

Illustrations on Reporting of Recognized Credit Risk Mitigation

All monetary figures in HK\$ million unless otherwise stated.

Case 1: On-balance sheet exposure – collateralized loan

- ◆ Exposure: A 5-year term loan of \$1,000 to an unrated corporate, which is not a small business, incorporated in Hong Kong.
- ◆ Collateral: Debt securities that are—
 - issued by a bank;
 - denominated in Euro;
 - rated AA by the Standard & Poor’s; and
 - maturing in 7 years.
- ◆ The collateral is subject to daily revaluation and presently has a market value of \$1,050.

Simple Approach

1. Calculation of Risk-weighted Amount

- Exposure: Applicable risk-weight (RW) is 100% (see §61(2)(a) of the BCR).
- Collateral: An AA-rating is mapped to a RW of 20% (see §59 (Table 3) of the BCR and the LT ECAI Rating Mapping Table for Type A ECAIs).
- Credit protection covered portion: \$1,000
- Credit protection uncovered portion: \$0
- RWA of the loan calculated by substituting the RW of the corporate with the RW of the collateral: $\$1,000 \times 20\% = \200

2. Reporting Arrangement

Division A

		On-balance sheet exposures		Off-balance sheet exposures			(in HK\$'000)	
Item	Nature of item	Principal Amount (A1)	Principal Amount after CRM (A2)	Principal Amount / Notional Amount (A3)	Credit Equivalent Amount after CRM (A4)	Default Risk Exposure after CRM (A5)	Risk-weight % (A6)	Risk-weighted Amount (A7) = (A2+A4+A5) x A6
Class V	Bank Exposures							
5a.	Under external credit risk assessment approach							
5a(i).	Risk-weight 20%	0	1,000,000				20	200,000
5a(ii).	Risk-weight 30%						30	
5a(iii).	Risk-weight 50%						50	
5a(iv).	Risk-weight 100%						100	
5a(v).	Risk-weight 150%						150	
5b.	Under standardized credit risk assessment approach							
5b(i).	Risk-weight 20%						20	
SUBTOTAL		0	1,000,000					200,000

		On-balance sheet exposures		Off-balance sheet exposures			(in HK\$'000)	
Item	Nature of item	Principal Amount (A1)	Principal Amount after CRM (A2)	Principal Amount / Notional Amount (A3)	Credit Equivalent Amount after CRM (A4)	Default Risk Exposure after CRM (A5)	Risk-weight % (A6)	Risk-weighted Amount (A7) = (A2+A4+A5) x A6
Class VIII	Corporate Exposures							
8a.	Rated general corporate exposures							
8a(i).	Risk-weight 20%						20	
8b.	Unrated general corporate exposures							
8b(i).	Risk-weight 85%						85	
8b(ii).	Risk-weight 100%	1,000,000	0				100	0
8b(iii).	Risk-weight 150%						150	
8c.	Rated specialized lending exposures							
8d.	Unrated specialized lending exposures							
SUBTOTAL		1,000,000	0					0

Comprehensive Approach

1. Calculation of Risk-weighted Amount

- Standard supervisory haircut applicable to the collateral: 6% (see item 1 in Part 2 of Table A in Schedule 7 to the BCR).
- Standard supervisory haircut for currency mismatch: 8% (see item 3 in Table C in Schedule 7).
- As the above standard supervisory haircuts only assume a 10-day holding period, they have to be scaled up to haircuts for 20-day holding period (which is the minimum holding period assumed for secured lending transactions) using Formula 5A in §91(3) of the BCR and Formula 33 in §3 of Schedule 7:

$$H_c = H_{10} \times \sqrt{\frac{N_R + (T_M - 1)}{10}} = 6\% \times \sqrt{\frac{1 + (20 - 1)}{10}} = 8\%$$

$$H_{fx} = H_{10} \times \sqrt{\frac{N_R + (T_M - 1)}{10}} = 8\% \times \sqrt{\frac{1 + (20 - 1)}{10}} = 11\%$$

- The exposure after CRM (E*) is calculated by using Formula 2 in §87 of the BCR:

$$\begin{aligned} E^* &= \max \{0, [E \times (1 + H_e) - C \times (1 - H_c - H_{fx})]\} \\ &= \max \{0, [1,000 \times (1 + 0\%^1) - 1,050 \times (1 - 8\% - 11\%)]\} \\ &= \max (0, 149.5) \\ &= 149.5 \end{aligned}$$

- RWA of the loan = E* × risk-weight of the unrated corporate
= 149.5 × 100%
= 149.5

2. Reporting Arrangement

Division A

Item	Nature of item	On-balance sheet exposures		Off-balance sheet exposures			(in HK\$'000)	
		Principal Amount (A1)	Principal Amount after CRM (A2)	Principal Amount / Notional Amount (A3)	Credit Equivalent Amount after CRM (A4)	Default Risk Exposure after CRM (A5)	Risk-weight % (A6)	Risk-weighted Amount (A7) = (A2+A4+A5) x A6
Class VIII	Corporate Exposures							
8a.	Rated general corporate exposures							
8a(i).	Risk-weight 20%						20	
8b.	Unrated general corporate exposures							
8b(i).	Risk-weight 85%						85	
8b(ii).	Risk-weight 100%	1,000,000	149,500				100	149,500
8b(iii).	Risk-weight 150%						150	
8c.	Rated specialized lending exposures							
8d.	Unrated specialized lending exposures							
	SUBTOTAL	1,000,000	149,500					149,500

¹ As the lending involves only cash, no haircut is required for the loan exposure (i.e. H_e = 0).

Case 2: Off-balance sheet exposure - collateralized loan commitment

Now assuming that the corporate borrower in Case 1 has not yet drawn down the loan facility and the facility has an original maturity of 2 years (i.e. the borrower has to draw down the loan within 2 years). It is also assumed that the loan facility **is not an exempt commitment and** cannot be cancelled by the AI unconditionally.

Simple approach

1. Calculation of Risk-weighted Amount

- CCF applicable to a commitment with an original maturity over 1 year: **40%** (see item 12 of the Table in §1 of Schedule 6 to the BCR).
- CEA of the commitment = $\$1,000 \times 40\% = \400
- RWA of the commitment (with the RW of the corporate replaced by the RW of the collateral): $\$400 \times 20\% = \80

2. Reporting Arrangement

Division A

Item	Nature of item	On-balance sheet exposures		Off-balance sheet exposures			(in HK\$'000)	
		Principal Amount (A1)	Principal Amount after CRM (A2)	Principal Amount / Notional Amount (A3)	Credit Equivalent Amount after CRM (A4)	Default Risk Exposure after CRM (A5)	Risk-weight % (A6)	Risk-weighted Amount (A7) = (A2+A4+A5) x A6
Class V	Bank Exposures							
5a.	Under external credit risk assessment approach							
5a(i).	Risk-weight 20%			0	400,000		20	80,000
5a(ii).	Risk-weight 30%						30	
5a(iii).	Risk-weight 50%						50	
5a(iv).	Risk-weight 100%						100	
5a(v).	Risk-weight 150%						150	
5b.	Under standardized credit risk assessment approach							
5b(i).	Risk-weight 20%						20	
	SUBTOTAL			0	400,000			80,000

Item	Nature of item	On-balance sheet exposures		Off-balance sheet exposures			(in HK\$'000)	
		Principal Amount (A1)	Principal Amount after CRM (A2)	Principal Amount / Notional Amount (A3)	Credit Equivalent Amount after CRM (A4)	Default Risk Exposure after CRM (A5)	Risk-weight % (A6)	Risk-weighted Amount (A7) = (A2+A4+A5) x A6
Class VIII Corporate Exposures								
8a.	Rated general corporate exposures							
8a(i).	Risk-weight 20%						20	
8b.	Unrated general corporate exposures							
8b(i).	Risk-weight 85%						85	
8b(ii).	Risk-weight 100%			1,000,000	0		100	0
8b(iii).	Risk-weight 150%						150	
8c.	Rated specialized lending exposures							
8d.	Unrated specialized lending exposures							
	SUBTOTAL			1,000,000	0			0

Division B - I

Item	Nature of item	Credit Conversion Factor % (B1)	Total Principal Amount (net of specific provisions) (B2)	Total Credit Equivalent Amount (B3)	Out of which:				
					Sovereign exposures (B4)	Corporate exposures (B9)	Retail exposures (B10)	Real estate exposures (B11)	CIS exposures (B12)
9	Note issuance and revolving underwriting facilities	50							
10a.	Exempt commitments	0		0		0	0		
10b.	Other commitments (CCF at 10%)	10							
10c.	Other commitments (CCF at 40%)	40	1,000,000	400,000		400,000			
11.	Off-balance sheet exposures not specified above								
11a.		100							
11b.									
11c.									
11d.									
	SUBTOTAL		1,000,000	400,000		400,000			

Comprehensive Approach

1. Calculation of Risk-weighted Amount

- The standard supervisory haircuts for the collateral and the currency mismatch are scaled up from 6% to 8% and 8% to 11% respectively (as shown in Case 1 above).
- The CEA after CRM (E*) is calculated by using Formula 3 in §88 of the BCR:

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

$$= \max \{0, [1,000 \times (1 + 0\%) - 1,050 \times (1 - 8\% - 11\%)]\} \times 40\%$$

$$= 59.8$$

- RWA of the loan commitment = $E^* \times$ risk-weight of the unrated corporate
 = $59.8 \times 100\%$
 = 59.8

2. Reporting Arrangement

Division A

Item	Nature of item	On-balance sheet exposures		Off-balance sheet exposures			(in HK\$'000)	
		Principal Amount (A1)	Principal Amount after CRM (A2)	Principal Amount / Notional Amount (A3)	Credit Equivalent Amount after CRM (A4)	Default Risk Exposure after CRM (A5)	Risk-weight % (A6)	Risk-weighted Amount (A7) = (A2+A4+A5) x A6
Class VIII	Corporate Exposures							
8a.	Rated general corporate exposures							
8a(i).	Risk-weight 20%						20	
8b.	Unrated general corporate exposures							
8b(i).	Risk-weight 85%						85	
8b(ii).	Risk-weight 100%			1,000,000	59,800		100	59,800
8b(iii).	Risk-weight 150%						150	
8c.	Rated specialized lending exposures							
8d.	Unrated specialized lending exposures							
	SUBTOTAL			1,000,000	59,800			59,800

Division B – I

Item	Nature of item	Credit Conversion Factor % (B1)	Total Principal Amount (net of specific provisions) (B2)	Total Credit Equivalent Amount (B3)	Out of which:				
					Sovereign exposures (B4)	Corporate exposures (B9)	Retail exposures (B10)	Real estate exposures (B11)	CIS exposures (B12)
9	Note issuance and revolving underwriting facilities	50							
10a.	Exempt commitments	0		0		0	0		
10b.	Other commitments (CCF at 10%)	10							
10c.	Other commitments (CCF at 40%)	40	1,000,000	400,000		400,000			
11.	Off-balance sheet exposures not specified above								
11a.		100							
11b.									
11c.									
11d.									
	SUBTOTAL		1,000,000	400,000		400,000			

Case 3: Collateralized derivative contract covered by recognized guarantee

- ◆ Interest rate contract with a notional of \$1,000 with a four-year residual maturity.
- ◆ Not subject to margin agreement and netting agreement.
- ◆ The counterparty is an unrated corporate **that is not a small business**.
- ◆ The contract is covered by a guarantee of \$8 provided by a bank with an “A1” Moody’s rating.
- ◆ It is assumed that the replacement cost and potential future exposure of the contract calculated under the SA-CCR approach are \$1 and \$18 respectively.

1. Calculation of Risk-weighted Amount

Default risk exposure in respect of the interest rate contract is calculated as follows:

$$\text{Default Risk Exposure} = \alpha * (RC + PFE) = 1.4 * (1 + 18) = 26.6$$

- RW applicable to the bank guarantee: **30%**.
- RWA of credit protection covered portion = $\$8 \times 30\% = \2.4
- RWA of credit protection uncovered portion = $(\$26.6 - \$8) \times 100\% = \$18.6$
- Total RWA = $\$2.4 + \$18.6 = \$21$

2. Reporting Arrangement

Division A

Item	Nature of item	On-balance sheet exposures		Off-balance sheet exposures			(in HK\$'000)	
		Principal Amount (A1)	Principal Amount after CRM (A2)	Principal Amount / Notional Amount (A3)	Credit Equivalent Amount after CRM (A4)	Default Risk Exposure after CRM (A5)	Risk-weight % (A6)	Risk-weighted Amount (A7) = (A2+A4+A5) x A6
Class V	Bank Exposures							
5a.	Under external credit risk assessment approach							
5a(i).	Risk-weight 20%						20	
5a(ii).	Risk-weight 30%			0		8,000	30	2,400
5a(iii).	Risk-weight 50%						50	
5a(iv).	Risk-weight 100%						100	
5a(v).	Risk-weight 150%						150	
5b.	Under standardized credit risk assessment approach							
5b(i).	Risk-weight 20%						20	
	SUBTOTAL			0		8,000		2,400

Item	Nature of item	On-balance sheet exposures		Off-balance sheet exposures			(in HK\$'000)	
		Principal Amount (A1)	Principal Amount after CRM (A2)	Principal Amount / Notional Amount (A3)	Credit Equivalent Amount after CRM (A4)	Default Risk Exposure after CRM (A5)	Risk-weight % (A6)	Risk-weighted Amount (A7) = (A2+A4+A5) x A6
Class VIII	Corporate Exposures							
8a.	Rated general corporate exposures							
8a(i).	Risk-weight 20%						20	
8b.	Unrated general corporate exposures							
8b(i).	Risk-weight 85%						85	
8b(ii).	Risk-weight 100%			1,000,000		18,600	100	18,600
8b(iii).	Risk-weight 150%						150	
8c.	Rated specialized lending exposures							
8d.	Unrated specialized lending exposures							
	SUBTOTAL			1,000,000		18,600		18,600

Division B - II

Item	Nature of item	(in HK\$'000)						
		Total Notional Amount (B13)	Total Replacement Cost (B14)	Total Potential Future Exposure (B15)	Total Default Risk Exposure (B16)	Out of which:		
	Type of Contract					Sovereign exposures (B17)	Corporate exposures (B22)	Retail exposures (B23)
12.	Unmargined contracts not covered by recognized netting							
12a.	Interest rate contracts	1,000,000	1,000	18,000	26,600		26,600	
12b.	Exchange rate contracts							
12c.	Credit-related derivative contracts							
12d.	Equity-related derivative contracts							
12e.	Commodity-related derivative contracts							
	SUBTOTAL	1,000,000	1,000	18,000	26,600		26,600	