

## Completion Instructions

### **Return of Capital Adequacy Ratio Part IIIb – Risk-weighted Amount for Credit Risk Standardized (Credit Risk) Approach Form MA(BS)3(IIIb)**

#### Introduction

1. Form MA(BS)3(IIIb) of Part III should be completed by each authorized institution (AI) incorporated in Hong Kong using the **standardized (credit risk) approach (STC approach)** to calculate **credit risk** under Part 4 of the Banking (Capital) Rules (BCR).
2. This Form covers the following exposures of a reporting AI:
  - (a) All on-balance sheet exposures and off-balance sheet exposures booked in its **banking book**, except:
    - (i) exposures subject to deduction from the **CET1 capital, additional tier 1 capital** and/or **tier 2 capital** (which should be reported in Form MA(BS)3(II));
    - (ii) **securitization exposures** subject to Part 7 of the BCR (which should be reported in Form MA(BS)3(IIIId)); and
    - (iii) exposures to **central counterparties** (CCPs) subject to Division 4 of Part 6A of the BCR (which should be reported in Form MA(BS)3(IIIe)).
  - (b) All **default risk exposures** to counterparties under **securities financing transactions** (SFTs) (see paragraph 11 below) and **derivative contracts** booked in its **trading book**, except:
    - (i) exposures subject to deduction from the CET1 capital, additional tier 1 capital and/or tier 2 capital; and
    - (ii) exposures to CCPs subject to Division 4 of Part 6A of the BCR (which should be reported in Form MA(BS)3(IIIe)).
  - (c) All credit exposures to persons arising from the persons holding collateral posted by the AI in a manner that is not bankruptcy remote from the persons except:
    - (i) exposures subject to deduction from the CET1 capital, additional tier 1 capital and/or tier 2 capital; and
    - (ii) exposures to CCPs subject to Division 4 of Part 6A of the BCR (which should be reported in Form MA(BS)3(IIIe)).

- (d) If applicable, the AI's market risk positions which are (i) exempted from the requirements of Part 8 of the BCR; and (ii) subject to Part 4 of the BCR as required by section 22(4)(c) of the BCR.
3. This Form and these completion instructions should be read in conjunction with the BCR and the relevant supervisory policy/guidance related to the capital adequacy framework.

### **Section A: Definitions and Clarification**

4. The amounts reported in the column of "Principal Amount" should be net of **specific provisions** for all items in Division A and items 1 to 9, 18 and 24 of Division B, but gross of specific provisions for items 10 to 17 and 21 to 23 in Division B. For items 10 to 17 in Division B, specific provisions should be deducted from the **credit equivalent amount** (CEA) and the resulting figure should be reported in the column of "Credit Equivalent Amount". For items 21 to 23 in Division B, specific provisions should be deducted from the default risk exposure.
5. "Principal Amount after CRM" means the reported "Principal Amount" adjusted for the capital effect of **recognized credit risk mitigation** (CRM). Four types of CRM, viz., collateral, netting, **guarantees** and **credit derivative contracts**, are recognized for the purpose of calculating capital requirement provided that they satisfy the relevant legal and operational requirements set out in –
- (a) in the case of netting, section 2(1) (definition of "**valid bilateral netting agreement**") or section 226B of the BCR, as the case requires;
- (b) in the case of collateral, sections 77, 79 and 80 of the BCR;
- (c) in the case of guarantees, section 98 of the BCR; and
- (d) in the case of credit derivative contracts, section 99 of the BCR.

To avoid doubt, guarantees issued by other offices of the reporting AI are not regarded as recognized CRM. Debt securities which are **re-securitization exposures** (whether rated or not) cannot be recognized as collateral (see sections 79(2) and 80(2) of the BCR). See Section C for capital treatment and reporting arrangement.

6. Double counting of exposures arising from the same contract or transaction should be avoided. For example, only the undrawn portion of a loan commitment should be reported as an off-balance sheet exposure under item 9a, b or c of Division B while the actual amount which has been lent out should be reported as an on-balance sheet exposure under the relevant class in Division A. **Trade-related contingencies**, such as trust receipts and shipping guarantees, to which the exposures have already been reported as letters of credit issued or loans against import bills etc. should not be reported under item 3 of Division B.

7. In certain cases, credit exposures arising from derivative contracts may already be reflected, in part, on the reporting AI's balance sheet. For example, the AI may have recorded **current exposures** to counterparties under exchange rate and interest rate contracts on its balance sheet. To avoid double counting, such exposures should be excluded from on-balance sheet exposures and treated as off-balance sheet exposures for the purposes of this Form.
8. Accruals on an exposure should be classified and risk-weighted in the same way as the exposure. Accruals which cannot be so classified should, with the **prior consent** of the Monetary Authority (MA), be included in Class XI - Other exposures which are not **past due exposures**.
9. For SFTs booked in the reporting AI's banking book, the credit exposures to assets underlying the SFTs should be risk-weighted using the "economic substance" approach as described below and reported in Division A (if the securities are **non-securitization exposures**) or Form MA(BS)3(III d) (if the securities are securitization exposures):
  - (a) repos of securities - the securities sold by the reporting AI under the transaction should continue to be treated as assets on the balance sheet of the AI, with **regulatory capital** provided for the credit exposure to the securities (see also section 75(2) of the BCR);
  - (b) reverse repos of securities - if the AI has acquired securities under reverse repo agreements, no regulatory capital is required for the money paid by the AI;
  - (c) securities lending - the treatment is similar to that of repo transactions. The securities lent should continue to remain as assets on the balance sheet of the AI, with regulatory capital provided for the credit exposure to the securities (see also section 75(2) of the BCR); and
  - (d) securities borrowing - if the collateral provided is not cash but securities, the securities should continue to remain as assets on the balance sheet of the AI, with regulatory capital provided for the credit exposure to the securities (see also section 75(4)(b) of the BCR).

If the securities underlying the SFTs are **securitization issues**, the AI should determine the risk-weight attributable to the securities in accordance with Part 7 of the BCR (see also section 75(5) of the BCR) and report the securities in Form MA(BS)3(III d) accordingly.

10. For SFTs booked in the reporting AI's trading book, the AI's exposures to the assets underlying the SFTs are market risk exposures. Hence, the AI only needs to calculate the **risk-weighted amounts** (RWAs) of its market risk exposures to the assets in accordance with Part 8 of the BCR (see section 76 of the BCR) and report the exposures in Form MA(BS)3(IV). The AI is not required to calculate any RWA for the credit risk of the assets. However, if the AI is granted an exemption under section 22 of the BCR, the AI should comply with section 75

instead of section 76 in calculating the RWAs of its exposures to the assets, and report the exposures in this Form instead.

11. The default risk exposures in respect of SFTs (regardless of whether they are booked in the banking book or trading book) should be reported in Division B in the following manner:
- (a) Reporting AIs with the MA's approval to use the ***internal models (counterparty credit risk) approach (IMM(CCR) approach)*** to calculate the default risk exposures in respect of SFTs should report the exposures in items 21 to 23 of Division B (see paragraph 21 for the reporting arrangement) instead of item 18 of Division B.
  - (b) Reporting AIs without the MA's approval to use the IMM(CCR) approach (or which are permitted not to use the IMM(CCR) approach) to calculate the default risk exposures in respect of SFTs should calculate the exposures as follows:
    - (i) ***repos of securities*** - the AI should treat the securities sold as if it were an on-balance sheet exposure to the counterparty concerned secured on the money received by the AI and calculate the ***SFT risk-weighted amount*** taking into account the CRM effect of the collateral (i.e. the money received) (see also section 76A(4) of the BCR);
    - (ii) ***reverse repos of securities*** - the transaction should be treated as if it were a collateralized lending to the counterparty concerned and the SFT risk-weighted amount should be calculated with the CRM effect of the collateral (i.e. the securities purchased) taken into account (see also section 76A(5) of the BCR);
    - (iii) ***securities lending*** – the securities lent should be treated as if it were an on-balance sheet exposure to the counterparty concerned secured on the money or securities received by the AI and the SFT risk-weighted amount should be calculated with the CRM effect of the collateral (i.e. the money or securities received) taken into account (see also section 76A(4) of the BCR);
    - (iv) ***securities borrowing*** - the transaction should be treated as if it were an on-balance sheet exposure to the counterparty<sup>1</sup> secured on the securities borrowed and the SFT risk-weighted amount should be calculated with the CRM effect of the collateral (i.e. the securities borrowed) taken into account (see also section 76A(7) of the BCR); and
    - (v) ***margin lending*** - the SFT risk-weighted amount of the transaction should be calculated with the CRM effect of the securities financed by the transaction taken into account (see also section 76A(6) of the BCR).

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<sup>1</sup> For securities lending or borrowing where the contractual agreement is made between the securities borrower/lender and the custodian (e.g. Clearstream Banking or Euroclear Bank), and the securities borrower/lender has no knowledge of from/to whom the security is borrowed/lent, the custodian becomes the “counterparty” of the securities borrower/lender.

For the purposes of this paragraph, the collateral must meet the relevant criteria for qualifying as *recognized collateral* under the BCR.

12. An *originating institution* of a *non-eligible securitization transaction* must report the RWA of the *underlying exposures* of the transaction in this Form as if the exposures were not securitized. The underlying exposures of an *eligible synthetic securitization transaction* must be reported in this Form in the same manner as a non-eligible securitization transaction except that the CRM for transferring the credit risk of the underlying exposures to the other parties to the transaction can be taken into account in the RWA calculation and therefore should also be included in the reporting. For cases which are not specified in these instructions or in any other supervisory guidance relevant to securitization transactions, reporting AIs should consult the HKMA on the reporting arrangements.

## **Section B: Exposure Classification, Determination of Credit Conversion Factors and Risk-weights**

### **B.1 On-balance Sheet Exposures**

#### Exposure Classification

13. Division A of the Form is organized according to the 13 standard classes into which on-balance sheet exposures should be classified under the STC approach:

Class I	- <i>Sovereign</i> exposures
Class II	- <i>Public sector entity</i> exposures
Class III	- Multilateral development bank exposures
Class IV	- <i>Bank</i> exposures
Class V	- <i>Securities firm</i> exposures
Class VI	- <i>Corporate</i> exposures
Class VII	- <i>Collective investment scheme</i> exposures
Class VIII	- <i>Cash items</i>
Class IX	- <i>Regulatory retail exposures</i>
Class X	- <i>Residential mortgage loans</i>
Class XI	- Other exposures which are not past due exposures
Class XII	- Past due exposures
Class XIII	- Exposures subject to 1250% risk-weight

14. The 13 classes are mutually exclusive and therefore each exposure should be reported under only one of them. For instance, an exposure which falls within the definition of “past due exposure” should only be reported under Class XII and not elsewhere.

#### Determination of Risk-weights

15. The risk-weight for an exposure under any of Classes I, II, IV to VII is determined based on *ECAI ratings* assigned by *external credit assessment*

*institutions (ECAIs)* recognized by the HKMA. Each of these six ECAI ratings based portfolios has its own risk-weighting framework under which risk-weights are mapped to a scale of **Credit Quality Grades** represented by the numerals 1 to 5 or 1 to 6, as the case may be. The following table sets out the ECAIs recognized by the HKMA and the exposure classes to which ratings issued by these ECAIs can be applied.

ECAI	Applicable Exposure Class
<b>S&amp;P Global Ratings</b> (S&P) <i>Moody's Investors Service</i> (Moody's) <i>Fitch Ratings</i> (Fitch) <i>Rating and Investment Information, Inc</i> (R&I)	Classes I, II, IV to VII
<i>Japan Credit Agency, Ltd.</i> (JCR)	Classes I, II, IV to VI
<i>ICRA Limited</i> (ICRA) <i>Credit Analysis and Research Limited</i> (CARE) <i>CRISIL Limited</i> (CRISIL)	Class VI – only applicable to exposures to corporates incorporated in India

Schedule 6 to the BCR sets out how, for each portfolio, different sets of notations used by different ECAIs are mapped to the Credit Quality Grades (**Annex IIIb-A** provides a quick reference for the mapping).

16. Reporting AIs should follow a number of general principles when selecting an appropriate ECAI rating for risk-weighting an exposure. These principles are set out in sections 69 and 70 of the BCR (see **Annex IIIb-B** for quick reference).
17. “Issuer rating” referred to in these instructions means an **ECAI issuer rating** assigned to an **obligor**, and “issue specific rating”—
  - (a) in relation to Class I (i.e. Sovereign Exposures), means a **long-term ECAI issue specific rating** assigned to a particular debt obligation of an obligor;
  - (b) in relation to Classes IV, V and VI (i.e. Bank, Securities Firm and Corporate Exposures), means either a long-term or a **short-term ECAI issue specific rating** assigned to a particular debt obligation of an obligor; or
  - (c) in relation to Class VII (i.e. Collective Investment Scheme Exposures), means an **ECAI issue specific rating** assigned to a particular collective investment scheme.
18. The following explains how exposures in each class are risk-weighted and, if applicable, the relevant reporting principles.

<u>Item</u>	<u>Nature of item</u>
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<b>Class I</b>	<b>Sovereign Exposures</b>
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1.	<b>Domestic currency exposures</b> to the Government are risk-
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weighted at 0%. Included are:

- (a) deposits placed with, and loans made to, the Government (including those for the account of the Exchange Fund and the clearing balances with the Exchange Fund);
- (b) holdings of Exchange Fund Bills/Notes. Market makers who have short positions in Exchange Fund Bills/Notes may report their net holdings of such instruments provided that the short positions are covered by the Sale and Repurchase Agreements with the HKMA. The following steps should be taken in determining the amount to be reported:
  - (i) the long and short positions of instruments with a residual maturity of less than 1 year may be offset with each other;
  - (ii) the long and short positions of instruments with a residual maturity of not less than 1 year may be offset with each other;
  - (iii) if the net positions of both (i) and (ii) above are long, the positions should be reported;
  - (iv) if the net position in (i) is long and the net position in (ii) is short, or the other way round, the two positions can be netted with each other on a dollar for dollar basis. The resultant net long position, if any, should be reported.

2. Other exposures to sovereigns include foreign currency exposures to the Government, and all exposures to other sovereigns. For risk-weighting purposes, these exposures should be divided into those with an issue specific rating and those without.

- (a) Exposure with an issue specific rating (i.e. rated exposure)

The issue specific rating should be used to determine the applicable risk-weight of the exposure based on Table 1.

Table 1

Credit Quality Grade of an issuer/issue	1	2	3	4	5	6
Risk-weight (S&P, Moody's, Fitch, R&I & JCR)	0%	20%	50%	100%	100%	150%

- (b) Exposure without an issue specific rating (i.e. unrated exposure)
- (i) If the sovereign has no issuer rating and none of its other debt obligations has an issue specific rating, a 100% risk-weight should be allocated to the exposure.
  - (ii) If the sovereign has an issuer rating and/or any of its other debt obligations has an issue specific rating, the following instructions apply:
    - (A) If the sovereign has an issuer rating, the risk-weight which is applicable to that rating based on Table 1 should be allocated to the exposure. However, if the applicable risk-weight is lower than 100%, the exposure should be senior (i.e. unsubordinated) in order for the lower risk-weight to apply. If the applicable risk-weight is equal to or higher than 100%, the reporting AI is required to allocate the applicable risk-weight to the exposure only if the exposure ranks pari passu with, or is subordinate to, senior unsecured debt obligations of the issuer (see section 69(4) of the BCR).
    - (B) If any of the other debt obligations of the sovereign has an issue specific rating, the risk-weight which is applicable to that rating based on Table 1 should be allocated to the exposure. However, if the applicable risk-weight is lower than 100%, the exposure should rank pari passu with, or should be senior to, the rated debt obligation in all respects in order for the lower risk-weight to apply. If the applicable risk-weight is equal to or higher than 100%, the AI is required to allocate the applicable risk-weight to the exposure only if the exposure ranks pari passu with, or is subordinate to, the rated debt obligation (see section 69(3) of the BCR).
    - (C) If both (A) and (B) above apply, the AI will have the discretion to choose which one to allocate to the exposure.
- (c) Despite (a) and (b) above, if an overseas banking supervisory authority exercises its discretion under Basel II to permit banks in its jurisdiction to allocate a lower risk-weight to domestic currency exposures to its sovereign, the AI may allocate the same lower risk-weight to its domestic currency exposure to that sovereign.



3. **Relevant international organization** exposures are risk-weighted at 0%.

## **Class II Public Sector Entity (PSE) Exposures**

4. Exposures to **domestic PSEs** should be allocated a risk-weight which is the next higher risk-weight than the risk-weight attributable to the credit quality grade applicable to the issuer rating of the Government, with the following exceptions should any of these become applicable in the future:
- (a) If the issuer rating of the Government is mapped to credit quality grade 4 or 5 (i.e. allocated a 100% risk-weight), exposures to domestic PSEs should be allocated a 100% risk-weight;
  - (b) If the issuer rating of the Government is mapped to credit quality grade 6 (i.e. allocated a 150% risk-weight), exposures to domestic PSEs should be allocated a 150% risk-weight; or
  - (c) If no issuer rating is assigned to the Government, exposures to domestic PSEs should be allocated a 100% risk-weight.
5. Exposures to **foreign PSEs** should be allocated a risk-weight which is the next higher risk-weight than the risk-weight attributable to the credit quality grade applicable to the issuer rating of the sovereign of the jurisdiction in which the PSEs are **incorporated**, with the following exceptions:
- (a) Exposures to **sovereign foreign PSEs** should be allocated a risk-weight which is the risk-weight applicable to the issuer rating of the sovereign of the jurisdiction in which the PSEs are incorporated;
  - (b) If the issuer rating of the sovereign of the jurisdiction in which a foreign PSE is incorporated is mapped to credit quality grade 4 or 5 (i.e. allocated a 100% risk-weight), exposures to the PSE should be allocated a 100% risk-weight;
  - (c) If the issuer rating of the sovereign of the jurisdiction in which a foreign PSE is incorporated is mapped to credit quality grade 6 (i.e. allocated a 150% risk-weight), exposures to the PSE should be allocated a 150% risk-weight; or
  - (d) If no issuer rating is assigned to a sovereign, exposures to its PSEs should be risk-weighted at 100%.

### **Class III Multilateral Development Bank (MDB) Exposures**

6. MDB exposures are risk-weighted at 0%.

### **Class IV Bank Exposures**

7a. & b. Bank exposures should be divided into those with an original contractual period of time for full repayment (i.e. original maturity) of 3 months or less (**3 months' exposures**) and those with an original maturity longer than 3 months (**general exposures**).

Exposures within each of the two categories should then be divided into those with an issue specific rating and those without.

(a) Exposure with an issue specific rating (i.e. rated exposure)

The issue specific rating should be used to determine the applicable risk-weight of the exposure based on Table 2A or 2B, as the case requires, if it is a long-term issue specific rating, or based on Table 3 if it is a short-term issue specific rating.

Table 2A - General exposures

Credit Quality Grade of an issuer/issue	1	2	3	4	5
Risk-weight (S&P, Moody's, Fitch, R&I & JCR)	20%	50%	50%	100%	150%

Table 2B - 3 months' exposures

Credit Quality Grade of an issuer/issue	1	2	3	4	5
Risk-weight (S&P, Moody's, Fitch, R&I & JCR)	20%	20%	20%	50%	150%

Table 3

Short-term Credit Quality Grade of an issue	1	2	3	4
Risk-weight (S&P, Moody's, Fitch, R&I & JCR)	20%	50%	100%	150%

Notwithstanding the above, a rated 3 months' exposure denominated and funded in Hong Kong dollars may be allocated a risk-weight of 20%.

(b) Exposure without an issue specific rating (i.e. unrated exposure)

(i) If the bank has no issuer rating and none of its other debt obligations has been assigned an issue specific rating, the risk-weight to be allocated should be 50% for a general exposure and 20% for a 3 months' exposure. However, the risk-weight to be allocated will be –

(A) the risk-weight applicable to the sovereign of incorporation of the bank instead if such risk-weight is higher than 50% (in the case of general exposures) or 20% (in the case of 3 months' exposures); or

(B) 100% if the sovereign does not have an issuer rating.

The sovereign floor mentioned in (i) above does not apply to bank exposures arising from confirmed letters of credit that have a maturity of less than one year (see section 59(5A) of the BCR).

(ii) If the bank has an issuer rating and/or any of its other debt obligations has an issue specific rating, the risk-weight of the exposure should be determined as follows:

(A) *Unrated general exposure*

(I) If the bank has an issuer rating and/or any of its other debt obligations has a long-term issue specific rating, the reporting AI may, at its choice, determine the risk-weight to be allocated to the exposure according to either approach set out below:

- If the bank has an issuer rating, the risk-weight which is applicable to that rating based on Table 2A should be applied to the exposure. However, if the applicable risk-weight is lower than 50%, the exposure should be senior (i.e. unsubordinated) for the lower risk-weight to apply. If the applicable risk-weight is equal to or higher than 50%, the AI is required to allocate the applicable risk-weight to the exposure only if the exposure ranks pari passu

with, or is subordinate to, senior unsecured debt obligations of the issuer (see section 69(4) of the BCR); or

- If any of the other debt obligations of the bank has a long-term issue specific rating, the risk-weight which is applicable to that rating based on Table 2A should be applied to the exposure. However, if the applicable risk-weight is lower than the 50%, the exposure should rank pari passu with, or should be senior to, the rated debt obligation in all respects for the lower risk-weight to apply. If the applicable risk-weight is equal to or higher than 50%, the AI is required to allocate the applicable risk-weight to the exposure only if the exposure ranks pari passu with, or is subordinate to, the rated debt obligation (see section 69(3) of the BCR).

(II) If any of the other debt obligations of the bank has a short-term issue specific rating, but the bank does not have an issuer rating, and none of its other debt obligations has a long-term issue specific rating, the risk-weight applicable to the exposure should be determined according to (i) above.

(B) *Unrated 3 months' exposures*

(I) If none of the other debt obligations of the bank has a short-term issue specific rating, but the bank has an issuer rating and/or any of its other debt obligations has a long-term issue specific rating, the risk-weight which should be applied to the exposure will be, at the choice of the reporting AI, either:

- the risk-weight applicable to the issuer rating of the bank as determined based on Table 2B; or
- the risk-weight applicable to the long-term issue specific rating of any of its other debt obligations as determined based on Table 2B.

(II) If any of the other debt obligations of the

bank has a short-term issue specific rating, but the bank does not have an issuer rating, and none of its other debt obligations has a long-term issue specific rating, the risk-weight which should be applied to the exposure will be the higher of—

- 20%; and
- the risk-weight applicable to the short-term issue specific rating as determined based on Table 3.

(III) If both (1) the bank has an issuer rating and/or any of its other debt obligations has a long-term issue specific rating, and (2) another debt obligation of the bank has a short-term issue specific rating, the risk-weight which should be applied to the exposure will be the higher of—

- the risk-weight as determined in accordance with Table 2B based on either the issuer rating or the long-term issue specific rating at the choice of the reporting AI if the two risk-weights are different; and
- the risk-weight applicable to the short-term issue specific rating as determined based on Table 3.

(iii) Exceptions to the above

(A) Notwithstanding (ii)(A)(I) to (ii)(B)(III), the risk-weight of the exposure should be adjusted to 150% if any of the other debt obligations of the bank has a short-term issue specific rating which maps to a 150% risk-weight based on Table 3.

(B) Notwithstanding (ii)(B)(I) to (iii)(A), a 3 months' exposure denominated and funded in Hong Kong dollars may be allocated a risk-weight of 20%.

For the purposes of this class, clean<sup>2</sup> export trade bills negotiated under other banks' letters of credit may be reported as exposures to the issuing banks of the letters of credit.

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<sup>2</sup> This includes cases where discrepancies have been accepted by the issuing bank concerned.

## Class V Securities Firm Exposures

8. Exposures should be divided into those with an issue specific rating and those without.

(a) Exposure with an issue specific rating (i.e. rated exposure)

The issue specific rating should be used to determine the risk-weight of the exposure based on the following two tables, viz., Table 4 if it is a long-term issue specific rating and Table 5 if it is a short-term issue specific rating.

Table 4

Credit Quality Grade of an issuer/issue	1	2	3	4	5
Risk-weight (S&P, Moody's, Fitch, R&I & JCR)	20%	50%	50%	100%	150%

Table 5

Short-term Credit Quality Grade for an issue	1	2	3	4
Risk-weight (S&P, Moody's, Fitch, R&I & JCR)	20%	50%	100%	150%

(b) Exposure without an issue specific rating (i.e. unrated exposure)

(i) An unrated exposure to a securities firm should be allocated a 50% risk-weight if the securities firm –

(A) has no issuer rating and none of its other debt obligations has any issue specific rating; or

(B) has no issuer rating and none of its other debt obligations has a long-term issue specific rating, although at least one of its other debt obligations has a short-term issue specific rating.

However, the risk-weight to be allocated will be –

(C) the risk-weight applicable to the sovereign of incorporation of the firm instead if such risk-weight is higher than 50%; or

(D) 100% if the sovereign does not have an issuer rating.

(ii) If the securities firm has an issuer rating and/or any of

its other debt obligations has a long-term issue specific rating, the risk-weight of the exposure should be determined as follows:

- (A) If the firm has an issuer rating, the risk-weight which is applicable to that rating based on Table 4 should be allocated to the exposure. However, if the applicable risk-weight is lower than 50%, the exposure should be senior (i.e. unsubordinated) for the lower risk-weight to apply. If the applicable risk-weight is equal to or higher than 50%, the reporting AI is required to allocate the applicable risk-weight to the exposure only if the exposure ranks pari passu with, or is subordinate to, senior unsecured debt obligations of the issuer (see section 69(4) of the BCR).
  - (B) If any of the other debt obligations of the firm has a long-term issue specific rating, the risk-weight which is applicable to that rating based on Table 4 should be allocated to the exposure. However, if the applicable risk-weight is lower than 50%, the exposure should rank pari passu with, or should be senior to, the rated debt obligation in all respects for the lower risk-weight to apply. If the applicable risk-weight is equal to or higher than 50%, the AI is required to allocate the applicable risk-weight to the exposure only if the exposure ranks pari passu with, or is subordinate to, the rated debt obligation (see section 69(3) of the BCR).
  - (C) If both (A) and (B) above apply, the AI will have the discretion to choose which one to allocate to the exposure.
- (iii) Exceptions to the above
- (A) Notwithstanding (i)(B) above, if any of the other debt obligations of the firm (i.e. the reference debt) has a short-term issue specific rating which maps to a risk-weight of 50% or 100% based on Table 5, and the exposure has a residual maturity equal to, or shorter than, the original maturity of the reference debt, the risk-weight to be allocated to the exposure should be 100%. If the firm has two or more debt obligations which attract a risk-weight of 50% or 100%, the one with the longest original maturity should be taken as the reference

debt.

(B) Notwithstanding (ii) above, if any of the other debt obligations of the firm (i.e. the reference debt) has a short-term issue specific rating which maps to a risk-weight of 50% or 100% based on Table 5, and the exposure has a residual maturity equal to, or shorter than, the original maturity of the reference debt, the risk-weight to be allocated to the exposure should be the higher of 100% and the risk-weight derived from (ii) above. If the firm has two or more debt obligations which attract a risk-weight of 50% or 100%, the one with the longest original maturity should be taken as the reference debt.

(C) Notwithstanding (i)(B) to (iii)(B) above, the risk-weight of the exposure should be adjusted to 150% if any of the other debt obligations of the firm has a short-term issue specific rating which maps to a 150% risk-weight based on Table 5.

## **Class VI Corporate Exposures**

9a. to e. Exposures<sup>3</sup> should be divided into those with an issue specific rating and those without.

(a) Exposure with an issue specific rating (i.e. rated exposure)

The issue specific rating should be used to determine the risk-weight of the exposure based on the following tables, viz., Table 6A or 6B if it is a long-term issue specific rating and Table 7A or 7B if it is a short-term issue specific rating. In the case of an exposure to a corporate incorporated in India, the issue specific rating can be a rating issued by any ECAI (i.e. Tables 6A, 6B, 7A and 7B are applicable). In the case of an exposure to a corporate incorporated outside India, the rating must be issued by S&P, Moody's, Fitch, R&I or JCR (i.e. only Tables 6A and 7A are applicable).

Table 6A

Credit Quality Grade of an issuer/issue	1	2	3	4	5
Risk-weight ((S&P, Moody's, Fitch, R&I & JCR))	20%	50%	100%	100%	150%

<sup>3</sup> For the avoidance of doubt, corporate exposures include exposures to regional, provincial or municipal governments.



Table 6B

Credit Quality Grade of an issuer/issue	1	2	3	4	5
Risk-weight (ICRA, CARE & CRISIL)	20%	30%	50%	100%	150%

Table 7A

Short-term Credit Quality Grade for an issue	1	2	3	4
Risk-weight (S&P, Moody's, Fitch, R&I & JCR )	20%	50%	100%	150%

Table 7B

Short-term Credit Quality Grade for an issue	1	2	3	4	5
Risk-weight (ICRA, CARE & CRISIL)	20%	30%	50%	100%	150%

(b) Exposure without an issue specific rating (i.e. unrated exposure)

- (i) Exposures to corporates incorporated outside India which do not have an issue specific rating assigned by S&P, Moody's, Fitch, R&I or JCR are treated as unrated exposures for risk-weighting purposes.
- (ii) If the corporate concerned is incorporated outside India, the ratings referred to in (iii), (iv) and (v) below should be confined to ratings issued by any of S&P, Moody's, Fitch, R&I and JCR.
- (iii) Subject to (i) and (ii) above, an unrated exposure to a corporate should be assigned a 100% risk-weight if the corporate -
  - (A) has no issuer rating and none of its other debt obligations has an issue specific rating; or
  - (B) has no issuer rating and none of its other debt obligations has a long-term issue specific rating, although at least one of its other debt obligations has a short-term issue specific rating.

However, the risk-weight to be assigned will be –

- (C) the risk-weight applicable to the sovereign of

incorporation of the corporate instead if such risk-weight is higher than 100%; or

- (D) 100% if the sovereign does not have an issuer rating.
- (iv) Subject to (i) and (ii) above, if the corporate has an issuer rating and/or any of its other debt obligations has a long-term issue specific rating, the risk-weight of the exposure should be determined as follows:
  - (A) If the corporate has an issuer rating, the risk-weight which is applicable to that rating based on Table 6A or 6B, as the case requires, should be allocated to the exposure. However, if the applicable risk-weight is lower than 100%, the exposure should be senior (i.e. unsubordinated) for the lower risk-weight to apply. If the applicable risk-weight is equal to or higher than 100%, the reporting AI is required to allocate the applicable risk-weight to the exposure only if the exposure ranks pari passu with, or is subordinate to, senior unsecured debt obligations of the issuer (see section 69(4) of the BCR).
  - (B) If any of the other debt obligations of the corporate has a long-term issue specific rating, the risk-weight which is applicable to that rating based on Table 6A or 6B, as the case requires, should be allocated to the exposure. However, if the applicable risk-weight is lower than 100%, the exposure should rank pari passu with, or should be senior to, the rated debt obligation in all respects for the lower risk-weight to apply. If the applicable risk-weight is equal to or higher than 100%, the AI is required to allocate the applicable risk-weight to the exposure only if the exposure ranks pari passu with, or is subordinate to, the rated debt obligation (see section 69(3) of the BCR).
  - (C) If both (A) and (B) above apply, the AI will have the discretion to choose which one to allocate to the exposure.
- (v) Exceptions to the above
  - (A) Notwithstanding (iv) above, if any of the other debt obligations of the corporate (i.e. the reference debt) has a short-term issue specific

rating which maps to a risk-weight of 50% or 100% based on Table 7A or 7B, as the case requires, and the exposure has a residual maturity equal to, or shorter than, the original maturity of the reference debt, the risk-weight to be allocated to the exposure should be the higher of 100% and the risk-weight derived from (iv) above. If the corporate has two or more debt obligations which attract a risk-weight of 50% or 100%, the one with the longest original maturity should be taken as the reference debt.

(B) Notwithstanding (iii)(B) to (v)(A) above, the risk-weight of a exposure should be adjusted to 150% if any of the other debt obligations of the corporate has a short-term issue specific rating which maps to a 150% risk-weight based on Table 7A or 7B, as the case requires.

**Class VII Collective Investment Scheme (CIS) Exposures**

*10a. to d.* Holding of shares or units in a CIS which has been assigned with an issue specific rating should be allocated a risk-weight based on Table 8.

Table 8

Credit Quality Grade of a CIS	1	2	3	4	5
Risk-weight (S&P, Moody's, Fitch & R&I)	20%	50%	100%	100%	150%

If no issue specific rating is assigned to a CIS, the risk-weight allocated to the units or shares in the CIS held by the reporting AI should be 100%.

Holdings in a CIS which invests in assets other than cash and fixed income assets should be risk-weighted at 100% and reported under item *10c*.

**Class VIII Cash Items**

- 11.* Notes and coins are allocated a risk-weight of 0%.
- 12.* Government certificates of indebtedness are allocated a risk-weight of 0%.
- 13.* Gold bullion held by the reporting AI or held by another person for the AI on an allocated basis, to the extent backed by gold bullion liabilities, is risk-weighted at 0%. Gold bullion held in

safe custody for other entities or customers, to which the AI has no credit exposure, is not required to be included in this Form

Gold bullion held for the AI on an unallocated basis by a third party, though backed by gold liabilities, should be risk-weighted as an exposure to that third party and reported under the class to which the third party belongs.

14. Gold bullion held not backed by gold liabilities, which refers to all other holdings of gold bullion not included in item 13 above, is risk-weighted at 100%.

15. Cash items in the course of collection refer to the amount of cheques, drafts and other items drawn on other banks which are payable to the account of the reporting AI immediately upon presentation and which are in the process of collection. Such items are allocated a risk-weight of 20%. Included are cheques and drafts against which the AI has paid to its customers (i.e. by purchasing or discounting the cheques or drafts presented by the customers) and in respect of which it now seeks payment from the drawee banks.

Import and export trade bills held by the AI which are in the process of collection should not be included in this item. They should be reported as exposures to the counterparty concerned and allocated a risk-weight applicable to the counterparty.

Unsettled clearing items under the interbank clearing system in Hong Kong, and receivables arising from transactions in securities (other than *repo-style transactions*), foreign exchange, and *commodities* which are not yet due for settlement should be excluded.

16a. to e. Failed trade - delivery-versus-payment (DvP) basis

For any transaction in securities (other than repo-style transactions), foreign exchange, and commodities entered into on a *delivery-versus-payment (DvP) basis*<sup>4</sup> where payment / delivery has not yet taken place after the settlement date, the reporting AI should report the *positive current exposure* of the transaction in both the column of “Principal Amount” and the column of “Principal Amount after CRM”. The RWA of the transaction is calculated by multiplying the positive current exposure of the transaction by the risk-weight corresponding to the length of the period of unsettlement (both the start and end days of the period inclusive).

Failed trade - non-DvP basis

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<sup>4</sup> DvP transactions include payment-versus-payment (PvP) transactions

When such transaction is entered into on a non-DvP basis and payment / delivery from the counterparty has not yet taken place up to and including the fourth **business day** after the settlement date, the amount of the payment made or the current market value of the thing delivered by the AI, plus any positive current exposure associated with the transaction, should be treated as an exposure to that counterparty. The amount of the exposure should be reported under the class to which the counterparty belongs and risk-weighted at the risk-weight applicable to that counterparty.

When payment / delivery under any of the above non-DvP transactions has not yet taken place for five or more business days after the settlement date, the AI should report the exposure in item 22c.

17a. to c. These items are for reporting AIs which have adopted the **simple approach** for CRM treatment of collateral (see Section C) to report exposures collateralized by cash deposits (including certificates of deposits and comparable instruments issued by the reporting AIs). The amount of exposures secured by cash deposits should be reported in the column of “Principal Amount after CRM” along the corresponding risk-weight applicable to the cash deposits:

- if there is no **currency mismatch** between the cash deposits and the exposures, the cash deposits are risk-weighted at 0%;
- if there is currency mismatch between the cash deposits and the exposures, the cash deposits are risk-weighted at 20%; and
- if the exposures secured by the cash deposits are repo-style transactions which satisfy the requirements set out in section 82(2)(b) to (h) of the BCR (see paragraphs D3 to D10 of **Annex IIIb-D** for quick reference), the cash deposits are risk-weight at 10%.

When the cash deposit pledged to the AI is held at a third-party bank in a non-custodial arrangement, the AI should treat the cash deposit as an exposure to that third-party bank. The amount secured by that deposit should be reported under Class IV in the column of “Principal Amount after CRM” and allocated the risk-weight applicable to that third-party bank.

## **Class IX Regulatory Retail Exposures**

18a. & b. Exposures to **small businesses** or individuals which satisfy the relevant criteria set out in section 64 of the BCR are allocated a

risk-weight of 75%.

If the regulatory retail exposures to a borrower include a residential mortgage loan (RML) which is eligible for a risk-weight of 75% according to section 65(4)(a) of the BCR, the RML should be reported under item *19b* of Class X – Residential Mortgage Loans.

Exposures to small businesses or individuals which are not past due exposures and which do not satisfy the criteria for inclusion as regulatory retail exposures or residential mortgage loans (see Class X) should be reported as either corporate exposures (see Class VI) or other exposures which are not past due exposures (see Class XI), as the case requires.

## **Class X Residential Mortgage Loans**

*19.* RMLs which are not past due exposures should be reported under this item. The following RMLs should also be included:

- (A) RMLs granted for the purchase of flats under the Home Ownership Scheme, Private Sector Participation Scheme, Tenants Purchase Scheme and other similar schemes which are covered by guarantees issued by the Housing Authority;
- (B) Reverse mortgage loans granted under the Reverse Mortgage Programme of **HKMC Insurance Limited**; and
- (C) RMLs granted under Mortgage Insurance Programmes of **HKMC Insurance Limited**.

*19a.* 35% risk-weight

RMLs which satisfy the relevant criteria set out in section 65(1) of the BCR are eligible for a risk-weight of 35%.

*19b.* 75% risk-weight

RMLs which are not eligible for the risk-weight of 35% can be allocated a risk-weight of 75% when they can satisfy the criteria set out in section 65(4)(a) of the BCR.

*19c.* 100% risk-weight

Other RMLs (i.e. those which do not satisfy sections 65(1) and 65(4)(a) of the BCR) which are not past due exposures should be allocated a risk-weight of 100%.

*19d.* If the reporting AI has opted to risk-weight those RMLs which

are secured by a first legal charge on residential properties situated outside Hong Kong according to the regulatory capital rules of the jurisdictions in which the properties are situated, the RMLs should be reported under this item if the applicable risk-weights are other than 35%, 75% and 100%. RMLs which are risk-weighted at 35%, 75% or 100% according to those jurisdictions' regulatory capital rules should be reported under item 19a, 19b or 19c, whichever is applicable.

For (A) to (C) above, the reporting arrangements are as follows:

- (D) The **principal amount** of those RMLs should be reported under item 19a, 19b or 19c, depending on whether they can, after applying section 65(6) of the BCR in respect of the guarantees or insurances concerned, meet the respective conditions for being so risk-weighted.
- (E) For (A), the CRM effect of the guarantees can be taken into account and reported according to paragraph 31(a) of Section C, while in the case of (B) and (C), the insured portion of the RMLs can be treated as guaranteed exposures and reported according to paragraph 31(a) of Section C if the insurance concerned meets all the criteria set out in section 98 of the BCR.

## **Class XI Other Exposures which are not Past Due Exposures**

Included in this class are all on-balance sheet exposures (i) which are subject to credit risk capital requirements; (ii) which are not past due exposures or exposures that are subject to 1250% risk-weight; and (iii) which have not been included elsewhere in this Form. Exposures included in this class are subject to a risk-weight of 100%, unless otherwise specified in the BCR or by the MA. Examples of exposures to be included in this class are:

### **20a. Exposures to individuals not elsewhere reported**

This item refers to exposures to individuals which have not been included in Class X – Residential Mortgage Loans and do not satisfy the qualifying criteria for inclusion in Class IX - Regulatory Retail Exposures.

### **20b. Holdings of equity or other forms of capital instruments issued by, and non-capital LAC liabilities of, financial sector entities subject to 100% risk-weight**

This item is for reporting holdings<sup>5</sup>, whether rated or not, falling within section 66(1)(a)(i) and (iii) of the BCR subject to 100% risk-weight under section 66(2)(a) of the BCR.

20c. Investments in equity of entities (other than financial sector entities) subject to 100% risk-weight

Included are investments in *commercial entities* which are subject to 100% risk-weight (see sections 66 and 68A of the BCR).

20d. Premises, plant and equipment, other fixed assets for own use, and other interest in land

Included are –

- investments in premises, plant and equipment and all other fixed assets of the reporting AI which are held for own use;
- a right-of-use asset recognized by the reporting AI as a lessee in accordance with the prevailing accounting standards issued by Hong Kong Institute of Certified Public Accountants where the asset leased is a tangible asset; and
- other interests in land which are not occupied by the AI or used in the operation of the AI's business.

20e. Holdings of equity or other forms of capital instruments issued by financial sector entities subject to 250% risk-weight

This item is for reporting holdings, whether rated or not, falling within section 66(1)(a)(ii) of the BCR which are subject to 250% risk-weight under section 66(2)(b) of the BCR.

20f. Multiple-name credit-linked notes

This item refers to multiple-name *credit-linked notes* (CLN) (e.g. first-to-default CLN) for which the applicable risk-weights are determined according to section 68(e) of the BCR (see paragraph 19(c) for explanation).

20g. Other on-balance sheet exposures which are not elsewhere reported

This item refers to investments or exposures (e.g. those falling within section 66(1)(b) of the BCR) which are subject to credit risk capital requirements and have not been reported in Classes I to X, XI (item 20a to 20f), XII and XIII.

This item also includes *credit protection covered portions* of the following exposures:

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<sup>5</sup> Reporting of holdings of non-capital LAC liabilities starts from the position as of end-June 2019.



- (a) Exposures that are secured by recognized collateral –
  - (i) for which the applicable risk-weights are determined under Part 7 of the BCR; and
  - (ii) of which the CRM effect is calculated by using the simple approach.
- (b) Exposures that are covered by credit derivative contracts eligible for a risk-weight of 2% or 4% under section 100(10) or 101(6A) of the BCR (The credit protection covered portions should be reported as a separate item from the credit protection covered portions arising from other types of CRM. To avoid doubt, if section 72(f)(ii) or 226I(b) of the BCR applies to the credit derivative contracts concerned, the default risk exposures in respect of the contracts are regarded as zero for the purposes of Form MA(BS)3(IIIe).).

If necessary, the MA may specify a risk-weight which is greater than 100% for an exposure falling within this class. Such exposure should be reported under this item.

#### **Class XII Past Due Exposures**

- 21a. to i.* A risk-weight of 150% is allocated to the unsecured portion of a past due exposure which is determined by deducting from the gross outstanding amount of the exposure the amount of any specific provisions made in respect of the exposure and the value of any *credit protection* provided to the exposure.

#### **Class XIII Exposures subject to 1250% risk-weight**

Report here the following types of on-balance sheet exposure which are subject to a risk-weight of 1250%.

*22a.* First loss portion of credit protection

This item refers to the first loss portion mentioned in section 101(2) and (8) of the BCR.

*22b.* Significant exposures to commercial entities

This item refers to the reporting AI's holdings of shares in commercial entities that exceed the threshold set out in section 68A of the BCR.

*22c.* Non-DvP transactions remain unsettled for 5 or more business days

This item refers to the amount of payment made or the current

market value of things delivered by the reporting AI, plus any positive current exposure, in respect of securities (other than repo-style transactions), foreign exchange and commodities transactions entered into on a basis other than a DvP basis, where the payment or deliverables from the counterparty remain unsettled after the contractual settlement date for 5 or more business days (see also section 63A of the BCR).

19. Risk-weights for Credit-linked Notes held

- (a) The risk-weight of a rated, single-name CLN held by the reporting AI should be determined based on the issue specific rating assigned to the CLN. The CLN should be allocated a risk-weight which is the greater of—
- (i) the risk-weight attributable to the CLN based on the scale of credit quality grades applicable to the issuer of the note; and
  - (ii) the risk-weight attributable to the CLN based on the scale of credit quality grades applicable to the *reference entity*.

If there is not available a scale of credit quality grades applicable to the issue specific rating of the CLN (e.g. the rating is issued by an Indian ECAI but neither the issuer nor the reference entity is a corporate incorporated in India), the AI should treat the CLN as unrated and determine the applicable risk-weight in accordance with paragraph (b) below.

- (b) An unrated, single-name CLN should be allocated a risk-weight which is the higher of the risk-weight of the *reference obligation* of the note and the risk-weight of the note issuer. The amount of the exposure, which is the book value of the note, should be reported under the relevant class in Division A.
- (c) If the note is a multiple-name CLN (whether having an issue specific rating or not), the AI should determine the risk-weight of the basket of reference obligations in accordance with section 68(e) of the BCR. The CLN should be reported in Division A under the class applicable to the issuer of the note if the risk-weight of the issuer is assigned to the CLN, otherwise, the CLN should be reported under Class XI item 20f in that Division.

## B.2 Off-balance Sheet Exposures

### Classification and Determination of Credit Conversion Factors

20. The reporting AI should classify each of its off-balance sheet exposures into the appropriate standard items listed below and report the *principal amount* and the RWA of each exposure based on the instructions set out in Section C.
21. **Credit conversion factors** (CCFs) for items 1 to 9 are set out in section 71(1) of the BCR. CCFs for items 10 to 17 and 24 are set out in sections 71(2) and 73 of the BCR respectively (also see paragraphs 22 to 26 for explanation).

<u>Item</u>	<u>Nature of item</u>
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- |    |  |
|----|--|
| 1. | <b><i>Direct credit substitutes</i></b>            |
| 2. | <b><i>Transaction-related contingencies</i></b>    |
| 3. | Trade-related contingencies                        |
| 4. | <b><i>Asset sales with recourse</i></b>            |
| 5. | <b><i>Forward asset purchases</i></b>              |
| 6. | <b><i>Partly paid-up shares and securities</i></b> |
| 7. | <b><i>Forward forward deposits placed</i></b>      |

This item refers to a commitment to place a forward forward deposit. If the reporting AI has contracted to receive a forward forward deposit, failure to deliver by the counterparty will result in an unanticipated change in the AI's interest rate exposure and may involve a replacement cost. Such exposure should be accorded the same treatment as ***interest rate contracts*** and reported under item 11.

- |    |   |
|----|---|
| 8. | <b><i>Note issuance and revolving underwriting facilities</i></b> |
|----|---|

- |           |                   |
|-----------|-------------------|
| 9a. to c. | Other commitments |
|-----------|-------------------|

Included is the undrawn portion of any binding arrangements which obligate the reporting AI to provide funds or to incur off-balance sheet exposures (e.g. commitment to issue letters of credit or performance bonds) at some future dates. The latter does not include commitments to enter into OTC derivative transactions / credit derivative contracts.

A commitment is regarded as being created no later than the acceptance in writing by the customer of the facility offered.

In the case of an off-balance sheet exposure (exposure A) arising from a commitment the drawdown of which will give rise to another off-balance sheet exposure (exposure B) falling within any of items 1 to 8 and 24, the CCF applicable to exposure A should be the lower of—

- the CCF applicable to exposure A based on the original maturity<sup>6</sup> of the commitment and whether it can be cancelled at any time unconditionally; and
- the CCF applicable to exposure B.

If the commitment is in the form of a general banking facility consisting of 2 or more credit lines (including lines for entering into OTC derivative transactions / credit derivative contracts), the AI should assign a CCF to exposure A based on the original maturity of the commitment and whether the commitment can be unconditionally cancelled at any time.

- 9a. This item includes off-balance sheet exposures arising from commitments which are unconditionally cancellable without prior notice by the reporting AI other than for “force majeure” reason, or which effectively provide for automatic cancellation due to deterioration in a borrower’s creditworthiness. This also includes any revolving or undated/open-ended commitments, e.g. overdrafts or unused credit card lines, provided that they can be unconditionally cancelled at any time and subject to credit review at least annually.
- 9b. This item captures other off-balance sheet exposures arising from—
- ◆ commitments with an original maturity of up to one year; or
  - ◆ commitments the drawdown of which would give rise to off-balance sheet exposures subject to a CCF of 20%.
- 9c. This item captures other off-balance sheet exposures arising from—
- ◆ commitments with an original maturity of over one year; or
  - ◆ commitments the drawdown of which would give rise to off-balance sheet exposures subject to a CCF of 50%.
10. to 17. Default Risk Exposures (Current Exposure Method): Bilateral Trades – Derivative Contracts (including centrally cleared trades that are treated as bilateral trades)

Reporting AIs that are using the *current exposure method* to

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<sup>6</sup> This is the length of time between the date the commitment is made and the earliest date on which the reporting institution can, at its option, unconditionally cancel the commitment.

calculate the *counterparty default risk* of bilateral trades (including centrally cleared trades that are treated as bilateral trades) arising from derivative contracts should report the trades in these items.

10. ***Exchange rate contracts***

Forward exchange rate contracts arising from swap deposit arrangements are excluded from the calculation of RWA. Under such arrangements, the money deposited by customers is under the control of the reporting AI during the life of the forward contracts, therefore the AI is able to ensure that the customers do not default on the settlement of the forward contracts.

11. Interest rate contracts

12. ***Equity contracts***

13. ***Precious metal contracts***

14. ***Debt security contracts*** or ***other commodity contracts***

15. Credit derivative contracts

This item is intended for the reporting of counterparty default risk exposures arising from *credit default swaps* and *total return swaps*.

Credit risk exposure to reference entities of credit derivative contracts booked in the banking book does not fall within the scope of this item and should be reported in the following manner:

(a) Reporting AI as protection seller

Credit risk exposure to a reference entity of a credit derivative contract is reported as “direct credit substitutes” under item 1 above.

(b) Reporting AI as protection buyer

Credit risk protection provided by a credit derivative contract is either:

- ignored for capital adequacy purposes if the protection is not bought for the purposes of hedging the credit risk of an exposure of the AI or the credit derivative contract is not a ***recognized credit derivative contract***; or
- accounted for in the ways as described in Section C if the protection is bought for the purposes of hedging the credit risk of an exposure of the AI and the credit derivative contract is a recognized credit derivative

contract.

16. Derivative contracts subject to valid bilateral netting agreements

This item refers to the default risk exposure obtained by using the methodology set out in section 95 of the BCR (also see the explanation in paragraph 37). For capital adequacy purposes, only default risk exposures of derivative contracts may be reported on a net basis.

17. Other derivative contracts not specified above

This item is intended for the reporting of default risk exposures in respect of derivative contracts which are not covered by items 10 to 16.

18. Default Risk Exposures (Non-IMM(CCR) Approach): Bilateral Trades – SFTs (including centrally cleared trades that are treated as bilateral trades)

Reporting AIs that are using the methods explained in paragraph 11 to calculate the counterparty default risk of bilateral trades (including centrally cleared trades that are treated as bilateral trades) arising from SFTs should report the trades in this item.

19. to 23. Default Risk Exposures (IMM(CCR) approach): Bilateral Trades (including centrally cleared trades that are treated as bilateral trades)

Reporting AIs that are using the IMM(CCR) approach to calculate the counterparty default risk of bilateral trades (including centrally cleared trades that are treated as bilateral trades) arising from derivative contracts and SFTs should report the trades in these items.

19. Portfolio-level risk-weighted amount based on current market data

The portfolio-level risk-weighted amount calculated under sections 226D(1)(a) and (2)(a) of the BCR should be reported in this item.

20. Portfolio-level risk-weighted amount based on stress calibration

The portfolio-level risk-weighted amount calculated under sections 226D(1)(b) and (2)(b) of the BCR should be reported in this item.

Only the higher of item 19 and item 20 will be used in the calculation of the total risk-weighted amount for credit risk under the STC approach.

21. to 23. Breakdown of Portfolio-level Risk-weighted Amount

Items 21 to 23 capture the breakdown of the portfolio-level risk-weighted amount that will be used in the capital adequacy ratio calculation. In other words, if the portfolio-level risk-weighted amount calculated by using current market data is larger, the data reported in items 21 to 23 should be those that make up the amount reported in item 19.

21. Netting sets (not subject to recognized netting)

This item captures transactions that are not subject to **recognized netting** or that are required to be treated as a separate **netting set** under section 226J(1) of the BCR. If the reporting AI's **IMM(CCR) approval** covers derivative contracts or SFTs and does not exclude **long settlement transactions**, the AI should report long settlement transactions in item 21a or 21b, depending on the nature of the long settlement transactions concerned. If the AI only uses the IMM(CCR) approach for long settlement transactions but not for other transactions, the AI should report the long settlement transactions in item 21c.

22. Netting sets (subject to valid bilateral netting agreements)

This item captures transactions that are subject to valid bilateral netting agreements and that are not required to be treated as a separate netting set under section 226J(1) of the BCR. The reporting treatment for long settlement transactions mentioned in item 21 above applies to item 22.

23. Netting sets (subject to valid cross-product netting agreements)

This item captures transactions that are subject to valid cross-product netting agreements and that are not required to be treated as a separate netting set under section 226J(1) of the BCR.

24. Other off-balance sheet exposures which are not elsewhere reported

Off-balance sheet exposures other than those included in items 1 to 23 above should be reported in this item, these include credit exposures to persons holding collateral posted by the reporting AI (other than collateral posted for centrally cleared trades and held by CCPs) in a manner that is not bankruptcy remote from the persons. For other off-balance sheet exposure, the AI should consult the HKMA on the reporting arrangements.

22. CCFs for OTC derivative transactions under the current exposure method

The CCFs applicable to OTC derivative transactions are set out in the following table:

Residual Maturity	Exchange Rate (including gold)	Interest Rate	Equity	Precious Metal	Debt Security or Other Commodity
1 year or less	1.0%	0%	6.0%	7.0%	10.0%
Over 1 year to 5 years	5.0%	0.5%	8.0%	7.0%	12.0%
Over 5 years	7.5%	1.5%	10.0%	8.0%	15.0%

For a contract with multiple exchanges of principal, the CCF to be used should be multiplied by the number of remaining payments under the contract.

For a contract which is structured to settle outstanding exposures on specified payment dates and the terms of the contract are reset so that the market value of the contract is zero on these dates, the residual maturity of the contract should be treated as being equal to the period until the next reset date. If the contract is an interest rate contract where the remaining time to final maturity of the contract is more than one year, the CCF is subject to a floor of 0.5%.

23. CCFs for credit derivative contracts booked in the trading book under the current exposure method

The CCFs for calculating the **potential exposure** of single-name credit derivative contracts are as follows:

	Protection buyer	Protection seller
<b>Total Return Swap</b>		
Qualifying reference obligation <sup>7</sup>	5%	5%
Non-qualifying reference obligation <sup>7</sup>	10%	10%
<b>Credit Default Swap</b>		
Qualifying reference obligation <sup>7</sup>	5%	5%*
Non-qualifying reference obligation <sup>7</sup>	10%	10%*

\* The protection seller of a credit default swap is required to calculate potential exposure only when such a swap is subject to closeout upon insolvency of the protection buyer while the reference entity is still solvent. The potential exposure of the swap should be capped at the amount of unpaid premium. The protection seller of any credit default swaps without such a “closeout” clause is not required to calculate potential exposure.

In the case of a **first-to-default credit derivative contract**, the CCF for **non-qualifying reference obligation** should be applied to the contract if there is at least one non-qualifying reference obligation in the basket of reference obligations specified in the contract, otherwise, the CCF for **qualifying reference obligation** should be used. In the case of a **second-to-default credit derivative contract**, the CCF for non-qualifying reference obligation should be applied to the contract if there are at least two non-qualifying reference obligations in the basket of reference obligations specified in the contract, otherwise, the CCF for qualifying reference obligation should be used. The same principle applies to other subsequent-to-default credit derivative contracts.

<sup>7</sup> The definition of “qualifying” is same as that of the “qualifying” category for the treatment of specific risk under the **standardized (market risk) approach** described in Part 8 of the BCR and also includes reference obligations issued by sovereigns whose credit quality grades are 1, 2 or 3 as determined in accordance with section 287 of the BCR.



24. CCFs for other derivative contracts under the current exposure method

For OTC derivative transactions and credit derivative contracts that are not mentioned in paragraphs 22 and 23, the applicable CCFs are the same as those applicable to debt security contracts or other commodity contracts.

25. For off-balance sheet items not mentioned above, a CCF of 100% should be applied unless otherwise specified by the MA.

26. For exchange traded derivative contracts that are treated as bilateral trades for risk-weighting purpose, the CCFs applicable to the contracts should be determined as if they were OTC derivative transactions or credit derivative contracts, as the case requires.

27. Default risk exposures of certain credit derivative contracts under the current exposure method and the IMM(CCR) approach

The default risk exposures of credit derivative contracts falling within the following categories can be regarded as zero:

- (a) Credit default swaps that have been reported as “direct credit substitutes” under item 1 in Division B or as securitization exposures in Form MA(BS)3(IIIId) (i.e. the reporting AI has already held capital against the credit risk of the reference obligations underlying the swaps);
- (b) Recognized credit derivative contracts held by the reporting AI as protection buyer in respect of which the CRM effects have already been taken into account in accordance with Divisions 9 and 10 of Part 4 or Division 5 of Part 7 of the BCR for the purposes of RWA calculation.

Determination of Risk-weights for Off-balance Sheet Items

28. Risk-weights for items other than default risk exposures arising from derivative contracts and SFTs (i.e. items 1 to 9 and 24)

The risk-weight of an off-balance sheet item is determined in the same manner as an on-balance sheet exposure except for the following:

- (a) Asset sales with recourse;
- (b) Forward asset purchases;
- (c) Partly paid-up shares and securities; and
- (d) Direct credit substitutes arising from the selling of credit derivative contracts in the form of total return swaps or credit default swaps booked in the reporting AI’s banking book.

The risk-weight of an exposure falling within any of the above categories should be determined as:

- (e) in the case of (a) and (b), the risk-weight allocated to the asset sold/to be purchased or the obligor of the asset, as the case requires;
- (f) in the case of (c), the risk-weight allocated to the relevant shares or securities; and
- (g) in the case of (d), the risk-weight of the relevant reference obligation of the credit derivative contract. The risk-weights of credit derivative contracts which provide credit protection to a basket of exposures should be determined as follows:
  - (i) if the credit derivative contract sold is a first-to-default credit derivative contract, the reporting AI should allocate to the contract a risk-weight which is equal to the sum of the risk-weights of the reference obligations in the basket of reference obligations specified in the contract, subject to a maximum of 1,250%;
  - (ii) if the credit derivative contract sold is a second-to-default credit derivative contract, the AI should allocate to the contract a risk-weight which is equal to the sum of the risk-weights of the reference obligations in the basket of reference obligations specified in the contract, but excluding the reference obligation which carries the lowest risk-weight, subject to a maximum of 1,250%;
  - (iii) if the credit derivative contract sold is some other subsequent-to-default credit derivative contract, the same principle set out in (ii), with all necessary modifications, applies to the contract; and
  - (iv) if the credit derivative contract sold provides credit protection proportionately to the reference obligations in the basket specified in the contract, the risk-weight of the AI's exposure arising from the contract (i.e.  $RW_a$ ) must be calculated by the following formula:

$$RW_a = \sum_i a_i \times RW_i$$

where:

$RW_a$  = Average risk-weight of a basket of reference obligations

$a_i$  = Proportion of credit protection allocated to a reference obligation

$RW_i$  = Risk-weight of a reference obligation

29. Risk-weights for default risk exposures arising from derivative contracts and SFTs (i.e. items 10 to 23)

The applicable risk-weights are determined as the **attributed risk-weights** allocated to the counterparties of these contracts.

## **Section C: Calculation and Reporting of Risk-weighted Amount**

### **C.1 On-balance Sheet Exposures**

30. If an exposure is not covered by any recognized CRM, the amounts reported in the columns of “Principal Amount” and “Principal Amount after CRM” should be the same.
31. If an exposure is covered fully or partially by recognized CRM, the amount reported in the column of “Principal Amount after CRM” should be adjusted to reflect the CRM effect as set out below:
- (a) **CRM treatment by substitution of risk-weights** (applicable to collateral under the simple approach<sup>8</sup>, guarantees and credit derivative contracts)
- (i) Firstly, identify the class to which the exposure belongs based on the instructions set out in Section B, then report the whole principal amount (after deduction of specific provisions) of the exposure under that class and in the “Principal Amount” column of the row for the risk-weight applicable to that exposure.
- (ii) Secondly, divide the reported “Principal Amount” of the exposure into a credit protection covered portion and a ***credit protection uncovered portion***:
- (A) For guarantees and credit derivative contracts, the value of credit protection is the maximum liability of the ***credit protection provider*** to the reporting AI under the credit protection. However, if there is currency mismatch between the credit protection and the exposure, the covered portion should be reduced by a ***haircut*** for the currency mismatch.

$$G_a = G \times (1 - H_{fx})$$

where:

- $G_a$  = The amount of the exposure covered by credit protection and adjusted for currency mismatch
- $G$  = Maximum liability of the credit protection provider under the credit protection
- $H_{fx}$  = Haircut for currency mismatch, subject to the adjustment set out in section 92 of the BCR (see paragraph E3 of **Annex IIIb-E** for quick reference)

(The value of the ***standard supervisory haircut*** for currency mismatch is set out in Schedule 7 to the BCR. See **Annex IIIb-E** for quick reference).

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<sup>8</sup> For past due exposures secured by collateral, the reporting institution should only use the Simple Approach to CRM treatment.

- (B) For collateral, the value of credit protection is its market value subject to a minimum revaluation frequency of 6 months for non-past due exposures, and 3 months for past due exposures.

If the collateral is real property (which is regarded as recognized collateral only in the case of past due exposures), the market value of the property should be reduced by 10% in the case of residential property and 20% in the case of any other real property. The risk-weight attributed to real property is 100%.

(iii) Thirdly—

- (A) If the exposure covered by recognized CRM is not a past due exposure, report the covered portion under the class to which the ***credit protection*** belongs and in the “Principal Amount after CRM” column of the row for the risk-weight applicable to the credit protection as if the credit protection were an on-balance sheet exposure of the reporting AI. That is, the risk-weight applicable to the credit protection is—

- (if the credit protection is collateral) the one applicable to the collateral subject to a 20% floor except in the situations set out in section 82 of the BCR (see Annex IIIb-C for quick reference);
- (if the credit protection is a guarantee or a credit derivative contract, other than a credit derivative contract that falls within section 100(7)) the one applicable to the ***credit protection provider*** based on whether it has an issuer rating or not, without having regard to whether any of its other debt obligations has an issue specific rating;
- (if the credit protection is a credit derivative contract that falls within section 100(7)) 2% or 4%, as the case requires; or
- (if the collateral is in the form of cash deposits, certificates of deposit or other comparable instruments and it is held at a third-party bank in a non-custodial arrangement and unconditionally and irrevocably pledged or assigned to the AI) the one applicable to the third-party bank determined by the same principle as set out in the second bullet point.

- (B) If the exposure covered by recognized CRM is a past due exposure, report the covered portion under Class XII - Past Due Exposure in the “Principal Amount after CRM” column of the row for the risk-weight applicable to the credit protection.

For both (A) and (B), the RWA of the covered portion is then calculated by multiplying the amount of the covered portion by the risk-weight applicable to the credit protection.

(C) However, if the credit protection for a basket of exposures consists of a credit derivative contract with the following features, the extent of credit protection should be determined as follows:

- if the contract is a recognized first-to-default credit derivative contract, the reporting AI may recognize that credit protection for the exposure in the basket which would carry the lowest RWA in the absence of the credit protection, provided that the principal amount of the exposure is not more than the *notional amount* of the credit derivative contract. The AI may substitute the risk-weight of the credit protection for the risk-weight of that exposure;
- if the contract is a recognized second-to-default credit derivative contract, the reporting AI may substitute the risk-weight of the credit protection for the risk-weight of the exposure in the basket which would carry the second lowest RWA in the absence of the credit protection only if—
  - a. the AI has, as a protection buyer, entered into a recognized first-to-default credit derivative contract of which the basket of reference obligations, or the basket of obligations used for the purposes of determining whether a *credit event* has occurred, is the same as that of the second-to-default credit derivative contract; or
  - b. an obligation in the basket referred to in paragraph a. above has defaulted;
- if the contract is any other subsequent-to-default credit derivative contract, the same principle as that applied to a second-to-default credit derivative contract, with all necessary modifications, applies;
- if the contract provides credit protection proportionately to the reference obligations in the basket specified in the contract, the reporting AI may substitute the risk-weight of the credit protection for the risk-weights of the exposures to the extent of the amounts protected.

The above should be read in conjunction with section 101 of the BCR.

(iv) Lastly, report the amount of the uncovered portion under the class to which the exposure belongs and in the “Principal Amount after CRM”

column of the row for the risk-weight of the exposure. The reported RWA of the uncovered portion is then calculated by multiplying the amount of the uncovered portion by the risk-weight of the exposure.

(b) **CRM treatment by reduction of Principal Amount of exposures** (applicable to collateral under the *comprehensive approach*, on-balance sheet netting and bilateral netting of repo-style transactions)

(i) **Comprehensive Approach for collateral**

(A) Firstly, report the whole principal amount (after deduction of specific provisions) of the exposure under the class to which the exposure belongs and in the “Principal Amount” column of the row for the risk-weight applicable to that exposure.

(B) Secondly, subtract the value of collateral from the reported “Principal Amount” of the exposure by using the formula below. Report the net amount (i.e. E\*) in the “Principal Amount after CRM” column under the same class to which the exposure belongs and in the same row for the risk-weight of that exposure.

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

where:

E\* = Principal amount after CRM

E = Principal amount of the exposure net of specific provisions, if any

H<sub>e</sub> = Haircut appropriate to the exposure

C = Current market value of the collateral

H<sub>c</sub> = Haircut appropriate to the collateral

H<sub>fx</sub> = Haircut for currency mismatch, if any, between the exposure and the collateral

The values of standard supervisory haircuts are set out in Schedule 7 to the BCR and the required adjustments for transactions with holding period or frequency of re-margining/revaluation different from those underlying the supervisory haircuts are set out in section 92 of the BCR (See **Annex IIIb-E** for quick reference).

(C) Thirdly, report the RWA calculated by multiplying E\* by the risk-weight of the exposure.

(c) **On-balance sheet netting**

(i) Firstly, identify the class to which the obligor of the exposures belongs and the risk-weight applicable to the obligor. Then, report the aggregate principal amount (after deduction of specific provisions) of

the exposures under that class and in the “Principal Amount” column of the row for the risk-weight applicable to the obligor.

- (ii) Secondly, report the aggregate principal amount of the exposures net of aggregate book value of liabilities in the “Principal Amount after CRM” column under the same class to which the obligor belongs and in the same row for the risk-weight of the obligor. If the exposures are denominated in currencies different from those of the liabilities, the aggregate book value of the liabilities should be reduced by a haircut for the currency mismatch.

$$\text{Principal amount after CRM} = \max \{0, \text{exposures} - \text{liabilities} \times (1 - H_{fx})\}$$

where:

$H_{fx}$  = Haircut for currency mismatch, if any, between the exposures and the liabilities, subject to adjustment set out in section 92 of the BCR (see paragraph E3 of **Annex IIIb-E** for quick reference)

- (iii) Thirdly, the RWA is calculated by multiplying the “Principal Amount after CRM” by the risk-weight of the obligor.

32. Credit protection by means of Credit-linked Notes

If the reporting AI issues a credit-linked note to cover the credit risk of an exposure, the amount of credit protection is the amount of funds received from that note. The amount of the exposure which is covered by the funds is treated as an exposure collateralized by cash deposits.

**C.2 Off-balance Sheet Exposures**

33. For each off-balance sheet exposure, the reporting AI should identify the relevant item in Division B to which the exposure belongs, and report the exposure in the row for that item. Unlike on-balance sheet exposures, there is no need to report principal amount after CRM and applicable risk-weight in the Form. Only principal amount and RWA should be reported.
34. For the purposes of items 15, 16 and 19 to 23 in Division B, if the derivative contract concerned is a single-name credit default swap that falls within section 226J(1) of the BCR and the default risk exposure in respect of the swap is determined in accordance with section 226J(3) of the BCR, the reporting AI should not take into account any recognized CRM afforded to the swap when calculating the RWA of the swap (see also section 74(6A) of the BCR).

For Items other than Default Risk Exposures arising from Derivative Contracts and SFTs (i.e. items 1 to 9 and 24)

35. If an off-balance sheet exposure is not covered by recognized CRM, the process for calculating the RWA is as follows:
- (a) Firstly, calculate the CEA of the exposure by multiplying the principal amount (after deduction of specific provisions) by the applicable CCF.
  - (b) Secondly, multiply the CEA by the applicable risk-weight to calculate the RWA.
36. If an off-balance sheet exposure is covered fully or partially by recognized CRM, the calculation is similar to that of on-balance sheet exposures (see Section C.1), except that in calculating the RWA, CEA is used instead of principal amount (see paragraph 31):
- (a) **CRM treatment by substitution of risk-weights** (applicable to collateral under the simple approach, guarantees and credit derivative contracts)
    - (i) Firstly, report the whole principal amount (after deduction of specific provisions) of the exposure in the “Principal Amount” column of the row for the item to which the exposure belongs;
    - (ii) Secondly, divide the amount above into two portions: the credit protection covered portion and the credit protection uncovered portion (the value of the credit protection for different types of recognized CRM is determined in the same way as explained in Section C.1);
    - (iii) Thirdly, multiply the amount of each of the two portions by the CCF applicable to the exposure to come up with two CEAs and report the sum of the two CEAs in the column of “Credit Equivalent Amount”; and
    - (iv) Fourthly, obtain two RWAs by—
      - (A) multiplying the CEA of the uncovered portion by the risk-weight applicable to the exposure, and
      - (B) multiplying the CEA of the covered portion by the risk-weight applicable to the credit protection.

The sum of the two RWAs is reported in the column of “Risk-weighted Amount”.
  - (b) **CRM treatment by reduction of Principal Amount of exposures** (applicable to collateral under the comprehensive approach)



- (i) Firstly, report the whole principal amount (after deduction of specific provisions) of the exposure in the “Principal Amount” column of the row for the item to which the exposure belongs.
- (ii) Secondly, calculate the CEA after CRM by using the following formula and report the amount calculated (i.e. E\*) in the column of “Credit Equivalent Amount”:

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

where:

- E\* = CEA after CRM
- E = Principal amount of the exposure net of specific provisions, if any
- H<sub>e</sub> = Haircut appropriate to the exposure
- C = Current market value of the collateral
- H<sub>c</sub> = Haircut appropriate to the collateral
- H<sub>fx</sub> = Haircut for currency mismatch, if any, between the exposure and the collateral
- CCF = Credit conversion factor applicable to the exposure

Haircuts are subject to adjustment as set out in section 92 of the BCR (see paragraph E3 of [Annex IIIb-E](#) for quick reference).

- (iii) Thirdly, multiply E\* by the risk-weight of the counterparty and report the RWA calculated in the column of “Risk-weighted Amount”.

For Default Risk Exposures arising from Derivative Contracts under the Current Exposure Method (i.e. items 10 to 17)

37. Contracts which are not covered by valid bilateral netting agreements should be reported under items 10 to 15 and 17. For contracts covered by valid bilateral netting agreements, the reporting AI may report them on a net basis under item 16.

(a) Current exposure method

- (i) Firstly, report the principal amount of the contract(s) in the column of “Principal Amount”.
- (ii) Secondly, calculate the CEA which is the sum of the current exposure and the potential exposure as calculated below:

(A) current exposure is –

- a contract’s mark-to-market replacement cost (if the cost is negative or zero, the current exposure should be taken as zero); or

- (if contracts are covered by a valid bilateral netting agreement) the sum of the positive and negative mark-to-market replacement costs of individual contracts (if the sum so obtained is negative or zero, the current exposure should be taken as zero).

(B) potential exposure (i.e. the add-on) is –

- derived by multiplying the principal amount of a contract by the applicable CCF specified in Section B.2; or
- (if contracts are covered by a valid bilateral netting agreement) derived by the formula set out in paragraph (b) below.

If the exposure arising from the contract(s) falls within section 226Z of the BCR, the CEA should be multiplied by the applicable scaling factor.

(iii) Thirdly, deduct specific provisions and *CVA losses*, if any, from the exposure amount calculated under subparagraph (ii) and report the resultant amount in the column of “Credit Equivalent Amount”.

(iv) Finally, multiply the reported “Credit Equivalent Amount” by the risk-weight applicable to the counterparty to calculate the RWA.

(b) Add-on of derivative contracts subject to recognized netting

The net add-on ( $A_{Net}$ ) of derivative contracts covered by a valid bilateral netting agreement is calculated by using the following formula:

$$A_{Net} = 0.4 \times A_{Gross} + 0.6 \times NGR \times A_{Gross}$$

where:

$A_{Gross}$  = The sum of the individual add-on amounts derived by multiplying the principal amounts of all of the individual contracts by the applicable CCFs

NGR = The ratio of net replacement cost for all the contracts to gross replacement cost for all the contracts

The NGR in the above formula can be calculated on a per counterparty basis or on an aggregate basis. However, the basis chosen by the reporting AI should be used consistently. An illustration of the calculation of the NGR based on the two calculation bases is given in Annex IIIb-G.

There is no need to calculate the potential exposure of single currency floating/floating interest rate swaps. The current exposure, i.e. replacement cost, of these contracts should be taken as their CEAs.

38. If the (net) exposure to a counterparty is covered fully or partially by recognized CRM, the calculation is similar to that of on-balance sheet exposures (see

Section C.1 above), except that in calculating the RWA, CEA is used instead of principal amount.

(a) **CRM treatment by substitution of risk-weights** (applicable to collateral under the simple approach, guarantees and credit derivative contracts)

- (i) Firstly, report the principal amount of the contract in the column of “Principal Amount”;
- (ii) Secondly, convert the principal amount into a CEA by using the current exposure method. If the exposure arising from the contract falls within section 226Z of the BCR, the CEA should be multiplied by the applicable scaling factor;
- (iii) Thirdly, deduct specific provisions and CVA losses, if any, from the exposure amount calculated under subparagraph (ii) and report the resultant amount in the column of “Credit Equivalent Amount”;
- (iv) Fourthly, divide the amount reported in column “Credit Equivalent Amount” into two portions: the credit protection covered portion and the credit protection uncovered portion; and
- (v) Finally, multiply the credit protection uncovered portion by the risk-weight applicable to the counterparty and the credit protection covered portion by the risk-weight applicable to the credit protection to calculate two RWAs. The sum of the two RWAs is reported in the column of “Risk-weighted Amount”.

(b) **CRM treatment by reduction of Principal Amount of exposures** (applicable to collateral under the comprehensive approach)

- (i) Firstly, report the principal amount of the contract in the column of “Principal Amount”;
- (ii) Secondly, convert the principal amount into a CEA by using the current exposure method. If the exposure arising from the contract falls within section 226Z of the BCR, the CEA should be multiplied by the applicable scaling factor;
- (iii) Thirdly, deduct specific provisions and CVA losses, if any, from the exposure amount calculated under subparagraph (ii) and report the resultant amount in the column of “Credit Equivalent Amount”;
- (iv) Fourthly, calculate the net CEA after CRM by using the following formula:

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

where:

E*	=	Net CEA after CRM
E	=	Net CEA of off-balance sheet exposure (i.e. the amount obtained from subparagraph (iii) above)
C	=	Current market value of the collateral
H <sub>c</sub>	=	Haircut appropriate to the collateral
H <sub>fx</sub>	=	Haircut for currency mismatch, if any, between the settlement currency and the currency in which the collateral is denominated

Haircuts are subject to adjustment as set out in section 92 of the BCR (see paragraph E3 of **Annex IIIb-E** for quick reference); and

- (v) Finally, multiply E\* by the risk-weight of the counterparty and report the RWA so calculated in the column of “Risk-weighted Amount”.

For SFTs of which the default risk exposures are not calculated by using the IMM(CCR) Approach (i.e. item 18)

39. The reporting AIs should report SFTs as follows:

- (a) Column “Principal amount” – report the aggregate principal amount (after deduction of specific provisions for default risk exposures) of the securities sold or lent, or the money paid or lent, or the securities or money provided as collateral, under the SFTs.
- (b) Column “Principal amount after CRM” –
- (i) Under the simple approach for collateral, the amount reported in this column should be the same as that reported in the column “Principal amount”.
- (ii) Under the comprehensive approach for collateral, report the principal amount (after deduction of specific provisions for default risk exposures) net of collateral (i.e. E\*) calculated by using the formula in paragraph 36(b)(ii) (using a CCF of 100%) if the SFTs are not subject to recognized netting or in paragraph 40 if the SFTs are subject to recognized netting.
- (c) Column “Risk-weighted amount” –
- (i) Under the simple approach for collateral, the CRM effect of any recognized collateral should be reported in the following manner:
- (A) For each SFT, divide the principal amount (after deduction of specific provisions for default risk exposures) into two portions: the credit protection covered portion and credit protection uncovered portion.
- (B) Multiply the credit protection covered portion by the risk-weight attributed to the collateral (i.e. the securities or money received by

the AI under the SFT) and multiply the credit protection uncovered portion by the risk-weight applicable to the counterparty to come up with two RWAs.

(C) Repeat the two steps above for each of the SFTs and report the sum of the resulting RWAs in the column of “Risk-weighted Amount”.

(ii) Under the comprehensive approach for collateral, report the RWA calculated by multiplying  $E^*$  by the risk-weight applicable to the counterparty.

#### 40. Netting of repo-style transactions

The reporting AI must use the comprehensive approach for collateral if it intends to recognize the CRM effect of a valid bilateral netting agreement for repo-style transactions covered by that agreement. The AI should calculate its net exposure to the counterparty by using the formula below.

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

where:

$E^*$  = Default risk exposure to a counterparty after netting

$E$  = Current market value of money and securities sold/transferred/loaned/paid

$C$  = Current market value of money and securities received

$E_s$  = Absolute value of the net position in the same securities

$H_s$  = Haircut appropriate to the net position in the same securities (i.e.  $E_s$ )

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

$H_{fx}$  = Haircut for currency mismatch, if any

Haircuts are subject to adjustment as set out in section 92 of the BCR (see paragraph E3 of [Annex IIIb-E](#) for quick reference).

In general, repo-style transactions in banking and trading books should be netted separately. Netting across positions in the banking book and the trading book with the same counterparty will be allowed only if:

- all transactions are marked to market daily; and
- the collateral used in the transactions is collateral eligible for being recognized for exposures booked in the banking book.

If the MA has approved the use by the AI of an *internal model* to calculate market risk capital charge, the AI may, with the approval of the MA, use a *VaR* model as an alternative to the formula above to calculate its default risk exposure under repo-style transactions covered by valid bilateral netting

agreements on a counterparty-by-counterparty basis. Detailed requirements are set out in section 97 of the BCR (see Annex IIIb-F for quick reference).

For Transactions of which the Default Risk Exposures are calculated by using the IMM(CCR) Approach (items 19 to 23)

41. In items 21a to 23, the amount reported in “Default Risk Exposure” should be net of CVA losses if applicable.
42. In items 21b and 22b, the “Principal Amount” of SFTs should be the principal amount of the securities sold or lent, or the money paid or lent, or the securities or money provided as collateral, under the SFTs. The default risk exposures in respect of SFTs calculated by using the IMM(CCR) approach should be reported in the column of “Default Risk Exposure”.
43. In the case of long settlement transactions, the principal amount to be reported in the column of “Principal Amount” will be based on the nature of the transactions (i.e. whether the transactions are akin to SFTs or derivative contracts).
44. In the case of items 22a, b and c and 23, the default risk exposures reported should be the netting set level default risk exposures (i.e. after taking into account the effect of recognized netting).

### **C.3 Multiple Credit Risk Mitigation**

45. An exposure covered by two or more forms of recognized CRM (e.g. with both collateral and guarantee partially covering the exposure) should be divided into different portions which respectively represent the proportions of the exposure covered by each of the forms of the recognized CRM used. The calculation of the RWA of each portion will be done separately. If there is an overlap of coverage between different forms of recognized CRM, the reporting AI may select, in respect of the overlapped portion, the form of recognized CRM which will result in the lowest RWA of that overlapped portion of the exposure.
46. If an exposure is covered by credit protection provided by a single credit protection provider but the credit protection has different maturities, the reporting AI should divide the exposure into different portions according to the maturities of the credit protection. The RWA of each portion should then be calculated separately.
47. If credit protection is obtained for a general banking facility consisting of several types of credit line, the reporting AI may determine how the credit protection should be allocated amongst individual exposures under each of the credit lines.

#### C.4 Maturity Mismatches

48. For credit protection in the form of collateral, guarantees, credit derivatives, or on-balance sheet netting, where a maturity mismatch (as defined in section 103 of the BCR) exists, the value of the credit protection should be adjusted using the following formula:

$$P_a = P \times (t - 0.25) / (T - 0.25)$$

where:

- $P_a$  = Value of credit protection adjusted for maturity mismatch  
 $P$  = Value of credit protection after applying haircuts to adjust for price volatility of collateral and currency mismatch  
 $t$  = Min (T, residual maturity of credit protection) expressed in years  
 $T$  = Min (5, residual maturity of the exposure) expressed in years

This paragraph does not apply to collateral without a finite maturity (e.g. equities). Maturity of the credit protection should be determined in accordance with sections 103(3) and (4) of the BCR.

Nevertheless, the reporting AI should not take into account the credit protection in its calculation of RWA if the credit protection falls under one of the circumstances set out in section 103(2) of the BCR.

49. **Annex IIIb-H** contains a number of examples to illustrate the capital treatment and reporting arrangement of collateralized exposures based on the simple approach and the comprehensive approach of the credit risk mitigation framework.

Hong Kong Monetary Authority  
March 2019

**Tables for Mapping Notations used by individual ECAs into the Credit Quality Grades**

**A. Sovereign Exposures**

<b>Credit Quality Grade</b>	<b>Risk-weight</b>	<b>S &amp; P</b>	<b>Moody's</b>	<b>Fitch</b>	<b>R &amp; I</b>	<b>JCR</b>
1	0%	AAA	Aaa	AAA	AAA	AAA
		AA+	Aa1	AA+	AA+	AA+
		AA	Aa2	AA	AA	AA
		AA-	Aa3	AA-	AA-	AA-
2	20%	A+	A1	A+	A+	A+
		A	A2	A	A	A
		A-	A3	A-	A-	A-
3	50%	BBB+	Baa1	BBB+	BBB+	BBB+
		BBB	Baa2	BBB	BBB	BBB
		BBB-	Baa3	BBB-	BBB-	BBB-
4	100%	BB+	Ba1	BB+	BB+	BB+
		BB	Ba2	BB	BB	BB
		BB-	Ba3	BB-	BB-	BB-
5	100%	B+	B1	B+	B+	B+
		B	B2	B	B	B
		B-	B3	B-	B-	B-
6	150%	Any rating below B-	Any rating below B3	Any rating below B-	Any rating below B-	Any rating below B-



## **B. Bank and Securities Firm Exposures**

<b>Credit Quality Grade</b>	<b>Risk-weight</b>		<b>S &amp; P</b>	<b>Moody's</b>	<b>Fitch</b>	<b>R &amp; I</b>	<b>JCR</b>
	<b>General Exposures</b>	<b>3-months' Exposures<sup>9</sup> (Banks only)</b>					
1	20%	20%	AAA	Aaa	AAA	AAA	AAA
			AA+	Aa1	AA+	AA+	AA+
			AA	Aa2	AA	AA	AA
			AA-	Aa3	AA-	AA-	AA-
2	50%	20%	A+	A1	A+	A+	A+
			A	A2	A	A	A
			A-	A3	A-	A-	A-
3	50%	20%	BBB+	Baa1	BBB+	BBB+	BBB+
			BBB	Baa2	BBB	BBB	BBB
			BBB-	Baa3	BBB-	BBB-	BBB-
4	100%	50%	BB+	Ba1	BB+	BB+	BB+
			BB	Ba2	BB	BB	BB
			BB-	Ba3	BB-	BB-	BB-
			B+	B1	B+	B+	B+
			B	B2	B	B	B
			B-	B3	B-	B-	B-
5	150%	150%	Any rating below B-	Any rating below B3	Any rating below B-	Any rating below B-	Any rating below B-

<sup>9</sup> 3-months' exposures represent exposures with original maturity of three months or less (other than those having a short-term issue specific rating). Risk-weights for 3-months' exposures are applicable only to exposures to banks and not to exposures to securities firms.

## **C. Corporate Exposures**

### *I. Applicable to any corporate exposures*

<b>Credit Quality Grade</b>	<b>Risk-weight</b>	<b>S &amp; P</b>	<b>Moody's</b>	<b>Fitch</b>	<b>R &amp; I</b>	<b>JCR</b>
1	20%	AAA	Aaa	AAA	AAA	AAA
		AA+	Aa1	AA+	AA+	AA+
		AA	Aa2	AA	AA	AA
		AA-	Aa3	AA-	AA-	AA-
2	50%	A+	A1	A+	A+	A+
		A	A2	A	A	A
		A-	A3	A-	A-	A-
3	100%	BBB+	Baa1	BBB+	BBB+	BBB+
		BBB	Baa2	BBB	BBB	BBB
		BBB-	Baa3	BBB-	BBB-	BBB-
4	100%	BB+	Ba1	BB+	BB+	BB+
		BB	Ba2	BB	BB	BB
		BB-	Ba3	BB-	BB-	BB-
5	150%	Any rating below BB-	Any rating below Ba3	Any rating below BB-	Any rating below BB-	Any rating below BB-

II. Applicable only to exposures to corporates incorporated in India

Credit Quality Grade	CARE		CRISIL	ICRA		Risk-weight
1	CARE AAA	CARE AAA (Is)	CRISILAAA	[ICRA]AAA	IrAAA	20%
2	CARE AA+ CARE AA CARE AA-	CARE AA+ (Is) CARE AA (Is) CARE AA- (Is)	CRISILAA+ CRISILAA CRISILAA-	[ICRA]AA+ [ICRA]AA [ICRA]AA-	IrAA+ IrAA IrAA-	30%
3	CARE A+ CARE A CARE A-	CARE A+ (Is) CARE A (Is) CARE A- (Is)	CRISILA+ CRISILA CRISILA-	[ICRA]A+ [ICRA]A [ICRA]A-	IrA+ IrA IrA-	50%
4	CARE BBB+ CARE BBB CARE BBB-	CARE BBB+ (Is) CARE BBB (Is) CARE BBB- (Is)	CRISILBBB+ CRISILBBB CRISILBBB-	[ICRA]BBB+ [ICRA]BBB [ICRA]BBB-	IrBBB+ IrBBB IrBBB-	100%
5	Any rating below CARE BBB-	Any rating below CARE BBB- (Is)	Any rating below CRISIL BBB-	Any rating below [ICRA]BBB-	Any rating below IrBBB-	150%

## **D. Collective Investment Scheme Exposures**

<b>Credit Quality Grade</b>	<b>Risk-weight</b>	<b>S &amp; P Fund credit quality ratings</b>	<b>S &amp; P Principal stability fund ratings</b>	<b>Moody's</b>	<b>Fitch</b>	<b>R &amp; I</b>
1	20%	AAAf	AAAm	Aaa	AAA	AAAfc
		AA+f	AA+m	Aa1	AA+	AA+fc
		AAf	AAm	Aa2	AA	AAfc
		AA-f	AA-m	Aa3	AA-	AA-fc
2	50%	A+f	A+m	A1	A+	A+fc
		Af	Am	A2	A	Afc
		A-f	A-m	A3	A-	A-fc
3	100%	BBB+f	BBB+m	Baa1	BBB+	BBB+fc
		BBBf	BBBm	Baa2	BBB	BBBfc
		BBB-f	BBB-m	Baa3	BBB-	BBB-fc
4	100%	BB+f	BB+m	Ba1	BB+	BB+fc
		BBf	BBm	Ba2	BB	BBfc
		BB-f	BB-m	Ba3	BB-	BB-fc
5	150%	Any rating below BB-f	Any rating below BB-m	Any rating below Ba3	Any rating below BB-	Any rating below BB-fc

## **Short-term Exposures (Banks, Securities Firms and Corporates)**

*I. Applicable to bank exposures, securities firms exposures and any corporate exposures*

<b>Short-term Credit Quality Grade</b>	<b>Risk-weight</b>	<b>S &amp; P</b>	<b>Moody's</b>	<b>Fitch</b>	<b>R &amp; I</b>	<b>JCR</b>
1	20%	A-1+ A-1	P-1	F1+ F1	a-1+ a-1	J-1+ J-1
2	50%	A-2	P-2	F2	a-2	J-2
3	100%	A-3	P-3	F3	a-3	J-3
4	150%	Any rating below A-3	Any rating below P-3	Any rating below F3	Any rating below a-3	Any rating below J-3

*II. Applicable only to exposures to corporates incorporated in India*

<b>Short-term Credit Quality Grade</b>	<b>CARE</b>	<b>CRISIL</b>	<b>ICRA</b>	<b>Risk-weight</b>
1	CARE A1+	CRISIL A1+	[ICRA] A1+	20%
2	CARE A1	CRISIL A1	[ICRA] A1	30%
3	CARE A2+ CARE A2	CRISIL A2+ CRISIL A2	[ICRA] A2+ [ICRA] A2	50%
4	CARE A3+ CARE A3	CRISIL A3+ CRISIL A3	[ICRA] A3+ [ICRA] A3	100%
5	Any rating below CARE A3	Any rating below CRISIL A3	Any rating below [ICRA]A3	150%

**Application of External Credit Assessments**

**(A) Nomination of ECAIs**

- B1. The reporting AI may nominate, for each of the ECAI ratings based portfolios, one or more than one ECAI the credit assessment ratings issued by which will be used for deriving the risk-weights for exposures in the ECAI ratings based portfolio.
- B2. The ECAI(s) nominated for an ECAI ratings based portfolio should (taken collectively if more than one ECAI is nominated) issue a range of credit assessment ratings which provides a reasonable coverage to the counterparties and the geographical regions in relation to the exposures falling within that portfolio.
- B3. The reporting AI should use the ratings of the nominated ECAI(s) within each of the portfolios consistently.

**(B) Use of External Credit Assessments**

**I. Exposures or issuers regarded as not having an ECAI rating**

- B4. Any issuer or exposure which does not have an ECAI rating assigned to it by an ECAI nominated by the reporting AI for the relevant ECAI ratings based portfolio should be regarded as not having an ECAI rating.
- B5. In the case of corporate exposures, any corporate incorporated outside India, or any exposure to such corporate, which does not have an ECAI rating assigned to it by any of S&P, Moody's, Fitch, R&I and JCR should be regarded as not having an ECAI rating.

**II. Multiple assessments**

**Exposure with issue specific rating(s)**

- B6. If an exposure has only one issue specific rating, that rating should be used to determine the risk-weight of that exposure.
- B7. In cases where there are two or more issue specific ratings assigned by different ECAIs to an exposure and these ratings map to different risk-weights, any one of those ratings should be used except the one or more of those ratings which map to the lowest of those different risk-weights.

### Exposure without issue specific rating(s) (“concerned exposure”)

B8. The reporting AI may determine the risk-weight of the concerned exposure based on either the issuer rating(s) of the obligor of the exposure or the issue specific rating(s) of another debt obligation (reference exposure) undertaken by the same obligor. The reference exposure need not be one held by the AI.

#### *Based on ECAI issuer rating:*

- If the obligor of the concerned exposure has only one ECAI issuer rating, the AI should use that rating to determine the risk-weight to be applied to the exposure;
- The AI should follow the principle set out in paragraph B7 to determine the appropriate risk-weight to be applied to the exposure if there are two or more ECAI issuer ratings assigned by different ECAs to the obligor which map to two or more different risk-weights.

#### *Based on issue specific rating:*

- If the reference exposure has only one issue specific rating, the AI should use that rating to determine the risk-weight to be applied to the concerned exposure;
- The AI should follow the principles set out in paragraph B7 to determine the appropriate risk-weight to be applied to the concerned exposure if there are two or more issue specific ratings assigned by different ECAs to the reference exposure which map to two or more different risk-weights.

### **III. Local currency and foreign currency assessments**

B9. In circumstances where exposures without issue specific ratings are risk-weighted based on the issue specific rating of an equivalent exposure to the same borrower, the general rule is that foreign currency ratings would be used for exposures denominated in foreign currencies. Local currency ratings, if available, would only be used to risk-weight exposures denominated in local currencies.

B10. Nevertheless, the AI may use the foreign currency issuer rating of a borrower to derive a risk-weight for exposures to that borrower which are denominated in the borrower’s local currency. Local currency ECAI ratings should not be used to derive risk-weights for exposures denominated in foreign currencies except for exposures arising from the AI’s participation in any loans extended, or guaranteed against convertibility and transfer risk, by a MDB. The portion of the exposures not benefiting from such a guarantee will be risk-weighted based on the borrower’s foreign currency ECAI ratings, if available.

### **IV. Others**

B11. In order to avoid any double counting of CRM effect, no CRM effect should be taken into account when calculating the RWA of an exposure if such effect is already reflected in the exposure’s issue specific rating.

**Exceptions to the Risk-weight Floor of 20% under the Simple Approach for Collateral**

- C1. A risk-weight of less than 20% must not be assigned to recognized collateral under the simple approach except for cases set out below.

Repo-style Transactions

- C2. A risk-weight of 0% can be allocated to recognized collateral received by the AI under repo-style transactions that satisfy all the requirements set out in section 82(2) of the BCR (see paragraphs D2 to D10 of Annex IIIb-D).
- C3. A risk-weight of 10% can be allocated to recognized collateral received by the AI under repo-style transactions that satisfy all the requirements set out in section 82(2)(b) to (h) of the BCR (see paragraphs D3 to D10 of that Annex).

Derivative Contracts

- C4. A risk-weight of 0% can be allocated to recognized collateral received by the AI under a derivative contract, provided that:
- the collateral is cash (as defined in section 82(5) of the BCR);
  - the contract is marked-to-market daily; and
  - there is no currency mismatch between the settlement currency of the contract and the collateral.
- C5. A risk-weight of 10% can be allocated to recognized collateral received by the AI under a derivative contract, provided that (a) the conditions in the 2<sup>nd</sup> and 3<sup>rd</sup> bullet points of paragraph C4 are met; and (b) the collateral is debt securities, issued by a sovereign or a *sovereign foreign public sector entity*, which would be allocated a risk-weight of 0% under the STC approach.

Other Transactions

- C6. A 0% risk-weight can be allocated to recognized collateral received by the AI under a transaction other than those mentioned above if there is no currency mismatch between the transaction and the collateral, and the collateral is either:
- cash (as defined in section 82(5) of the BCR); or
  - debt securities, issued by a sovereign or a sovereign foreign public sector entity, which would be allocated a risk-weight of 0% under the STC approach and the current market value of which has been discounted by 20%.



**Criteria for Preferential Treatment of Repo-style Transactions**

- D1. Under the comprehensive approach for collateral, repo-style transactions which satisfy all the requirements in section 82(2) of the BCR are not required to be subject to any haircuts. This is, however, not applicable to AIs which use VaR models instead of haircuts to reflect the price volatility of both exposures and collateral under these transactions (see **Annex IIIb-F**). The requirements in section 82(2) are summarized in the paragraphs below.
- D2. The counterparty is—
- a sovereign;
  - a PSE;
  - a MDB;
  - a bank or securities firm;
  - a corporate (other than a bank or securities firm) which is a financial institution (including an *insurance firm*) with an attributed risk-weight of not more than 20%; or
  - a clearing organization as defined in section 82(2)(a)(vi) of the BCR.
- D3. Both the exposure and collateral are—
- cash (as defined in section 82(5) of the BCR); or
  - securities issued by sovereigns or sovereign foreign PSEs, which would be allocated a risk-weight of 0% under the STC approach.
- D4. There is no currency mismatch between the exposure and the collateral.
- D5. Either the transaction is an overnight transaction or both the exposure and the collateral are subject to daily mark-to-market and daily remargining.
- D6. The reporting AI reasonably expects that, if the counterparty fails to remargin, it is able to realize the collateral for its benefit within four business days beginning on the day after the day on which the exposure is marked-to-market for the last time before the counterparty's failure to deliver the shortfall in margin.
- D7. The transaction is settled through a settlement system customarily used for repo-style transactions.
- D8. Standard market documentation for repo-style transactions in the securities concerned is used for the transaction.
- D9. The documentation of the transaction specifies that the AI may terminate the transaction immediately if the counterparty commits an event of default or an event of default occurs in respect of the counterparty.

D10. Upon any event of default, regardless of whether the counterparty is insolvent or bankrupt, the AI has an unfettered and legally enforceable right to immediately seize and realize the collateral for its benefit.

**Standard Supervisory Haircuts for the Comprehensive Approach for Collateral**

E1. The standard supervisory haircuts set out in the table below assume daily mark-to-market, daily remargining and a 10-business-day holding period.

<b>Part 1 – Standard Supervisory Haircuts for Debt Securities</b>					
Type of asset	Credit Quality Grade / Short-term Credit Quality Grade	Residual Maturity	Standard Supervisory Haircuts		
			Non-securitization exposures		Securitization exposures <sup>10</sup> (excluding re-securitization exposures)
			Sovereign issuers <sup>11</sup>	Other issuers <sup>12</sup>	
Debt securities issued by any issuers with ECAI issue specific ratings (In the case of collateral, means those falling within any of s.79(1)(e) to (la) of the BCR)	Grade 1 (S&P, Moody's, Fitch, R&I & JCR) Grades 1 and 2 (ICRA, CARE & CRISIL)	≤ 1 year	0.5%	1%	2%
		> 1 year but ≤ 5 years	2%	4%	8%
		> 5 years	4%	8%	16%
	Grades 2 and 3 (S&P, Moody's, Fitch, R&I & JCR) Grades 3 and 4 (ICRA, CARE & CRISIL)	≤ 1 year	1%	2%	4%
		> 1 year but ≤ 5 years	3%	6%	12%
		> 5 years	6%	12%	24%
Debt securities issued by any issuers with long term ECAI issue specific ratings	Grade 4 (S&P, Moody's, Fitch, R&I & JCR)	All	15%	25%	25%
Recognized collateral with long term ECAI issue specific ratings falling within s.79(1)(e), (f) or (h) of the BCR	Grade 4 (S&P, Moody's, Fitch, R&I & JCR)	All	15%	N.A.	N.A.

<sup>10</sup> The ECAI issue specific ratings of securitization issues should be mapped to the scale of credit quality grades in Part 1 of Table C or Part 1 of Table E in Schedule 6 to the BCR.

<sup>11</sup> Sovereign issuers include multilateral development banks (MDBs) and sovereign foreign public sector entities. The ECAI issue specific ratings of debt securities issued by MDBs should be mapped to the scale of credit quality grades in Table A or Part 1 of Table E in Schedule 6 to the BCR.

<sup>12</sup> Other issuers include public sector entities which are not sovereign foreign public sector entities.

<b>Part 1 – Standard Supervisory Haircuts for Debt Securities</b>					
Type of asset	Credit Quality Grade / Short-term Credit Quality Grade	Residual Maturity	Standard Supervisory Haircuts		
			Non-securitization exposures		Securitization exposures <sup>10</sup> (excluding re-securitization exposures)
			Sovereign issuers <sup>11</sup>	Other issuers <sup>12</sup>	
Debt securities without ECAI issue specific ratings issued by banks which satisfy the criteria set out in s.79(1)(m) of the BCR. (In the case of collateral, means those falling within s.79(1)(m) of the BCR)	N.A.	≤ 1 year	N.A.	2%	N.A.
		> 1 year but ≤ 5 years	N.A.	6%	N.A.
		> 5 years	N.A.	12%	N.A.

<b>Part 2 – Standard Supervisory Haircuts for Assets other than Debt Securities</b>	
Type of asset	Standard Supervisory Haircuts
Cash where both the exposure and collateral are in the same currency (In the case of collateral, means those falling within s.79(1)(a), (b) or (c) of the BCR where the exposure is in the same currency as that of the collateral)	0%
Equities in the <i>main index</i> (including convertible bonds) and gold (In the case of collateral, means those falling within s.79(1)(d) or (n) of the BCR)	15%
Other equities (including convertible bonds) listed on a <i>recognized exchange</i> (In the case of collateral, means those falling within s.80(1)(b) of the BCR)	25%
Collective investment schemes (In the case of collateral, means those falling within s.79(1)(o) or s.80(1)(c) of the BCR)	Highest haircut applicable to any <i>financial instruments</i> in which the scheme can invest

<b>Part 3 – Standard Supervisory Haircuts for Exposures and Collateral not falling within Parts 1 and 2 of this Table</b>	
Type of asset	Standard Supervisory Haircuts
Exposures and collateral of repo-style transactions which satisfy the criteria set out in section 82(2) of the BCR	0%

<b>Part 3 – Standard Supervisory Haircuts for Exposures and Collateral not falling within Parts 1 and 2 of this Table</b>	
Type of asset	Standard Supervisory Haircuts
Exposures arising from currency mismatch	8%
Exposures of transactions under which the financial instruments lent by an AI do not fall within Parts 1 and 2 of this Table	25%
Collateral which does not fall within s.80(1)(a), (b) and (c) of the BCR received by an AI under repo-style transactions booked in the trading book.	25%
Exposures not specified in this Table	25%

- E2. Reporting AIs should distinguish transactions amongst three types, viz., repo-style transactions, other capital market transactions (i.e. derivative contracts and margin lending) and secured lending. Providing the transactions are subject to daily revaluation or remarkining, the assumed **minimum holding period** of these three types of transaction are as follows:

Type of Transactions	Minimum Holding Period	Condition
Repo-style transactions	5 business days	Daily remarkining
Other capital market transactions	10 business days	Daily remarkining
Secured lending	20 business days	Daily revaluation

For an exposure of the AI arises from a transaction or netting set that falls within section 226M(2) or 226M(3) of the BCR, the assumed minimum holding period should be at least 20 business days as required in that section. If the exposure arises from a transaction or netting set that falls within section 226M(7) of the BCR, the assumed minimum holding period should be at least double the original minimum holding period applicable to the exposure (see section 91(2) of the BCR).

- E3. If a transaction has a minimum holding period different from 10 business days or is not remarkined or revalued daily as assumed in the standard supervisory haircuts, reporting AIs should scale up or down the standard supervisory haircuts ( $H_e$ ,  $H_c$  and  $H_{fx}$ ) using the following formula when applying the haircuts to the calculation of the RWA of the transaction:

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

where:

$H$  = Haircut after adjustment for differences in holding period and revaluation frequency

$H_{10}$  = Standard supervisory haircut based on a minimum holding period of 10 business days

$T_M$  = Minimum holding period for a particular type of transaction as set out in paragraph E2.

$N_R$  = Actual number of days between remargining or revaluation of collateral

- E4. For repo-style transactions booked in the trading book, recognized collateral is expanded to include any securities received by the AI provided that the securities meet the requirements set out in section 77 of the BCR.

Use of Value-at-risk Models for Repo-style Transactions Covered by a Valid Bilateral Netting Agreement

- F1. Reporting AIs which have obtained approval from the MA for using internal models to measure market risk exposures may, with the approval of the MA, use a VaR model instead of standard supervisory haircuts for the purposes of calculating the net credit exposure to a given counterparty under repo-style transactions covered by a valid bilateral netting agreement.
- F2. The quantitative and qualitative criteria for recognition of a VaR model for repo-style transactions are substantially similar to those for an internal model for market risk (see section 97 of the BCR for details).
- F3. The minimum holding period of repo-style transactions should be adjusted upward (a) if the liquidity of the securities concerned does not justify a 5-day holding period; and (b) should be increased in the manner set out in section 226M(2), (3) or (7) of the BCR if the *nettable* repo-style transactions constitute a netting set which falls within that section. If the nettable repo-style transactions are not subject to daily remargining, the VaR model should assume a minimum holding period which is at least equal to the minimum holding period calculated by the following formula (see also section 97(4) of the BCR):

$$\text{Minimum holding period} = F + N - 1$$

where—

F = 5 business days or the minimum holding period determined in accordance with section 226M(2) or (3) of the BCR, as the case may be

N = actual number of days between each remargining of the transactions

Moreover, the VaR model should take into account the correlation effects between securities positions.

- F4. It is one of the initial and on-going recognition criteria that AIs intending to use or using VaR models should prove the quality of the models to the MA through *back-testing* the models' output using data covering at least a one-year period. The back-testing should cover a number of representative counterparty portfolios (whether actual or hypothetical) which have been chosen based on the sensitivity of the portfolios to the material risk factors and correlations to which the AIs are exposed.

- F5. The net credit exposure to a counterparty arising from nettable repo-style transactions is calculated by using the following formula:

$$E^* = \max \{0, [\sum (E) - \sum (C) + \text{VaR output} ]\}$$

where:

E*	=	Default risk exposure to counterparty after netting
E	=	Current market value of money and securities sold, transferred, loaned or paid by the AI
C	=	Current market value of money and securities received by the AI
VaR output	=	The VaR number of previous business day generated by the VaR model



**Example of calculating the Net to Gross Ratio (NGR)**

G1. The following table illustrates how the NGR is calculated on a per counterparty basis and on an aggregate basis:

Transaction	Counterparty A		Counterparty B		Counterparty C	
	Notional amount	Mark to market value	Notional amount	Mark to market value	Notional amount	Mark to market value
Outstanding contract 1	100	10	50	8	30	-3
Outstanding contract 2	100	-5	50	2	30	1
Gross replacement cost (GR)		10		10		1
Net replacement cost (NR)		5		10		0
NGR (per counterparty)	0.5		1		0	
NGR (aggregate)	$\Sigma NR / \Sigma GR = 15 / 21 = 0.71$					

G2. The gross replacement costs (GR) include only the sums of positive market values, they are therefore, 10, 10 and 1 respectively for counterparties A, B and C. The corresponding net replacement costs (NR) are the non-negative sums of both positive and negative market values, i.e. 5, 10 and 0 for A, B and C respectively. Accordingly, the NGR calculated on a per counterparty basis should be  $5/10 = 0.5$ ,  $10/10 = 1$  and  $0/1 = 0$  for A, B and C respectively. Based on the per counterparty NGR, the net potential exposure on a per counterparty basis can be calculated using Formula 8 in section 95 of the BCR. The aggregate net potential exposure would be the sum of the per counterparty net potential exposure.

G3. If the NGR is calculated on an aggregate basis, it will be the ratio of total net replacement costs to total gross replacement costs, i.e.  $15/21 = 0.71$ . The aggregate net potential exposure is then calculated by substituting this ratio into Formula 8 for each individual counterparty, i.e. A, B and C.

## Illustrations on Reporting of Credit Risk Mitigation Techniques

### 1. Collateralized loan

The reporting AI provides a 5-year term loan of HK\$1,000 M to an unrated corporate. The loan is secured by debt securities issued by a bank and denominated in EURO. The debt securities are rated AA by the S&P's and have a remaining maturity of 7 years. They are subject to daily revaluation and presently have a market value in HKD equivalent amount of HK\$1,050 M.

#### Simple Approach

*Working:*

- A loan to an unrated corporate is subject to a risk-weight of 100%.
- An external credit assessment of “AA” by the S&P's is equivalent to a credit quality grade “1” in the supervisory risk-weighting scale for banks, which is mapped to a risk-weight of 20%.
- As the market value of the collateral debt securities is HK\$1,050 M, the loan is fully secured.
- RWA of the loan: HK\$1,000 M x 20% = HK\$200 M.

*Reporting illustration:*

#### **Division A: Risk-weighted Amount (On-balance Sheet)**

Item	Nature of item	Principal Amount HK\$'000	Principal Amount After CRM HK\$'000	x Risk Weight %	= Risk-weighted Amount HK\$'000
<b>Class IV</b>	<b>Bank Exposures</b>				
7a.	Exposures with original maturity of more than three months:				
7a(i)	Risk-weight 20%		1,000,000	20	200,000
7a(ii)	Risk-weight 50%			50	
7a(iii)	Risk-weight 100%			100	
7a(iv)	Risk-weight 150%			150	
<b>SUBTOTAL</b>			1,000,000		200,000
<b>Class VI</b>	<b>Corporate Exposures</b>				
9a.	Risk-weight 20%			20	
9b.	Risk-weight 30%			30	
9c.	Risk-weight 50%			50	
9d.	Risk-weight 100%	1,000,000	0	100	0
9e.	Risk-weight 150%			150	

SUBTOTAL	1,000,000	0		0
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### Comprehensive Approach

*Working:*

- The standard supervisory haircut for debt securities with a credit quality grade “1” issued by banks is 8%.
- The standard supervisory haircut for currency mismatch between the underlying exposure and collateral is also 8%.
- As the standard supervisory haircuts only assume a 10-day holding period, the 8% haircuts for both the collateral as well as the currency mismatch have to be scaled up to haircuts for 20-day holding period (which is the minimum holding period assumed for secured lending transactions) using the following formula:

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

where:

H = Haircut after adjustment for differences in holding period and revaluation frequency

H<sub>10</sub> = Standard supervisory haircut which assumes a minimum 10-day holding period

T<sub>M</sub> = Minimum holding period for the type of transaction (which is different from a holding period of 10 days)

N<sub>R</sub> = Actual number of days between revaluation

- The adjusted haircuts for the collateral and the currency mismatch in this example are therefore:

$$\begin{aligned} H &= 8\% \times \sqrt{\frac{1 + (20 - 1)}{10}} \\ &= 11\% \text{ (rounded up to a percentage)} \end{aligned}$$

- The value of exposure after CRM is calculated as:

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

where:

E\* = Principal Amount after CRM

E = Principal Amount of the exposure

H<sub>e</sub> = Haircut appropriate to the exposure

C = Value of the collateral

H<sub>c</sub> = Haircut appropriate to the collateral

H<sub>fx</sub> = Haircut appropriate to currency mismatch between the exposure and the collateral

- As the lending involves only cash, no haircut is required for the loan exposure (i.e.  $H_e = 0$ ).
- $E^* = \max \{HK\$0, [HK\$1,000 \text{ M} \times (1 + 0\%) - HK\$1,050 \text{ M} \times (1 - 11\% - 11\%)]\}$   
 $= \max (HK\$0, HK\$181 \text{ M})$   
 $= HK\$181 \text{ M}$
- The RWA of the transaction is calculated by multiplying the value of exposure after CRM (HK\$181 M) with the risk-weight of the unrated corporate (100%), which equals HK\$181 M.

*Reporting illustration:*

**Division A: Risk-weighted Amount (On-balance Sheet)**

Item	Nature of item	Principal Amount HK\$'000	Principal Amount After CRM HK\$'000	x Risk Weight %	= Risk-weighted Amount HK\$'000
<b>Class IV Bank Exposures</b>					
7a.	Exposures with original maturity of more than three months:				
7a(i)	Risk-weight 20%			20	
7a(ii)	Risk-weight 50%			50	
7a(iii)	Risk-weight 100%			100	
7a(iv)	Risk-weight 150%			150	
<b>SUBTOTAL</b>					
<b>Class VI Corporate Exposures</b>					
9a.	Risk-weight 20%			20	
9b.	Risk-weight 30%			30	
9c.	Risk-weight 50%			50	
9d.	Risk-weight 100%	1,000,000	181,000	100	181,000
9e.	Risk-weight 150%			150	
<b>SUBTOTAL</b>		1,000,000	181,000		181,000

## 2. Collateralized loan commitment

Now presuming the corporate borrower in the above example has not yet drawn down the loan facility, the transaction will be recorded as commitment in the book of the reporting AI. Assuming that the commitment cannot be cancelled unconditionally, capital requirement of the transaction under the two approaches will be calculated as follows:

### Simple Approach

*Working:*

- As the amount of commitment of a 5-year term loan is HK\$1,000 M and the market value of the collateral debt securities is HK\$1,050 M, the commitment is considered fully secured.
- The commitment for a 5-year term loan attracts a CCF of 50% as it cannot be cancelled unconditionally. Its CEA is therefore calculated at: HK\$1,000 M x 50% = HK\$500 M.
- A 20% risk-weight for the debt securities is applied to calculate the RWA of this secured transaction: HK\$500 M x 20% = HK\$100 M.

*Reporting illustration:*

### **Division B: Risk-weighted Amount (Off-balance Sheet)**

Item	Nature of item	Principal Amount HK\$'000	Credit Conversion Factor %	Credit Equivalent Amount HK\$'000	Risk-weighted Amount HK\$'000
1.	Direct credit substitutes		100		
2.	Transaction-related contingencies		50		
3.	Trade-related contingencies		20		
4.	Asset sales with recourse		100		
5.	Forward asset purchases		100		
6.	Partly paid shares and securities		100		
7.	Forward forward deposits placed		100		
8.	Note issuance and revolving underwriting facilities		50		
9a.	Commitments that are unconditionally cancellable without prior notice		0		0
9b.	Other commitments (CCF at 20%)		20		
9c.	Other commitments (CCF at 50%)	1,000,000	50	500,000	100,000
<b>SUBTOTAL</b>		1,000,000		500,000	100,000

## Comprehensive Approach

### *Working:*

- The standard supervisory haircuts for both the collateral debt securities and the currency mismatch between the underlying exposure and the collateral are scaled up from 8% to 11% (as shown in Example 1 above).
- The CEA after CRM is calculated by the following formula (which mirrors the formula for on-balance sheet exposures provided in Example 1):

$$\begin{aligned}
 E^* &= \text{Max} \{0, [E \times (1 + H_e) - C \times (1 - H_c - H_{fx})]\} \times \text{CCF} \\
 &= \text{Max} \{\text{HK\$}0, [\text{HK\$}1,000 \text{ M} \times (1 + 0\%) - \text{HK\$}1,050 \text{ M} \times (1 - 11\% - 11\%)]\} \times 50\% \\
 &= \text{HK\$}90.5 \text{ M}
 \end{aligned}$$

- As the CEA after CRM is HK\$90.5 M and the risk-weight for an unrated corporate is 100%, the RWA of this secured commitment is: HK\$90.5 M x 100% = HK\$90.5 M.

### *Reporting illustration:*

#### **Division B: Risk-weighted Amount (Off-balance Sheet)**

Item	Nature of item	Principal Amount HK\$'000	Credit Conversion Factor %	Credit Equivalent Amount HK\$'000	Risk-weighted Amount HK\$'000
1.	Direct credit substitutes		100		
2.	Transaction-related contingencies		50		
3.	Trade-related contingencies		20		
4.	Asset sales with recourse		100		
5.	Forward asset purchases		100		
6.	Partly paid shares and securities		100		
7.	Forward forward deposits placed		100		
8.	Note issuance and revolving underwriting facilities		50		
9a.	Commitments that are unconditionally cancellable without prior notice		0		0
9b.	Other commitments (CCF at 20%)		20		
9c.	Other commitments (CCF at 50%)	1,000,000	50	90,500	90,500
<b>SUBTOTAL</b>		1,000,000		90,500	90,500

### 3. Collateralized OTC Derivative Transactions

The reporting AI has a HK\$1,000 M interest rate contract with a four-year residual maturity. The counterparty to the contract is an unrated corporate. Pledged as collateral for the contract is a HK\$8 M corporate bond with an “A1” Moody’s rating. This is also a capital market transaction subject to daily remargining and there is neither maturity nor currency mismatch between the interest rate contract and the collateral. The current exposure and potential exposure of the contract are HK\$10 M and HK\$5 M respectively.

#### Simple Approach

*Working:*

- CEA of the interest rate contract is the sum of current exposure and potential exposure (i.e. HK\$10 M + HK\$5 M = HK\$15 M)
- The HK\$8 M corporate bond attracts a 50% risk-weight
- RWA of secured portion: HK\$8 M x 50% = HK\$ 4 M
- RWA of unsecured portion: HK\$7 M x 100% = HK\$ 7 M
- Total RWA (secured + unsecured): HK\$4 M + HK\$ 7 M = HK\$ 11 M

*Reporting illustration:*

#### **Division B: Risk-weighted Amount (Off-balance Sheet)**

##### 11. Interest rate contracts

Residual Maturity	Principal Amount HK\$'000	Current Exposure HK\$'000	Potential Exposure HK\$'000	Credit Equivalent Amount HK\$'000	Risk-weighted Amount HK\$'000
11 a. 1 year or less					
11 b. Over 1 year to 5 years	1,000,000	10,000	5,000	15,000	11,000
11 c. Over 5 years					
<b>SUBTOTAL</b>	<b>1,000,000</b>	<b>10,000</b>	<b>5,000</b>	<b>15,000</b>	<b>11,000</b>

## Comprehensive Approach

### *Working:*

- As this is a capital market transaction, there is no need to scale up the 6% haircut applicable to the corporate bond as collateral.
- The adjusted exposure of the transaction is calculated by the following formula (which mirrors the formula for on-balance sheet exposures provided in Example 1):

$$\begin{aligned}
 E^* &= \text{Max} \{0, [( \text{current exposure} + \text{potential exposure} ) - C \times (1 - H_c - H_{fx})]\} \\
 &= \text{Max} \{ \text{HK\$0}, [\text{HK\$15 M} - \text{HK\$8 M} \times (1 - 6\% - 0\%)] \} \\
 &= \text{Max} (\text{HK\$0}, \text{HK\$7.48 M}) \\
 &= \text{HK\$7.48 M}
 \end{aligned}$$

- RWA is calculated at:  $\text{HK\$7.48 M} \times 100\% = \text{HK\$7.48 M}$

### *Reporting illustration:*

#### **Division B: Risk-weighted Amount (Off-balance Sheet)**

##### 11. Interest rate contracts

Residual Maturity	Principal Amount HK\$'000	Current Exposure HK\$'000	Potential Exposure HK\$'000	Credit Equivalent Amount HK\$'000	Risk-weighted Amount HK\$'000
11a. 1 year or less					
11b. Over 1 year to 5 years	1,000,000	10,000	5,000	15,000	7,480
11c. Over 5 years					
<b>SUBTOTAL</b>	<b>1,000,000</b>	<b>10,000</b>	<b>5,000</b>	<b>15,000</b>	<b>7,480</b>