0	0	0	0	0	0
Total		95,000	0	0	0	0	0	0	0	0	0	0	0	0	0	52,250	52,250
Past Due (net of specific provisions)																	
Secured	100%	55,000								0	0	0	0	0	0	55,000	55,000
Unsecured	150%															0	0
Total		55,000	0	0	0	0	0	0	0	0	0	0	0	0	0	55,000	55,000
TOTAL		150,000	0	0	0	0	0	0	0	0	0	0	0	0	0	107,250	107,250

## Annex V: Illustration of computation and reporting of risk weighted assets and risk mitigation technique: Off-Balance sheet exposures-Non-Market related

- ❑ If it were the case that the corporate borrower in the above example had not yet drawn down the loan facility, the transaction would be recorded as a commitment in the book of the bank. Assuming that the rest of the deal was unaltered – same collateral etc – and that the commitment cannot be cancelled unconditionally, the capital requirement of the transaction under the two approaches would be calculated as follows:
- ❑ Considerations:
  - The commitment for a 5-year term loan is a medium risk that attracts a CCF of 50% as it cannot be cancelled unconditionally. The credit equivalent amount of this secured commitment is therefore calculated as: RWFs 5,000,000 x 50% = RWFs 2,500,000.
  - As the amount committed is RWFs 5,000,000 and the market value of the collateral debt securities is RWFs 4,200,000 the commitment is considered fully secured.
  - A 0% risk weight for the collateral debt securities is applied to calculate the RWA of this secured transaction: RWFs 2,500,000 x 0% = RWFs 0.

## Reporting illustration: balance sheet example:

Standardised Approach-Risk Weighted Assets for Credit Risk																			
Class of Corporate, securities and Insurance entities																			
PART II. RISK-WEIGHTED ASSETS: NON-MARKET-RELATED OFF-BALANCE SHEET CREDIT EXPOSURES (Amounts in '000 RWFs )																			
Item	Nature of item	Notional Principal Amount	Credit Equivalent Amount	Amount Eligible for Credit Risk Mitigation (CRM) Using the Simple Approach(*)								Amount Eligible for 20% floor on risk weight for guarantee and collaterals					Total Risk Weighted secured Exposure	Total Risk Weighted unsecured Exposure [Unsecured exposure X Risk Weights of Original Counterparties]	Total Risk Weighted assets
				Distribution of Collateralised Exposures by:								20%	0%	0%	0%	0%			
				Guarantees by Eligible Guarantors	Credit Derivatives	Cash on Deposits	Debt Securities	REPOs	OTC derivatives	Gold	Equities								
	Direct credit substitutes	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)=sum (11) to (15)	(17)	(18)= (16)+(17)
Credit quality step	Weight																		
1	20%											0	0	0	0	0	0	0	0
3,4	50%											0	0	0	0	0	0	0	0
5,6	150%											0	0	0	0	0	0	0	0
unrated	100%	5,000	2,500				2,500					0	0	0	0	0	0	0	0
	Total	5,000	2,500	0	0	0	2,500	0	0	0	0	0	0	0	0	0	0	0	0
	Transaction-related contingencies																		
1	0%											0	0	0	0	0	0	0	0
2	20%											0	0	0	0	0	0	0	0
3	50%											0	0	0	0	0	0	0	0
4,5, unrated	100%											0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Trade-related contingencies																		
1	20%											0	0	0	0	0	0	0	0
3,4	50%											0	0	0	0	0	0	0	0
5,6	150%											0	0	0	0	0	0	0	0
unrated	100%											0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Other commitments which can be unconditionally cancelled																		
1	20%											0	0	0	0	0	0	0	0
3,4	50%											0	0	0	0	0	0	0	0
5,6	150%											0	0	0	0	0	0	0	0
unrated	100%											0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Items not involving credit																		
1	20%											0	0	0	0	0	0	0	0
3,4	50%											0	0	0	0	0	0	0	0
5,6	150%											0	0	0	0	0	0	0	0
unrated	100%											0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	5,000	2,500	0	0	0	2,500	0	0	0	0	0	0	0	0	0	0	0	0

## Annex VI: Illustration of computation and reporting of risk weighted assets and risk mitigation technique: Off-Balance sheet exposures- Market related

- ❑ The bank has a RWFs 100,000,000 interest rate contract with a four-year residual maturity. The other counterparty to the contract is an unrated corporate. Pledged as collateral for the contract is an RWFs 800,000 bond issued by a bank incorporated in a country with a consensus ECA country score of “1”, which has more than five years to go to maturity. This is a capital market transaction subject to daily re-margining and there are no foreign exchange mismatches between the interest rate contract and the collateral. The mark-to-market value of the interest rate contract is RWFs 1,000,000 and the add-on is 0.5%, giving an “Add-on amount” of RWFs 500,000.
- ❑ Considerations:
  - Credit equivalent amount of the interest rate contract is the sum of the “positive mark-to-market” or current exposure and the “Add-on amount” or potential future credit exposure (i.e. RWFs 1,000,000 + RWFs 500,000 = RWFs 1,500,000).
  - The unrated corporate attracts a 100% risk weight.

- The RWFs 800,000 bank bond attracts a 0% risk weight.
- RWA of secured portion: RWFs 800k x 0% = RWFs 0.
- RWA of unsecured portion: RWFs 700k x 100% = RWFs 700k.
- Total RWA (secured + unsecured): RWFs 0 + RWFs 700k = RWFs 700k.

Reporting illustration: OTC schedule 1:

Standardised Approach-Risk Weighted Assets for Credit Risk																			
Class of Corporate, securities and Insurance entities																			
PART III. RISK-WEIGHTED ASSETS: MARKET-RELATED OFF-BALANCE SHEET CREDIT EXPOSURES (COUNTERPARTY CREDIT RISK) (Amounts in '000 RWFs )																			
	OTC Derivative contracts	Notional Principal Amount	Credit Equivalent Amount	Amount Eligible for Credit Risk Mitigation (CRM) Using the Simple Approach(*)							Amount Eligible for 20% floor on risk weight for guarantee and collaterals					Total Risk Weighted secured Exposure	Total Risk Weighted unsecured Exposure [Unsecured exposure X Risk Weights of Original Counterparties]	Total Risk Weighted assets	
				Distribution of Collateralised Exposures by:															
				Guarantees by Eligible Guarantors	Credit Derivatives	Cash on Deposits	Debt Securities	REPOs	OTC derivatives	Gold	Equities	20% Guarantees by Eligible Guarantors [Risk Weights of CRM (20%)]	0% Gold, Cash on Deposits [Risk Weights of CRM (0%)]	0% Debt Securities [Risk Weights of CRM (0%)]	0% REPOs/REVERSE REPOs [Risk Weights of CRM (0%)]				0% OTC derivatives [Risk Weights of CRM (0%)]
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)=sum (11) to (15)	(17)	(18)= (16)+(17)
Interest Rate Related Contracts																			
1	20%											0	0	0	0	0	0	0	0
3,4	50%											0	0	0	0	0	0	0	0
5,6	150%											0	0	0	0	0	0	0	0
unrated	100%		100,000	1,500				800				0	0	0	0	0	0	700	700
Total			100,000	1,500	0	0	0	800	0	0	0	0	0	0	0	0	0	700	700
Foreign Exchange And Gold Contracts																			
1	20%											0	0	0	0	0	0	0	0
3,4	50%											0	0	0	0	0	0	0	0
5,6	150%											0	0	0	0	0	0	0	0
unrated	100%											0	0	0	0	0	0	0	0
Total			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Precious Metal Contracts (Other Than Gold)																			
1	20%											0	0	0	0	0	0	0	0
3,4	50%											0	0	0	0	0	0	0	0
5,6	150%											0	0	0	0	0	0	0	0
unrated	100%											0	0	0	0	0	0	0	0
Total			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Commodity Contracts (Other Than Precious Metals)																			
1	20%											0	0	0	0	0	0	0	0
3,4	50%											0	0	0	0	0	0	0	0
5,6	150%											0	0	0	0	0	0	0	0
unrated	100%											0	0	0	0	0	0	0	0
Total			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Market-Related Contracts																			
1	20%											0	0	0	0	0	0	0	0
3,4	50%											0	0	0	0	0	0	0	0
5,6	150%											0	0	0	0	0	0	0	0
unrated	100%											0	0	0	0	0	0	0	0
Total			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL		100,000	1,500	0	0	0	800	0	0	0	0	0	0	0	0	0	700	700

Reporting illustration: OTC schedule 2:

B. MARKET-RELATED OFF-BALANCE SHEET CREDIT EXPOSURES (COUNTERPARTY CREDIT RISK)					
Derivative contracts	Notional Principal Amount	Credit Conversion Factor	Potential future Credit Exposure	Current Exposure	Credit Equivalent Amount
	(1)	(2)	(3)=(1)*(2)	(4)	(5)=(3)+(4)
<b>Interest Rate Related Contracts</b>					
Residual maturity 1 year or less		0.0%	0		0
Residual maturity > 1 year to 5 years	100,000	0.5%	500	1,000	1,500
Residual maturity > 5 years		1.5%	0		0
<b>Sub-total</b>	<b>100,000</b>		<b>500</b>	<b>1,000</b>	<b>1,500</b>

## **Annex VII: Illustration of computation and reporting of Interest rate risk relating to specific risk**

- ❑ The bank holds the following positions:
  - (i) sovereign debt paper for government of Rwanda: RWFs 10bn, a 10 year residual maturity.
  - (ii) sovereign debt paper for foreign government rating of A: RWF 5bn, a 5-year residual maturity.
  - (iii) Rwandan corporate debt paper AA rated issued by corporate entity with securities listed on a recognized stock: RWF 3bn, a residual maturity of 1.5 years
- ❑ Considerations:
  - Since a 10-year GoR debt paper is in Government category-which has a specific risk charge of 1.6% as provided in Table 4 is issued by GoR; specific capital charge is  $0\% \times 10\text{bn} = \text{RWFs } 0$
  - a 5-year sovereign debt paper which has a sovereign rating of A is external, the specific risk charge will be 1.6% as provided in Table 4; specific capital charge is  $1.6\% \times 5\text{bn} = \text{RWFs } 80\text{M}$
  - Since a AA rated Rwandan corporate debt paper with maturity of 1.5 years (18 months) is issued by corporate entities with securities listed on a recognized stock exchange that is internally classified as pass or special mention is in qualifying category-will attract a specific risk charge of 2.0% as provided in Table 1; specific capital charge is  $1\% \times 3\text{bn} = \text{RWFs } 30\text{M}$
  - Total capital charge (specific):  $\text{RWFs } 0 + \text{RWFs } 80\text{M} + \text{RWFs } 30\text{M} = \text{RWFs } 110\text{M}$ .

Reporting illustration: Specific charge:

		<b>Standardised Approach for Market Risk</b>				
		<b>Capital Requirement for Interest rate Risk</b>				
<b>A. INTEREST RATE RISK: Specific Risk</b>						
<b>Table 1: Capital charge for securities denominated in domestic currency</b>		<b>(All amounts to be rounded off to the nearest RWFs'000)</b>				
Line no.	Risk Categories	Position		Gross market value	Specific risk-weights	Capital charge
		Short	Long			
21	Government of Rwanda		10,000,000	10000000	0.00%	0
22	Qualifying residual term to maturity 6 months or less			0	0.25%	0
23	Qualifying residual term to maturity 6 to 24 months		3,000,000	3000000	1.00%	30000
24	Qualifying residual term to maturity exceeding 24 months			0	1.60%	0
25	Other			0	8.00%	0
26	<b>Total capital charge</b>					<b>30000</b>
<b>A. INTEREST RATE RISK: Specific Risk</b>						
<b>Table 2: Capital charge for securities denominated in foreign currency</b>		<b>(All amounts to be rounded off to the nearest RWFs'000)</b>				
Risk category		Position		Gross market value (A)	Specific risk-weights (B)	Capital charge (C) = AXB
		Short	Long			
<b>Government Exposures (external credit quality step)</b>						
AAA to AA- (or credit quality step 1)				0	0.00%	0
A+ to BBB- (or credit quality step 2&3)						
- 6 months or less residual term to final maturity				0	0.25%	0
- greater than 6 months residual term to final maturity but up to and including				0	1.00%	0
- greater than 24 months residual term to final maturity			5,000,000	5000000	1.60%	80000
BB+ to below B- (or credit quality step 4,5&6)				0	12.00%	0
Unrated				0	10.00%	0
<b>Qualifying</b>						
- Qualifying residual term to maturity 6 months or less				0	0.25%	0
- Qualifying residual term to maturity 6 to 24 months				0	1.00%	0
- Qualifying residual term to maturity exceeding 24 months				0	1.60%	0
<b>Others</b>				0	12.00%	0
<b>Total capital charge</b>						<b>80000</b>

## Annex VIII: Illustration of computation and reporting of Interest rate risk relating to General market risk

- The bank holds the following positions:
  - (i) Qualifying bond: RWFs 13.33 M market value, residual maturity 8 years, coupon 8%;
  - (ii) Government bond: RWFs 75 M market value, residual maturity 2 months, coupon 7%;
  - (iii) Interest rate swap, RWFs 150 M, bank receives floating rate interest and pays fixed, next interest fixing after 9 months, residual life of swap 8 years;
  - (iv) Long position in interest rate future, RWFs 50 M delivery date after 6 months, life of underlying government security 3.5 years.
- Considerations:
  - The *overall net position* (+150 - 200 + 1,050 + 1,125 – 5,625 + 500) is -3,000 leading to a capital charge of RWFs 3M.
  - The *vertical disallowance* in time-band 7-10 years has to be calculated. The matched position in this time-band is RWFs 500k (the lesser of the absolute values of the added (weighted) long and (weighted) short positions in the same time band), which leads to a capital charge of 10% of 500 = RWFs 50k. The remaining net (short) position is RWFs -5.125M. Since there are no positions in other zone 3 time - bands, this is the net position in zone 3.
  - The *horizontal disallowances* within the zones have to be calculated. As there is more than one position in zone 1 only, a horizontal disallowance need only be calculated in this zone. In doing this, the matched position is calculated as RWFs 200k (the lesser of the absolute values of the added long and short positions in the same zone). The capital charge for the horizontal disallowance within zone 1 is 40% of 200k = 0.08 = RWFs 80k. The remaining net (long) position in zone 1 is +1mn.
  - The *horizontal disallowances between adjacent zones* have to be calculated. After calculating the net position within zone 1 the following positions remain: zone 1 (+1M), zone 2 (+1.125 M), zone 3 (-5.125M). The matched position between zones 2 and 3 is 1.125mn (the lesser of the absolute values of the long and short positions between adjacent zones). The capital charge in this case is 40% of 1.125M = RWFs 450k.
  - The horizontal disallowance between zones 1 and 3 has to be calculated. After offsetting the +1.125M in zone 2 against the -5.125M in zone 3, this leaves -4.00M in zone 3 which can be offset against the +1.00mn in zone 1. The horizontal disallowance between the two zones is 100 per cent of the matched position, which leads to a capital charge of 100 per cent of 1.00M = 1.00M.
  - The total capital charge (RWFs million) in this example is:
 

✓ for the overall net open position	3.00
✓ for the vertical disallowance	0.05
✓ for the horizontal disallowance in zone 1	0.08
✓ for the horizontal disallowance between adjacent zones	0.45
✓ for the horizontal disallowance between zones 1 and 3	1.00
– Total Capital Charge (General)	4.58
– Total Capital charge (simple and General): 110M+4.58M=	RWFs 114.58M

## Reporting illustration: Simple and General interest rate risk capital charge

B. INTEREST RATE RISK: General Market Risk																
Table 3: (All amounts to be rounded off to the nearest RWF's'000)																
		Zone 1			Zone 2			Zone 3								Total Charge
Time Bands (Coupon 3% or more)	up to 1 mth	>1 to 3 mths	>3 to 6 mths	>6 to 12 mths	>1 to 2 yrs	>2 to 3 yrs	>3 to 4 yrs	>4 to 5 yrs	>5 to 7 yrs	>7 to 10 yrs	>10 to 15 yrs	>15 to 20 yrs	over 20 yrs			
Time Bands (Coupon less than 3%)	up to 1 mth	>1 to 3 mths	>3 to 6 mths	>6 to 12 mths	>1 to 1.9 yrs	>1.9 to 2.8 yrs	>2.8 to 3.6 yrs	>3.6 to 4.3 yrs	>4.3 to 5.7 yrs	>5.7 to 7.3 yrs	>7.3 to 9.3 yrs	>9.3 to 10.6 yrs	>10.6 to 12 yrs	>12 to 20 yrs	over 20 yrs	
P1 Long Position		75,000	Govt Bond	150,000	SWAP:150M (interest to be received)		50,000	Future		13,330	Qualifying Bond:					
P2 Short Position			50,000	Future						150,000	SWAP: 150M(to be paid)					
P3 Assigned Weights		0.00%	0.20%	0.40%	0.70%	1.25%	1.75%	2.25%	2.75%	3.25%	3.75%	4.50%	5.25%	6.00%	8.00%	12.50%
A1 Weighted Long Position : P1 x P3	0	150	0	1,050	0	0	1,125	0	0	500	0	0	0	0	0	0
A2 Weighted Short Position : P2 x P3	0	0	200	0	0	0	0	0	0	5,625	0	0	0	0	0	0
NET POSITION CHARGE																
A3 Net position in each time band : A1-A2	0	150	-200	1,050	0	0	1,125	0	0	-5,125	0	0	0	0	0	0
TOTAL NET POSITION CHARGE																3,000
Vertical Disallowance																
BASIS RISK CHARGE																
Within same time bands																
B1 Lower of A1 or A2	0	0	0	0	0	0	0	0	0	500	0	0	0	0	0	0
B2 Charge for non-correl. within time bands : B1 x 10%	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0
TOTAL BASIS RISK CHARGE																50
Horizontal Disallowance																
YIELD CURVE RISK CHARGE																
Within same zones																
C1 Report all +ve values of A3	0	150	0	1,050	0	0	1,125	0	0	0	0	0	0	0	0	0
C2 Report all -ve values of A3 (in absolute value)	0	0	200	0	0	0	0	0	0	5,125	0	0	0	0	0	0
C3 Sum all row in C1 within each zone		1,200					1,125			0						
C4 Sum all row in C2 within each zone		200					0			5,125						
C5 Lower of C3 or C4		200					0			0						
C6 Charge for non-correl. within same zones : C5 x 40%-for Z1; 30%-for Z2 & Z3		80					0			0						80
Between adjacent zones i.e. Zone 1/2 and Zone 2/3																
D1 Sum all columns in A3 for each zone		1,000					1,125			-5,125						
D2 Report all +ve values of D1		1,000					1,125			0						
D3 Report all -ve values of D1 (in absolute value)		0					0			5,125						
D4 Sum row D2 of zone 1 and 2				2,125												
D5 Sum row D3 of zone 1 and 2				0												
D6 Lower of D4 or D5				0												
D7 Charge for non-correlation between adjacent zones 1 and 2: D6 x 40%				0												0
D8 Remaining net +ve values		1,000					1,125			0						
D9 Remaining net -ve values		0					0			5,125						
D10 Sum row D8 of zone 2 and 3								1,125								
D11 Sum row D9 of zone 2 and 3								5,125								
D12 Lower of D10 or D11								1,125								
D13 Charge for non-correlation between adjacent zones 2 and 3: D12 x 40%								450								450
D14 Remaining net +ve values		1,000					0			0						
D15 Remaining net -ve values		0					0			4,000						
Between zone 1 and zone 3																
E1 Sum row D14 of zone 1 and 3							1,000									
E2 Sum row D15 of zone 1 and 3							4,000									
E3 Lower of E1 or E2							1,000									
E4 Charge for non-correlation between zone 1 and 3 : E3 x 100%							1,000									1,000
TOTAL YIELD CURVE RISK CHARGE																1,530
TOTAL GENERAL BENCHMARK RATE RISK CHARGE																4,580
Summary of Capital Charge for Interest rate risk																
Specific approach to Capital Charge for interest rate risk																110,000
General approach to Capital Charge for interest rate risk																4,580
Capital charge for options																
Total capital charge for Interest rate risk																114,580



- ❑ The bank has a trading and banking net positions in the following currencies converted in RWFs:
  - (i) JPY: long position of 50M
  - (ii) HKD: long position of 100M
  - (iii) GBP: long position of 150M
  - (iv) SGD: short position of 20M
  - (v) USD: short position of 180M
  - (vi) Gold: short position of 35M
- ❑ Considerations:
  - The net position of the combined trading and banking book in each foreign currency is converted at spot rates (as at date of reporting) into the reporting currency (RWFs) as above.
  - The overall net open position is measured by aggregating:
    - ✓ the sum of the net short positions  $(-20-180-35) = -200\text{M}$  or the sum of the net long positions  $(+50+100+150) = +300\text{M}$ , whichever is the greater (in this case is  $+300\text{M}$ ); with
    - ✓ the net position (short or long) in gold and silver, regardless of whether it is positive or negative;  $-35\text{M}$ .
  - The capital charge for foreign exchange risk would be 8 per cent of the higher of either the net long currency positions or the net short currency positions (300M) and of the net position in gold (35M) =  $335 \times 12.5\% = 41.8\text{M}$ .

Standardised Approach for Market Risk								
Capital Requirement for Foreign Exchange Risk (including gold positions)								
a) Exposure in Individual Currencies			(All amounts to be rounded off to the nearest RWFs'000)					
Currency <sup>2</sup>		Net Spot On-Balance Sheet Position <sup>3</sup>	Net Forward Position <sup>4</sup>	Guarantees <sup>5</sup>	Other Items <sup>6</sup>	Net Long Position	or	Net Short Position
		A	B	C	E	F		G
CHF - Swiss Franc						0		0
CNY - Chinese Yuan Renminbi						0		0
EUR - Euro						0		0
GBP - Pound Sterling		150,000				150,000		0
JPY - Japanese Yen		50,000				50,000		0
SEK - Swedish Krona						0		0
USD - US Dollar		-180,000				0		-180,000
KSH-Kenya Shilling						0		0
TSH-Tanzania Shilling						0		0
USH-Uganda Shilling						0		0
BFRW-Burundian Franc						0		0
Others---please specify						0		0
HKD-Hong Kong Dollar		100,000				100,000		0
SGD-Singapore Dollar		-20,000				0		-20,000
						0		0
						0		0
						0		0
						0		0
						0	0	
					Total Position	300,000		-200,000
						H		J
b) Gold Position					Long	Short	Total Gross Long & Short Position	Net Position
Non-Physical Trading						35,000		-35,000
Physical Trading							0	0
Total								-35,000
								K
Table 4: Summary of Capital Charge for FX risk								
General risk				Greater of the Absolute Value of Net Long Position (H) or Net Short Position (J)		Absolute Value Net Gold Position (K)	Capital Requirement	Capital Charge
				300,000 M		35,000 N	12.50% Q	41,875 $R = (M+N) \times Q$
Execution risk				Total Gross Long and Short Gold Position		Capital Requirement	Capital Charge	
				0 S		3.00% U	0 $V = (S+T) \times U$	
Total Capital Charge for Foreign Exchange, Gold Risk								41,875 $W = R + V$

## Annex X: Illustration of computation and reporting of commodity risk (Simplified Approach)

- ❑ The bank has the following positions in a commodity held in US Dollar. The reporting currency is in the RWFs.

- (i) Long: +128 kgs, 4 months to maturity
- (ii) Short: -160kgs, 5 months to maturity
- (iii) Long: +96kgs, 13 months to maturity
- (iv) Short: -96kgs, 4 years to maturity

Hint: Current spot price of the commodity: USD 10 per Kg and Current RWFs/USD FX spot rate: 1 USD = RWF 800

- ❑ Considerations:
- Conversion at current price of the commodities.

Position	Maturity	Standard Units (Kg)	Spot Price	Value (USD)	FX rate spot	Value (RWFs)
Long	4 months	128	10	1,280	800	1,024,000
Short	5 months	-160	10	-1,600	800	-1,280,000
Long	13 months	96	10	960	800	768,000
Short	3 years	-96	10	-960	800	-768,000

- Compute the net long or short position in each commodity.
  - ✓ Gross long position :  $1,024 + 768 = 1,792k$
  - ✓ Gross short position :  $(1,280) + (768) = (2,048)k$
  - ✓ Overall net open position :  $1,792 - 2,048 = (256)k$
- Compute a capital charge of 15% on the overall net open position.
  - ✓ Capital charge =  $15\% \times 256 = \text{RWF } 38k$ .
- Compute a capital charge of 3% of the sum of the bank's gross positions, i.e., the sum of the absolute values of the long and short positions in each commodity.
  - ✓ Capital charge =  $3\% \times (1,792 + 2,048) = \text{RWFs } 115k$ .
- The capital charge for this commodity is the sum of the 15% and the 3% capital charges.
  - ✓ Total capital charge :  $\text{RWFs } 38k + \text{RWFs } 115k = \text{RWFs } 154k$ .

### Reporting illustration: Simplified Approach

Standardised Approach for Market Risk						
Capital Requirement for Commodity Risk						
Table 5: Simplified Approach for Commodities Risk						
(All amounts to be rounded off to the nearest RWFs'000)						
Commodity	Description	Positions			Capital Charges	
		Total Long positions	Total Short positions	Net Open Position	Capital Charge for Directional Risk (15% of Net Open Position)	Capital Charge for Basis Risk, Benchmark Rate Risk and Forward Gap Risk (3% of Gross Position)
Silver	Silver	1,792	2,048	-256	38	115
				0	0	0
				0	0	0
				0	0	0
				0	0	0
				0	0	0
				0	0	0
Total		1,792	2,048	-256	38	115

## Annex XI: Illustration of computation and reporting of commodity risk (Maturity ladder Approach)

- ❑ Assume all positions are of the same commodity and converted at current spot rates into the RWFs as the reporting currency as the above Annex X.
- ❑ Consideration:
  - Allocate each position into the respective time -bands in the maturity ladder according to the remaining maturity.

Time band	Long (FRWs)	Short (FRWs)
0 - 1 month		
>1 - 3 months		
>3 - 6 months	1,024,000	(1,280,000)
>6 - 12 months		
>1 - 2 years	768,000	
>2 - 3 years		(768,000)
Over 3 years		

- Compute a capital charge for the matched long and short positions in each time -band, i.e., multiply the sum of the matched short and long positions in each time-band by 1.5% to capture spread risk.
  - ✓ Capital charge =  $1.5\% \times 2 \times (1,024 \text{ k} + 256 \text{ k} + 512) = \text{RWFs } 53.8 \text{ k}$
- Carry forward the unmatched position to the next relevant time-band and apply a capital charge of 0.6% to this residual net position multiplied by the number of time bands it has been carried forward
  - ✓ Capital charge =  $0.6\% \times (256 \text{ k} + 256 \text{ k} + 512 \text{ k} + 256) = \text{RWFs } 7.7 \text{ k}$
- Repeat the above steps for each time –band
- Apply a capital charge of 15% to the overall net open position
  - ✓ Capital charge =  $15\% \times 256 \text{ k} = \text{RWFs } 38.4 \text{ k}$
- Derive the total capital charge by summing the charges for spread risk, for positions carried forward and for the overall net open position.
  - ✓ Charge for spread risk 53.8k
  - ✓ Charge for the positions carried forward 7.7k
  - ✓ Charge for overall net position 38.4k
  - ✓ Total capital charge 99.8k

Total Capital charge (simple and maturity ladder approach):  $153.6 \text{ k} + 99.8 \text{ k} = 253.4 \text{ k}$

### Reporting illustration: Simplified Approach

[illegible]

## **Annex XII: Illustration of computation and reporting of options-equity risk (Simplified ladder Approach)**

- ❑ The bank holds the following positions:
  - ABC holds 100 shares currently valued at \$10 each has an equivalent put option with a strike price of \$11 (each option entitles the bank to sell one share).
- ❑ Consideration:
  - Since these are equity options, they are subject to the capital charges for general and specific market risk according to the standardized framework for equity risk. The capital charge is levied at 8% for general market risk and 8% for specific market risk, giving a summed charge of 16%.
  - Market value of 100 shares = \$1,000

### **Step 1**

- ✓ Multiply the market value by the sum of general and specific market risk charges.  
 $\$1,000 \times 16\% = \$160$

### **Step 2**

- ✓ Calculate the amount the option is in-the-money.  
 $(\$11 - \$10) \times 100 = \$100$
- ✓ The capital charge is the general and specific market risk charge less the amount the option is in-the-money.  
 $\$160 - \$100 = \$60$
- ✓ A similar methodology applies for options whose underlying is a foreign currency, an interest rate related instrument or a commodity. However, in the case of options on foreign exchange and options on commodities, only the risk factor for general market risk will be applied to the relevant options position.

### Annex XIII: Following the proposed coefficients per Bucket

- ☐ The banks hold the following BI:

Bank BI (RWF millions)

- A. 80
- B. 800
- C. 2,000
- D. 20,000
- E. 40,000

- ☐ Consideration:

The coefficients per bucket	
BI (Rwf millions)	Coefficient
0–100	[10%]
>100–1,000	[13%]
>1,000–3,000	[17%]
>3,000–30,000	[22%]
>30,000	[30%]

- Given the BI for the following banks, Operational risk charge is calculated as follows

Bank	BI	Capital calculation
A.	80	$80 \times 10\% = 8$
B.	800	$100 \times 10\% + 700 \times 13\% = 101$
C.	2,000	$100 \times 10\% + 900 \times 13\% + 1,000 \times 17\% = 297$
D.	20,000	$100 \times 10\% + 900 \times 13\% + 2,000 \times 17\% + 17,000 \times 22\% = 4,207$
E.	40,000	$100 \times 10\% + 900 \times 13\% + 2,000 \times 17\% + 27,000 \times 22\% + 10,000 \times 30\% = 9,407$

## Annex XIV: Requirement for Incidence report, including Loss events

Operational Risk Event data reporting												
Event No	Internal ID	Date of Occurrence	Date (DD/MM/YYYY)			Business Line		Event Type		Net Loss in Thousands RWFs (Gross loss net of all recoveries excluding insurance)	Summary description of the Cause (Description of the incidence and the cause)	Summary action plan and measure put in place to mitigate re-occurrence
			Date of Accounting	Date of Detection	Estimated completion date	Business Level	Internal Business Line	Level I Event	Level II Event			
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												

**Hint:** Fill in from the drop downlist as indicated below for information required in **orange** entries; while fill normally information in **green** entries

Business Lines
Corporate Finance
Trading and Sales
Retail Banking
Commercial Banking
Payment and Settlement
Agency Services
Asset Management
Retail Brokerage

Event-Type Category (Level 1)	Definition	Categories (Level 2)	Activity Examples (Level 3)
Internal fraud	Losses due to acts of a type intended to defraud, misappropriate property or circumvent regulations, the law or company policy, excluding diversity/discrimination events, which involves at least one internal party	Unauthorised Activity	Transactions not reported (intentional)
			Transaction type unauthorised (w/monetary loss)
			Mismarking of position (intentional)
		Theft and Fraud	Fraud / credit fraud / worthless deposits
			Theft / extortion / embezzlement / robbery
			Misappropriation of assets
			Malicious destruction of assets
			Forgery
			Check kiting
			Smuggling
			Account take-over / impersonation / etc.
			Tax non-compliance / evasion (wilful)
			Bribes / kickbacks
			Insider trading (not on firm's account)
			Theft/Robbery
			Forgery
External fraud	Losses due to acts of a type intended to defraud, misappropriate property or circumvent the law, by a third party	Theft and Fraud	Check kiting
			Hacking damage
		Systems Security	Theft of information (w/monetary loss)
			Compensation, benefit, termination issues
Employment Practices and Workplace Safety	Losses arising from acts inconsistent with employment, health or safety laws or agreements, from payment of personal injury claims, or from diversity / discrimination events	Employee Relations	Organised labour activity
		Safe Environment	General liability (slip and fall, etc.)
			Employee health & safety rules events
			Workers compensation
		Diversity & Discrimination	All discrimination types
Clients, Products & Business Practices	Losses arising from an unintentional or negligent failure to meet a professional obligation to specific clients (including fiduciary and suitability requirements), or from the nature or design of a product.	Suitability, Disclosure & Fiduciary	Fiduciary breaches / guideline violations
			Suitability / disclosure issues (KYC, etc.)
			Retail customer disclosure violations
			Breach of privacy
			Aggressive sales
			Account churning
			Misuse of confidential information
		Improper Business or Market Practices	Lender liability
			Antitrust
			Improper trade / market practices
			Market manipulation
			Insider trading (on firm's account)
			Unlicensed activity
			Money laundering
		Product Flaws	Product defects (unauthorised, etc.)
			Model errors
		Selection, Sponsorship & Exposure	Failure to investigate client per guidelines
			Exceeding client exposure limits
		Advisory Activities	Disputes over performance of advisory activities
Damage to Physical Assets	Losses arising from loss or damage to physical assets from natural disaster	Disasters and other events	Natural disaster losses
Business disruption and system failures	Losses arising from disruption of business or system failures	Systems	Human losses from external sources (terrorism, vandalism)
			Hardware
			Software
			Telecommunications
Execution, Delivery & Process Management	Losses from failed transaction processing or process management, from relations with trade counterparties and vendors	Transaction Capture, Execution & Maintenance	Utility outage / disruptions
			Miscommunication
			Data entry, maintenance or loading error
			Missed deadline or responsibility
			Model / system misoperation
			Accounting error / entity attribution error
			Other task misperformance
			Delivery failure
			Collateral management failure
		Monitoring and Reporting	Reference Data Maintenance
			Failed mandatory reporting obligation
			Inaccurate external report (loss incurred)
		Customer Intake and Documentation	Client permissions / disclaimers missing
			Legal documents missing / incomplete
		Customer / Client Account Management	Unapproved access given to accounts
			Incorrect client records (loss incurred)
			Negligent loss or damage of client assets
		Trade Counterparties	Non-client counterparty misperformance
			Misc. non-client counterparty disputes
		Vendors & Suppliers	Outsourcing
			Vendor disputes

### Clarifications:

- ☐ Reporting currency:
  - All amounts must be reported in FRW.
  - Each Bank is to use its internal exchange rate applicable at the Date of Recognition to convert loss amounts to FRW.



☐ Basis for Reporting

- The loss data for each quarterly submission shall be based on the Date of Accounting, i.e. when a loss was first posted to the General Ledger for the event.

☐ Reporting Thresholds

- The reporting thresholds will be the same as the approved Event Reporting thresholds within each bank.
- For the first submission under the new format, each bank will have to provide information on its reporting threshold (s).
- If there are different thresholds for different geographic locations or Business Lines, then this information shall be disclosed separately (e.g. amount, currency, country, Business Line).

Note - Information on the Reporting Thresholds will not be required with each submission. However, if there is a significant change to the threshold (s) from what was previously reported, then information for the new threshold(s) shall be reported with the current Return.

☐ Foreign Subsidiaries

- Losses arising in foreign subsidiaries shall be included in the Return.

☐ Definition of Net Loss/gains for the recorded incidence.

- Net Loss is defined as gross loss net of recoveries, excluding Insurance recoveries
- Gains are to be included in same column with a positive sign while a loss is reported with negative sign in the net loss column for the purpose of the Return.
- If there is no loss/gain the bank shall report zero.

☐ Boundary Events

- Each bank is to follow its current practices for identifying credit boundary events.
- However, for the purpose of the Return, only report the operational risk portion of the loss associated with the boundary event.
- Example: An event was reported with a loss of \$30M. Of this amount, \$23M is credit related and the remaining \$7M is operational risk related (e.g. the collateral on the loan was not registered correctly which resulted in the loss increasing from \$23 to \$30M).

For the Return, only \$7M will be included in the Gross Loss amount.

☐ Provisions

- Sometimes a provision is booked to the P&L to reflect the impact of an operational risk event, before the event is closed, e.g. litigation matters.
- If the provision was recorded in the Loss Database, then the amount shall be included in the Net Loss numbers. The impact amount shall be adjusted in subsequent periods if the size of the provision changes.

## Annex XV: Requirement for Calculation of Leverage ratio

LEVERAGE RATIO REQUIREMENT					
(All amounts to be rounded off to the nearest RWFs'000)					
Row number	On-balance sheet exposures	Quarterly			
		Month 1	Month 2	Month 3	Quarterly Average
(1)	On-balance sheet items, (exclude derivatives and assets deducted in determining T1 capital ; but do not net off the collaterals given)				0
(2)	Assets deducted in determining Basel III Tier 1 capital				0
(3)=(1)+(2)	<b>Total on-balance sheet exposures (excluding derivatives)</b>				0
	<b>Derivative exposures</b>				
(4)	Replacement cost				0
(5)	Add-on amount				0
(6)	Gross up for derivatives collateral provided				0
(7)	Gross notional credit derivatives sold				0
(8)	(Notional offsets and add-on deductions for written credit derivatives)				0
(9)=sum (4) to (8)	<b>Total derivative exposures</b>				0
	<b>Other off-balance sheet exposures</b>				
(9)	Off-balance sheet exposures with 100% credit conversion factors				0
	<i>of which: "financing commitments including liquidity facilities-repos/reverse repos"</i>				0
(10)	Off-balance sheet exposures with 0% credit conversion factor				0
	<i>of which: "Credit card lines"</i>				0
(11)	Other off-balance sheet exposures				0
(12)=sum (9) to (11)	<b>Total Other off-balance sheet exposures</b>				0
	<b>Capital and Total Exposures</b>				
(13)	<b>Tier 1 capital-Adjusted (end of reporting period value)</b>			150000	150000
(14)=sum line 3, 9,12	<b>Total Exposures (end of reporting period value)</b>				0
	<b>Leverage Ratios</b>				
(15)=(13) divide by (14)	End of period leverage ratio (end of reporting period value)			#VALUE!	#DIV/0!
(16)	Basel III leverage ratio (avg of the monthly leverage ratios over the quarter)				
Note:	Exposure measure = on-balance sheet items + derivatives exposures + off-balance sheet (OBS) items. Only the carrying value/net values of the on and off-balance sheet items are considered.				
	<b>(i) On-balance sheet items include:</b>				
	All non-derivative on-balance sheet items net of specific provisioning are to be included				
	Netting of loans and deposits is not allowed				
	Assets deducted from Tier 1 capital may be deducted also from the exposure measure				
	<b>(ii) Derivative exposure include:</b>				
	Exposure is measured with the Current Exposure Method = replacement cost plus add-on				
	Banks must not take account of physical or financial collateral, guarantees or other credit risk mitigation techniques to reduce the [leverage ratio] exposure measure				
	<b>(iii) Off-balance sheet items:</b>				
	Off-balance sheet items need to be taken into account while using the prescribed CCF.				