PART ONE

STANDARDIZED APPROACH AND INTERNAL RATINGS-BASED APPROACH TO CREDIT RISK

I. CREDIT RISK—THE STANDARDIZED APPROACH

A. Risk weights

(A) Capital charge for the credit risk of on-balance sheet items

On-balance sheet risk-weighted assets will be charged by the book value of respective asset minus for provision for expected loss multiplied by a risk weighted as depicted below:

1. Claims on sovereigns

(1) Claims on sovereigns and their central banks will be risk weighted according to their external credit assessment given by external credit assessment institutions as presented in Table 1 below[1]:

Table 1: Risk weights applied to central governments and their central banks

Credit rating[2]	**AAA~AA-**	**A+ ~A-**	**BBB+ ~BBB-**	**BB+ ~B-**	Below CCC+	**Unrated**
Risk weight	0%	20%	50%	100%	150%	100%

(2) Banks may choose to use the risk scores assigned by individual Export Credit Agencies (ECAs)[3] that are recognized by the supervisory authority, or the consensus risk scores of ECAs participating in the "Arrangement on Officially Supported Export Credits"[4]. The ECA risk scores and corresponding risk weights are presented in Table 2 below:

Table 2: Risk scores published by ECAs and corresponding risk weights

ECA risk score	**0-1**	**2**	**3**	**4-6**	**7**
Risk weight	0%	20%	50%	100%	150%

2. Claims on the Bank for International Settlements, the International Monetary Fund, the European Central Bank and the European Community may receive a 0% risk weight.

3. Claims on non-central government public-sector entities (PSEs)

[1] NTD-denominated clams on our central government and the Central Bank of China of the ROC may be assigned a 0% risk weight.

[2] The notations of credit ratings used under the standardized approach follow the methodology used by Standard & Poor's. However it does not mean that Standard & Poor's is the only qualified external credit assessment institution. See Annex 1 for the credit rating mapping of recognized external credit assessment institutions.

[3] An ECA must publish its risk scoring method which should subscribe to the OECD (Organization of Economic Cooperation and Development)agreed methodology.

[4]The consensus country risk classification is available on the OECD's website

(1) Claims on regional governments and PSEs will be risk weighted at one category less favorable than the sovereigns as shown in Table 3:

Table 3: Risk weights applied to regional governments and PSEs

Credit rating[5]	**AAA~AA-**	**A+~A-**	**BBB+~BBB-**	**BB+ ~B-**	Below CCC+	**Unrated**
Risk weight	20%	50%	100%	100%	150%	100%

(2) Claims on commercial undertakings owned by central government will be risk weighted the same as that applied to claims on corporates.

4. Claims on multilateral development banks (MDBs)

(1) The risk weights applied to claims on MDBs will generally be based on those for claims on banks as shown in Table 4 but without the possibility of using the preferential treatment for short-term claims as shown in Table 5.

(2) A 0% risk weight will be applied to claims on MDBs that meet to the criteria provided by the Basel Committee[6].

5. Claims on banks

(1) Claims on banks refer to claims on banks, bills finance companies, investment trust companies, credit cooperatives, credit departments of farmers' associations and fishermen's associations, and financial holding companies.

(2) The risk weights applied to claims on banks will be based on the ratings given by external credit assessment institutions as shown in Table 4. Claim on an unrated bank should not receive a risk weight lower than that applied to claims on its sovereign of incorporation. Claims on banks with an original maturity of three months or less[7] may be assigned risk weights according to Table 5[8].

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[5] Referring to the credit ratings of sovereigns.

[6] MDBs currently eligible for a 0% risk weight as assessed by the Basel Committee are: the World Bank Group comprised of the International Bank for Reconstruction and Development (IBRD) and the International Finance Corporation (IFC), the Asian Development Bank (ADB), the African Development Bank (AfDB), the European Bank for Reconstruction and Development (EBRD), the Inter-American Development Bank (IADB), the European Investment Bank (EIB), the Nordic Investment Bank (NIB), the Caribbean Development Bank (CDB), the Islamic Development Bank (IDB), and the Council of Europe Development Bank (CEDB).

[7] Claims with original maturity under 3 months which are expected to be rolled over that the effective maturity is longer than 3 months do not qualify for this preferential risk weight.

[8] Claims on banks with original maturity under 3 months and denominated and funded in domestic currency may

Table 4: Risk weights applied to claims on banks

Credit rating	**AAA~AA-**	**A+ ~A-**	**BBB+~BBB-**	**BB+~B-**	Below CCC+	**Unrated**
Risk weight	20%	50%	50%	100%	150%	100%

Table 5: Risk weights applied to short-term claims on banks

Credit rating long-term	**AAA~AA-**	**A+ ~A-**	**BBB+~BBB-**	**BB+~B-**	Below CCC+	**Unrated**
Risk weight for short-term claim	20%	20%	20%	50%	150%	50%

6. Claims on corporates

(1) Claims on corporates[9] will be risk weighted according to their external credit assessment given by external credit assessment institutions as presented in Table 6 below. The standard risk weight for unrated claims on corporates will be 100%. No claim on unrated corporates may be given a risk weight preferential to that assigned to its sovereign of incorporation.

Table 6: Risk weights applied to claims on corporates

Credit rating	**AAA~AA-**	**A+ ~A-**	**BBB+ ~ BB-**	**Below B+**	**Unrated**
Risk weight	20%	50%	100%	150%	100%

(2) The portion of claim on corporates fully secured by commercial real estate may be risk weighted at 100%.

7.Claims included in retail portfolios

Retail claims that meet the following four criteria are considered as regulatory retail portfolio and may be risk-weighted at 75%, except as retail claims more than 90 days past due to which the risk weights for past due loans apply:

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receive a risk weight one category less favorable than that applied to claims on sovereigns, subject to a floor of 20%. Short-term claims (less than 3 months) on banks denominated in NTD may receive a risk weight of 20%.

[9] Including securities firms, securities finance companies and insurance companies.

(1) Orientation criterion － The exposure is to an individual person or persons[10] or to a small business[11];

(2) Product criterion － The exposure takes the form of any of the following: revolving credits and lines of credit (including credit cards and overdrafts), personal term loans and leases (e.g. installment loans, auto loans and leases, student and educational loans, personal finance) and small business facilities and commitments. Securities (such as bonds and equities), whether listed or not, are excluded from this category. Mortgage loans are excluded to the extent that they qualify for treatment as claims secured by residual property.

(3) Granularity criterion －No aggregate exposure to one counterpart[12] can exceed 0.2% of the overall qualifying retail portfolio. "Aggregated exposure" means gross amount of all forms of debt exposures not taking any credit risk mitigation into account that individually satisfy the three other criteria. Both the aggregate exposure and the overall qualifying retail portfolio exclude loans that are 90 days or longer past due.

(4) Low value of individual exposure－ A bank's maximum aggregated retail exposure to one counterpart is limited to NT$10 million; a bank's maximum aggregated retail exposure to a SME is limited to NT$40 million.

Non-qualifying retail exposures that do not meet the four criteria above will be risk weighted at 100% for aggregate exposures to individual person or persons; the aggregate exposures to SME will be subject to rules for corporate claims.

8. Claims secured by residential property

Bank loans acquired by a borrower for the purpose of buying or building a residence or for renovating the residence and fully secured by a house purchased (owned) by the borrower, his/her spouse or minor child and hypothecated[13] to the lender may be risk weighted using

[10] Persons mean "several natural persons who are joint borrowers" or a "partnership."
[11] Small business means a business that meets the definition for small and medium-sized enterprise provided in paragraph 2, Article 2 of the SME Development Act.
[12] Refers to an individual person, persons or a small business.
[13] For mortgage loan with junior lien, the calculation of loan-to-value shall include the amount of senior liens hypothecated plus the loan extended by the bank.

one of the two approaches (not applicable to past due loans) below; change of the approach once applied require supervisory approval:

(1) On the basis of the ratio of loan balance to the value of the residential property securing the loan (loan-to-value or LTV ratio[14]), a loan is divided into the portion at and below 75% LTV ratio and the portion over 75%, and assigned different risk weights according to the following rules:

a. For the portion of loan at or under 75% LTV, the risk weight is 35%.

b. For the portion of loan over 75% LTV, the risk weight is 75%.

(2) Apply uniformly a 45% risk weight.

9. Exposures 90 days (or 3 months) past due will be risk-weighted as follows based on the ratio of loan loss provisions (the portion not exceeding the expected loss) plus partial write-off to outstanding amount of loan past-due[15]:

(1) Unsecured portion of the loan (other than a qualifying residential mortgage loan):

- 150% risk weight when provisions plus partial write-off are less than 20% of the outstanding amount of the loan;
- 100% risk weight when provisions plus partial write-off are more than 20% of the outstanding amount of the loan.

(2) Fully secured portion of the loan, but the collateral is not considered a eligible collateral[16]:

- 150% risk weight when provisions plus partial write-off are less than 15% of the outstanding amount of the loan;
- 100% risk weight when provisions plus partial write-off are more than 15% of the outstanding amount of the loan.

[14] The LTV ratio should be evaluated periodically at the frequency of once a year using a method decided by the bank. However the method and the process should be documented and submitted to the supervisory authority for examination. The value of the residential property securing the loan will be appraised by market value minus taxations.

[15] Operating reserve and loan loss provision should be adequate to cover expected loss (any shortfall of the operating reserve and loan loss provision must be deducted from Tier 1 capital). Banks that estimate expected loss using the standardized approach should obtain optimum estimate of possible loss based on historical loss experience where the use of internal model is not required. Instead, estimation can be made based on past non-performing loan ratio and bad debt write-off and other actual loss experience.

[16] This refers to eligible collateral other than those recognized under the simplified approach and comprehensive approach of the standardized approach for risk mitigation techniques.

(3) Qualifying residential mortgage:

- 100% risk weight when provisions plus partial write-off are less than 20% of the outstanding amount of the loan;
- 50% risk weight when provisions plus partial write-off are more than 20% of the outstanding amount of the loan.

10. Equity investment

(1) The book value of investment in eligible capital instruments (including equity investments and subordinate bonds and convertible bonds investments that may be included in eligible capital) issued by banks, securities firms, insurance companies, bills finance companies, financial holding companies, and other finance related enterprises shall be deducted 50% each from Tier 1 capital and Tier 2 capital[17], except for investments that have been included in the calculation of capital adequacy ratio.

(2) Equity investments in non-finance related enterprises made pursuant to Article 74 of the Banking Act are subject to a risk weight of 300% if such investment may be publicly traded, or 400% risk weight if such investment is not publicly traded.

(3) Equity investments made pursuant to Article 74-1 of the Banking Act or Article 10 of the Regulations Governing the Establishment and Administration of Industrial Bank will be subject to the rules for market risk capital charge, provided they are in the trading book. That is, if the bank holds specific and effective hedged position on the same security, capital charge is estimated based on the net position (offset of longs and shorts); in case the offset results in a net short position, take the absolute value and treat it as a net long position. For equity investments in the banking book, a risk weight of 300% applies if it is publicly traded, and a risk weight of 400% applies if it is not publicly traded.

(4) The total amount of direct investments made by an industrial bank in manufacturing businesses, finance related enterprises, venture capital enterprises and real estate pursuant to Article 8 of the Regulations Governing the Establishment and Administration of

[17] With regard to the provisions for 50% deduction from Tier 1 capital and Tier 2 capital respectively, if there is insufficient eligible Tier 2 capital for deduction, the deduction will be made from Tier 1 capital. Such principle also applies to capital deduction specified herein. With regard to capital deduction for financial assets held for trade in the book, refer to Form 2-F and Form 3-D.

Industrial Bank should be deducted 50% each from Tier 2 capital and eligible Tier 2 capital.

(5) Where the investment in one single non-finance related enterprise exceeds 15% of the bank's paid-in capital, or the total investment in non-finance related enterprises exceeds 60% of the bank's paid-in capital, the excess portion on the book shall be deducted 50% each from the Tier 1 capital and eligible Tier 2 capital.

11. Other assets

(1) The treatment of securitization exposures is presented separately in the section on asset securitization with respect to risk-weighted assets. The standard risk weight for all other on-balance sheet assets not specified above will be 100%.

(2) Gold bullion held in own vaults or exposures fully secured by gold bullion can be treated as cash and risk-weighted at 0%. In addition, cash items in the process of collection can be risk-weighted at 20%.

(B) Capital charge for the credit risk of off-balance sheet items

1. Capital charge for counterparty credit risk associated with general off-balance sheet items

(1) Scope: off-balance sheet items such as guarantees, acceptance, commitments, standby letters of credit, note issuance facilities (NIFs), revolving underwriting facilities (RUFs), securities on loan, or securities posted as guarantee.

(2) Calculation method:

a. The amount of an off-balance sheet item × credit conversion factor (CCF) = credit exposure equivalent;

b. The credit exposure equivalent × counterparty risk weight = amount of risk-weighted asset.

(3) CCF for off-balance sheet items:

a. 0% CCF:

- Any commitments that are unconditionally cancellable at any time by the bank without

prior notice [18].

- Any commitments that effectively provide for automatic cancellation due to deterioration in borrower's creditworthiness.

b. 20% CCF:

- Commitments with an original maturity up to one year.
- For short-term self-liquidating trade letters of credit arising from the movement of goods (e.g. documentary credits collateralized by the underlying shipment), a 20% CCF will be applied to both issuing and confirming banks.

c. 50% CCF[19]:

- Commitments with an original maturity over one year.
- Certain transaction-related standby letters of credit or contingent items, such as performance bonds, bid bonds, and warranties.
- Facilities issued by a borrower under a standby credit agreement with a bank that permits the borrower to obtain financing by issuing notes within a specific period of time and certain line on a revolving basis, and that the bank will buy the notes or extend a loan according to the agreed terms if the borrower does not succeed in selling its notes to investors, e.g. note issuance facilities (NIF) and revolving underwriting facilities (RUF).

d. 100% CCF:

- Banks' securities in the banking book that are on loan or posted as collateral by banks, (e.g. repurchase/reverse repurchase and securities lending/securities borrowing transactions) that are listed as off-balance sheet items (there is no need to calculate capital charge for items already listed as on-balance sheet items).
- Asset sales with recourse where the credit risk remains with the bank.

[18] Retail commitments are considered unconditionally cancellable if the terms permit the bank to cancel them to the full extent allowable under consumer protection and related legislation.

[19] On the base date of calculation, undrawn credit line extended to credit card and cash card holders will be subject to a 50% CCF.

- Contingent items as direct credit substitutes, e.g. standby letters of credit serving as financial guarantees and banks acceptances.

e. Where there is an undertaking to provide a commitment on an off-balance sheet item, banks are to apply the lower of the applicable CCFs for off-balance sheet items and on-balance sheet items.

2. Calculation of counterparty credit risk associated with securities financing transactions or OTC derivatives

(1) Scope:

a. Securities financing transactions (SFTs) and OTC derivatives in the banking book and trading book are subject to the rules in Annex 3 for the calculation of counterparty credit risk exposure. The resulting exposure amount multiplied by the corresponding risk weight produces the amount of risk-weighted asset.

b. Foreign exchange contracts with original maturity of 14 days or less are not subject to counterparty credit risk. However gold contracts with original maturity or 14 days or less are subject to counterparty credit risk.

c. Exchange-traded contracts that are subject to daily remargining and daily mark-to- market are exempt from counterparty credit risk. Options contracts sold over-the-counter are not subject to counterparty credit risk.

(2) Calculation method: See Annex 3 - Capital Charge for Counterparty Credit Risk.

3. With regard to unsettled securities, commodities, and foreign exchange transactions, banks should establish proper management information system to facilitate tracking and monitoring the credit risk exposure arising from unsettled transactions on a daily basis and taking necessary actions promptly. Furthermore, when such transactions are not settled on time or not processed through a delivery-versus-payment (DvP) or payment-versus-payment (PvP) mechanism, banks must calculate a capital charge for counterparty credit risk as set forth in Annex 4 herein.

B. External credit assessment

(A) Criteria for eligible external credit assessment institution (ECAI)

1. **Objectivity**

The methodology for assigning credit assessments must be rigorous, systematic, and subject to some form of validation based on historical experience. Moreover, assessments must be subject to ongoing review and responsive to changes in financial condition. Before being recognized by supervisors, an assessment methodology for each market segment, including rigorous backtesting, must have been established for at least one year and preferably three years.

2. **Independence**

An ECAI should be independent and should not be subject to political or economic pressures that may influence the rating. The assessment process should be as free as possible from any constraints that could arise in situations where the composition of the board of directors or the shareholder structure of the assessment institution may be seen as creating a conflict of interest.

3. **International access and transparency**

The individual assessments should be available to both domestic and foreign institutions with legitimate interests and at equivalent terms. In addition, the general methodology used by the ECAI should be publicly available.

4. **Disclosure**

An ECAI should disclose the following information: its assessment methodologies (including the definition of default, the time horizon, and the meaning of each rating); the actual default rates experienced in each assessment category; and the transitions of the assessments, (e.g. the likelihood of being downgraded from AA ratings to A over time).

5. **Resources**

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

6. **Credibility**

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

(B) Principles for using external credit assessment

1. Banks must use the chosen ECAIs and their ratings consistently for each type of claim, for both risk weighting and risk management purposes. Banks will not be allowed to "cherry-pick" the assessments provided by different ECAIs.
2. If there is only one assessment by an ECAI chosen by a bank for a particular claim, that assessment should be used to determine the risk weight of the claim.
3. If there are two assessments by ECAIs chosen by a bank which map into different risk weights, the lower grade, that is, the higher risk weight will be applied based on the principle of prudence.
4. If there are three or more assessments with different risk weights, the assessments corresponding to the two lowest risk weights should be referred to and the higher of those two risk weights will be applied.
5. Whether the bank intends to use an issuer- or an issue-specific assessment, the assessment must take into account and reflect the entire amount of credit risk exposure of the bank's claims. For example, if a bank's claim contains both principal and interest, the assessment must not use the assessment of the principal alone as the basis for determining risk weight.
6. Where unrated exposures are risk weighted based on the rating of an equivalent exposure to that borrower, the general rule is that foreign currency ratings would be used for exposures in foreign currency. Domestic currency ratings would only be used to risk weight claims denominated in the domestic currency.
7. Short-term assessments are deemed to be issue specific. That is, they cannot be generalized to other short-term claims or used to support a risk weight for an unrated long-term claim. Short-term assessments may only be used for short-term claims against banks and corporates. The risk weights for short-term claims are presented as follows:

Credit rating	A-1/P-1[20]	A-2/P-2	A-3/P-3	Others
Risk weight	20%	50%	100%	150%

8. External assessments for one entity within a corporate group cannot be used to risk weight other entities within the same group.

9. As a general rule, banks should use solicited ratings from eligible ECAIs. If a bank intends to use unsolicited ratings[21], they should be adopted on a consistent basis (e.g. the bank may not switch to unrated risk weight because the unsolicited rating is poorer).

10. Where a bank invests in a particular issue that has an issue-specific assessment, the risk weight of the claim will be based on this assessment. Where the bank's claim is not an investment in a specific assessed issue, the following general principles apply:

- In circumstances where the borrower has a specific assessment for an issued debt, but the bank's claim is not an investment in this particular debt, a high quality credit assessment (one which maps into a risk weight lower than that which applies to an unrated claim) on that specific debt may only be applied to the bank's unassessed claim if this claim ranks on a par or senior to the claim with an assessment in all respects. If not, the credit assessment cannot be used and the unassessed claim will receive the risk weight for unrated claims.

- In circumstances where the borrower has an issuer assessment, this assessment typically applies to senior unsecured claims on that issuer. Consequently, only senior claims on that issuer will benefit from a high quality issuer assessment. Other unassessed claims of a highly assessed issuer will be treated as unrated. If either the issuer or a single issue maps into a risk weight equal to or higher than that which applies to unrated claims, an unassessed claim on that issuer will be assigned the same risk weight as is applicable to the lower credit rating.

[20] The notations of credit ratings used follow the methodology used by Standard & Poor's and Moody's Investors Service (the A-1 grade of Standard & Poor's contains two grades A-1+ and A-1-). The mapping to the ratings of other ECAIs is detailed in Annex 1.

[21] To prevent ECAIs from using unsolicited ratings to put pressure on entities to pay for solicited ratings, an eligible ECAI should describe the reasonality of switching from unsolicited ratings to solicited ratings in its assessment process.

C. Credit risk mitigation

(A) Scope of application and treatment principles

1. Banks may mitigate the credit risks to which they are exposed using various credit risk mitigation (CRM) techniques according to the relevant rules, including: (1) counterparty or third party providing collateral; (2) on-balance sheet netting; (3) third-party guarantee; and (4) buying credit derivatives.
2. All documentation used in collateralized transactions and for documenting on balance sheet netting, guarantees and credit derivatives must be binding on all parties and legally enforceable in all relevant jurisdictions. Banks must have conducted sufficient legal review to verify this and have a well-founded legal basis to reach this conclusion, and undertake such further review as necessary to ensure continuing enforceability.
3. For the same transaction, capital requirement following CRM should be lower than that calculated without the use of CRM techniques.
4. The effects of CRM will not be double counted. Therefore, no additional supervisory recognition of CRM for regulatory capital purposes will be granted on claims for which an issue-specific rating is used that already reflects that CRM. Principal-only ratings will also not be allowed within the framework of CRM.
5. While the use of CRM techniques reduces or transfers credit risk, it simultaneously may increase other risks (residual risks), including legal, operational, liquidity and market risks. Therefore, banks must employ robust procedures and processes to control these risks, including setting strategies, drafting operating procedures, examination and valuation of underlying credit, establishment of systems, control of contract termination risks, and management of concentration risk arising from the bank's use of CRM techniques and its interaction with the bank's overall credit risk profile. Where these risks are not adequately controlled, supervisors may impose additional capital charges or take other supervisory actions as outlined in Pillar 2 (supervisory review).
6. The Pillar 3 requirements (disclosure requirements) must also be observed for banks to

obtain capital relief in respect of any CRM techniques.

(B) Collaterals

For credit exposure or potential credit exposure to counterparty; banks may accept collaterals posted by a counterparty or a third party to mitigate the credit risk that might result in loss in the event of counterparty default. That is, banks are allowed to consider the CRM effect of eligible collaterals they take for regulatory capital purposes.

1. Basic rules for the CRM effect of eligible collateral:

(1) Banks may opt for either the simple approach (substituting the risk weighting of the collateral for the risk weighting of the counterparty for the collateralized portion of the exposure, which is subject to a 20% floor), or for the comprehensive approach (reducing the exposure amount by recognizing the value of the collateral, only the possible impact of mismatches in the maturity of the underlying exposure and the collateral need to be taken into account) to calculate the CRM effect of collaterals. Banks may operate under either, but not both, approaches in the banking book, but only under the comprehensive approach in the trading book. Banks that operate under the simplified approach may only adopt comprehensive approach when securities are posted as collateral. Partial collateralization is recognized in both approaches.

(2) The legal mechanism by which collateral is pledged or transferred must ensure that the bank has the right to liquidate the collateral in a timely manner in the event of the default, insolvency, bankruptcy or other credit events of the counterparty as set out in the transaction contract.

(3) In order to ensure that the collateral lowers credit risk effectively, the credit quality of the counterparty and the value of the collateral must not have a material positive correlation. For example, securities issued by the counterparty or by any related group entity are considered highly correlated in terms of credit risk, and would provide little protection and so would be ineligible.

(4) Banks must have clear and robust procedures for the timely liquidation of collateral to

ensure that any legal conditions required for declaring the default of the counterparty and liquidating the collateral are observed, and that collateral can be liquidated promptly.

(5) Where the collateral is held by a custodian, banks must take reasonable steps to ensure that the custodian segregates the collateral from its own assets.

(6) A capital requirement will be applied to a bank on either side of the collateralized transaction: for example, both repos and reverse repos will be subject to capital requirements. Likewise, both sides of a securities lending and borrowing transaction will be subject to explicit capital charges.

2. Methods for calculating the CRM effect of eligible collateral:

Banks may opt for either the simple approach or the comprehensive approach for the calculation of CRM effect:

(1) Simple approach: Banks can substitute the risk weighting[22] of the eligible collateral for the risk weighting of the counterparty for the collateralized portion of the exposure to calculate exposure amount after risk mitigation.

a. Eligible collateral instruments recognized in the simple approach:

(a) Cash deposits at the lending bank, including time deposits or comparable instruments issued by the lending bank;

(b) Gold;

(c) Government bonds and treasury notes issued by the central government and municipal governments of the ROC.

(d) Debt instruments rated by a recognized external credit assessment institution (ECAI) where these are rated either:

·at least BB- when issued by sovereigns or non-central government public sector entities (PSEs); or

·at least BBB- when issued by other entities [23]; or

[22] The risk weights are mapped to the risk weights of assets under the standardized approach.
[23] Including banks and securities firms.

·at least A-3/P-3 for short-term debt instruments.

(e) Unrated short-term debt instruments guaranteed by a domestic bank or bills finance company rated at least BBB-;

(f) Debt securities satisfying all conditions below, but not rated by a recognized external credit assessment institution:

· issued by bank;

· listed on a recognized exchange, including NYSE, Nasdaq, LSE, GSE, Euronext, TSE, TSE, and GTSM;

· classified as senior debt;

· all rated issues of the same seniority by the issuing bank must be rated at least BBB- or A-3/P-3 by a recognized external credit assessment institution;

· there is no information to suggest that the issue justifies a rating below BBB- or A-3/P-3 (depending on the long or short-term rating); and

· having market liquidity.

(g) Equities (including convertible bonds, but excluding stocks with trading method altered, such as stocks that require 100% deposit) that are included in a main index, including TAIEX, GTEX, DJ-INDUS, NYSE COMP, S&P500, NASDAQ COMP, FTSE-100, DAX PRICE, NK-225, and TOPIX.

(h) Undertakings for Collective Investments in Transferable Securities (UCITS) and mutual funds where:

·a price for the units is publicly quoted daily; and

· the UCITS/mutual fund is limited to investing in the instruments listed as eligible collateral under the simple approach.

b. Basic criteria for adopting the simple approach:

(a) The effective period of the collateral's lien or pledge must cover the entire life of exposure (maturity mismatch of collateral is not allowed).

(b) It must be marked to market and revalued at least once every six months.

(c) Those portions of claims collateralized by the market value of recognized collateral receive the risk weight applicable to the collateral instrument. The risk weight on the collateralized portion will be subject to a floor of 20% except under the conditions specified in item c. below. The remainder of the claim should be assigned to the risk weight appropriate to the counterparty.

c. Exceptions to the risk weight floor (20%) under the simple approach:

(a) Transactions which fulfill the criteria outlined below and are with a core market participant receive a risk weight of 0%. If the counterparty to the transactions is not a core market participant the transaction should receive a risk weight of 10%.

- Both the exposure and the collateral are cash or a claim on sovereign qualifying for a 0% risk weight in the standardized approach;
- Both the exposure and the collateral are denominated in the same currency;
- Either the transaction is overnight or both the exposure and the collateral are marked-to-market daily and are subject to daily remargining;
- Following a counterparty's failure to remargin, the time that is required between the last mark-to-market before the failure to remargin and the liquidation of the collateral is no more than four business days;
- The transaction is settled through a settlement system proven for that type of transaction;
- The transaction is executed according to the standard market documentation for repo-style transactions;
- The transaction documentation specifies that if the counterparty fails to satisfy an obligation to deliver cash or securities or to deliver margin or otherwise defaults, the transaction is immediately terminable; and
- Upon any default event, regardless of whether the counterparty is insolvent or bankrupt, the bank has the legally enforceable right to immediately seize and liquidate the collateral to ensure its claim.

The aforesaid core market participants include the following entities:

- Sovereigns and central banks;
- Banks, securities firms, and bills finance companies;
- Other financial companies (including insurance companies) eligible for a 20% risk weight in the standardized approach;
- Regulated mutual funds that are subject to capital or leverage requirements;
- Regulated pension funds, such as the Labor Retirement Fund, Labor Insurance Fund, and Public Service Pension Fund;
- Recognized clearing organizations, such as Taiwan Stock Exchange (TSE), Taiwan Futures Exchange (TAIFEX), Gretai Securities Market, (GTSM) and Taiwan Depository and Clearing Corporation (TDCC).

(b) OTC derivative transactions subject to daily mark-to-market, collateralized by cash and where there is no currency mismatch should receive a 0% risk weight. Such transactions collateralized by sovereign qualifying for a 0% risk weight in the standardized approach can receive a 10% risk weight.

(c) A collateralized transaction where the exposure and the collateral are denominated in the same currency and the collateral is cash or deposit with the bank will receive a 0% risk weight can be applied.

(d) A collateralized transaction where the exposure and the collateral are denominated in the same currency and the collateral is in the form of securities issued by a sovereign or multilateral development bank subject to 0% risk weight, and its market value has been discounted by 20% is eligible for a 0% risk weight.

(2) Comprehensive approach: Banks may reduce the exposure amount by recognizing the value of the collateral, only the impact of mismatches in the maturity of the underlying exposure and the collateral need to be taken into account.

a. Calculation of capital requirement:

(a) Except for securities financing transactions (SFTs) with a master netting agreement to which another formula for calculating mitigated exposure amount applies (see sections

below), the exposure amount of other collateralized transactions after risk mitigation (including SFTs without a master netting agreement) is calculated as follows:

E* =Max {0, [E x (1 + He) - C x (1 - Hc - Hfx)]}

where

E*：the exposure value after risk mitigation

E ：current value of the exposure

He：haircut appropriate to the exposure

C：the current value of the collateral

Hc：haircut appropriate to the collateral

Hfx：haircut appropriate for currency mismatch between the collateral and exposure

(b) The exposure amount after risk mitigation will be multiplied by the risk weight of the counterparty to obtain the risk-weighted asset amount for the collateralized transaction.

(c) Where the collateral is a basket of assets, the haircut on the basket will be $H = \sum_i a_i H_i$, where a_i is the weight of the asset i in the basket (as measured by units of currency), and H_i is the haircut applicable to asset i.

b. Collateral instruments eligible for recognition in the comprehensive approach:

(a) All of the eligible collaterals in the simple approach.

(b) Equities (including convertible bonds) which are not included in a main index recognized in the simple approach but which are listed on a recognized exchange under the simple approach.

(c) UCITS and mutual funds which invest in eligible collaterals in the simple approach and equities described above.

c. For repo-style transactions in the trading book, all instruments in the trading book may be treated as eligible collateral for the purpose of calculating exposure amount after risk mitigation. Those instruments should be subject to haircut if they do not meet the criteria for eligible collateral under the standardized approach to credit risk. The haircut ratios should refer to that applicable to other equity securities listed on recognized exchanges, or

bank's own estimates calculated according to the method approved by the supervisory authority.

d. Principles for adopting the comprehensive approach:

(a) When considering the effect of collateral on capital charge, banks will need to use haircuts to adjust both the amount of the exposure to the counterparty and the value of any collateral and take account of possible future fluctuations in both values in the event of market movements. This will produce volatility adjusted amounts for both exposure and collateral. Unless either the exposure or the collateral is cash, the volatility adjusted amount for the exposure will be higher than the exposure and for the collateral it will be lower. Additionally where the exposure and collateral are held in different currencies an additional downward adjustment must be made to the volatility adjusted collateral amount to take account of possible future fluctuations in exchange rates. Where the volatility-adjusted exposure amount is greater than the volatility-adjusted collateral amount after taking into account market volatility, banks shall calculate their risk-weighted assets as the difference between the two multiplied by the risk weight of the counterparty.

(b) Banks that use the standardized approach or the IRB approach to credit risk may choose to use supervisory or own-estimate haircuts. However, if banks seek to use their own-estimate haircuts, they must do so for the full range of instrument types for which they would be eligible to use own-estimates, with the exception to immaterial portfolios where they may use the standard supervisory haircuts.

(c) The size of the individual haircuts will depend on the type of instrument, type of transaction and the frequency of marking-to-market and remargining. For example, repo-style transactions subject to daily marking-to-market and to daily remargining will receive a haircut based on a 5-business day holding period and secured lending transactions with daily mark-to-market and no remargining clauses will receive a haircut based on a 20-business day holding period. These haircut numbers will be scaled up

using the square root of time formula depending on the frequency of remargining or marking-to-market.

i. Standard supervisory haircuts:

The standard supervisory haircuts as presented in Table 8 assume daily mark-to-market, daily remargining and a 10-business day holding period, expressed as percentages:

Table 8: Standard supervisory haircuts

Issue rating for debt securities	Residual maturity	Sovereigns [24]	Other issuers
AAA ~ AA-/A-1	<=1 year	0.5	1
	>1 year, <=5 years	2	4
	>5 years	4	8
A+ ~ BBB-/ A-2/A-3/P-3 and unrated securities in sections a.(c), (d), (e), (f) on p. 18 and p. 19	<=1 year	1	2
	>1 year, <=5 years	3	6
	>5 years	6	12
BB+ ~ BB-	Any maturity	15	
Main index equities s(including convertible bonds) and gold		15	
Other equities (including convertible bonds) listed on a recognized exchange		25	
UCITS/mutual funds		Highest haircut applicable to any security in which the fund can invest	
Cash in the same currency		0	

The standard supervisory haircut for currency risk where exposure and collateral are denominated in different currencies is 8% (also based on a 10-business day holding period and daily mark-to-market). For transactions in which the bank lends non-eligible instruments (e.g. noninvestment grade corporate debt securities), the haircut to be applied on the exposure should be the same as the one for equity traded on a recognized exchange that is not part of a

[24] Including multilateral development banks to which 0% risk weight applies.

main index.

ii. **Own estimates for haircuts**：

Banks with supervisory approval may calculate haircuts using their own internal estimates of market price volatility and foreign exchange volatility. Permission to do so will be conditional on the satisfaction of minimum qualitative and quantitative standards stated below. When debt securities are rated BBB-/A-3 or higher, the bank may calculate a volatility estimate for each category of security. In determining relevant categories, banks must take into account (a) the type of issuer of the security, (b) its rating, (c) its residual maturity, and (d) its modified duration. Volatility estimates must be representative of the securities actually included in the category for that bank. For other securities eligible as collateral, such as debt instruments or equity securities rated below BBB-/A-3, the haircuts must be calculated for each individual security. Banks must estimate the impact of the price volatility of the collateral instrument or foreign exchange mismatch separately.

（i）**Quantitative criteria for own-estimates for haircuts:**

- In calculating the haircuts, a 99th percentile, one-tailed confidence interval is to be used.
- The specified holding period will be dependent on the type of transaction and the frequency of remargining or marking to market. The specified holding periods for different types of transactions are presented in Table 9. Banks may use haircut numbers calculated according to specified holding periods, scaled up to the appropriate holding period by the square root of time formula.。
- Banks must take into account the illiquidity of lower-quality assets. The holding period should be adjusted upwards for collateral with poor liquidity. Banks should also identify where historical data may understate potential volatility. Such cases must be dealt with by subjecting the data to stress testing. The choice of historical

observation period (sample period) for calculating haircuts shall be a minimum of one year. For banks that use a weighting scheme for the historical observation period, the "effective" observation period must be at least one year, and the weighted average time lag of the individual observations cannot be less than 6 months.

- Banks should update their data sets no less frequently than once every three months and should also reassess them whenever market prices are subject to material changes. That is, haircuts must be computed at least every three months. The supervisory authority may also require a bank to calculate its haircuts using a shorter observation period if there is a material upsurge in price volatility.
- banks will be free to use models that can capture all the material risks run by the bank, for example, historical simulations and Monte Carlo simulations.

（ii）**Qualitative criteria for own-estimates for haircuts:**

- The estimated volatility data (and holding period) must be used in the day-to-day risk management process of the bank.
- Banks should have robust processes in place for ensuring compliance with internal policies, controls and procedures concerning the operation of the risk measurement system.
- The risk measurement system should be used in conjunction with internal exposure limits.
- An independent review of the risk measurement system should be carried out regularly in the bank's own internal auditing process. A review of the overall risk management process should take place at regular intervals (at least once a year) and should address at minimum the following matters:
  - the integration of risk measures into daily risk management;
  - the validation of any significant change in the risk measurement process;
  - the accuracy and completeness of position data;

- the verification of the consistency, timeliness, reliability, and independence of data sources used to run internal models; and
- the accuracy and appropriateness of volatility assumptions.

iii. **Adjustment for holding periods for standard supervisory haircuts and own-estimate haircuts**:

Depending on the nature and frequency of the revaluation and remargining provisions, banks may choose holding periods different from the specified holding periods. Transactions may be classified by specified holding period as follows according to the framework presented in Table 9: (1) repo-style transactions (i.e. repo/reverse repos and securities lending/borrowing); (2) other capital-market-driven transactions, e.g. OTC derivatives transactions and margin lending); (3) secured lending. In capital-market-driven transactions and repo-style transactions, the documentation typically contains remargining clauses; in secured lending transactions, the documentation generally does not contain such clauses.

Table 9: Specified holding periods for different transaction types and conditions

Transaction type	Specified holding period (T_M)	Frequency of remargining or revaluation (N_R)
Repo-style transaction	5 business days	Daily
Other capital market transactions	10 business days	Daily
Secured lending	20 business days	Daily

When the frequency of remargining or revaluation (N_R) is longer than one day, the planned haircut will be scaled up depending on the actual number of business days between remargining or revaluation using the square root of time formula below:

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

where

H= haircut after the adjustment of holding period

H_M= haircut under the specified holding period

T_M = specified holding period for the type of transaction (i.e. the minimum period required for liquidating the collateral in a normal market)

N_R = actual number of business days between remargining for capital market transactions or revaluation for secured transactions

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

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

where

H= haircut

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

N_R= actual number of business days between remargining or revaluation

T_M= specified holding period for the type of transaction according to Table 9

When a bank uses own haircut estimate and calculates the volatility on a T_N day holding period which is different from the specified holding period T_M in Table 8, the H_M will be calculated using the square root of time formula:

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

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

H_N = haircut derived based on the holding period T_N

iv. Conditions for zero H:

(i) For repo-style transactions where the following conditions are satisfied, and the

counterparty is a core market participant, banks may apply a haircut of zero. But this exception does not apply to banks using VaR model:

- Both the exposure and the collateral are cash or claim on a sovereign qualifying for a 0% risk weight in the standardized approach;
- Both the exposure and the collateral are denominated in the same currency;
- Either the transaction is overnight or both the exposure and the collateral are marked-to-market daily and are subject to daily remargining;
- Following a counterparty's failure to remargin, the time that is required between the last mark-to-market before the failure to remargin and the liquidation of the collateral is considered to be no more than four business days;
- The transaction is settled through a settlement system proven for that type of transaction;
- The transaction is executed according to the standard market documentation for repo-style transactions;
- The transaction documentation specifies that if the counterparty fails to satisfy an obligation to deliver cash or securities or to deliver margin or otherwise defaults, the transaction is immediately terminable; and
- Upon any default event, regardless of whether the counterparty is insolvent or bankrupt, the bank has the legally enforceable right to immediately seize and liquidate the collateral to ensure its claim.

(ii) The aforesaid core market participants include the following entities:

- Sovereigns and central banks;
- Banks, securities firms, and bills finance companies;
- Other financial companies (including insurance companies) eligible for a 20% risk weight in the standardized approach;
- Regulated mutual funds that are subject to capital or leverage requirements;
- Regulated pension funds, such as the Labor Retirement Fund, Labor Insurance Fund, and Public Service Pension Fund;

- Recognized clearing organizations, such as Taiwan Stock Exchange (TSE), Taiwan Futures Exchange (TAIFEX), Gretai Securities Market, (GTSM) and Taiwan Depository and Clearing Corporation (TDCC).

(d) Repo-style transactions covered under master netting agreements

i. If the master netting agreement entered between the bank and the counterparty meets the following conditions, its CRM effects will be recognized on a counterparty-by-counterparty basis:

- The non-defaulting party has the right to terminate and close-out in a timely manner all transactions under the agreement upon an event of default, including in the event of insolvency or bankruptcy of the counterparty;
- When the transaction is terminated and closed out, gains and losses on transactions (including the value of any collateral) may be settled on a netting basis, that is, a single net amount is owed by one party to the other;
- In the event of default, prompt liquidation or disposal of collateral is allowed; and
- Together with the rights arising from the three provisions above, the master netting agreement is legally enforceable in each relevant jurisdiction in an event of default and regardless of the counterparty's insolvency or bankruptcy.

ii. Master netting agreement covering positions in the banking and trading book will be recognized when the following conditions are met:

a All transactions are marked to market daily;[25] and

b The collateral instruments used in the transactions are recognized as eligible financial collateral in the banking book.

iii. Banks using the standard supervisory haircuts or own-estimate haircuts should apply the following formula for calculating mitigated exposure amount after taking into account the effect of master netting agreements:

[25] Same as in other repo-style transactions, the holding period for the haircuts will depend on the frequency of margining.

$$E^* = \max \{0, [(\sum(E) - \sum(C)) + \sum (Es \times Hs) + \sum (Efx \times Hfx)]\}$$

where

E* = the exposure amount after risk mitigation

E = current value of the exposure

C = current value of the collateral

Es = absolute value of the net position in a given security

Hs = haircut appropriate to Es

Efx = absolute value of the net position in a currency different from the settlement currency

Hfx = haircut appropriate for currency mismatch

The purpose of the formula above is to obtain a net exposure amount after netting of the exposures and collateral and have an add-on amount to reflect possible price volatility for the securities involved in the transactions and for any foreign exchange risk. The net long or short position of each security included in the netting agreement will be multiplied by the appropriate haircut.

(e) Use of VaR models:

i. Aside from the use of standard or own-estimate haircuts, banks, if permitted by the supervisory authority, may use a VaR models approach to reflect the price volatility of the exposure and collateral for repo-style transactions, taking into account correlation effects between security positions. This approach would apply to repo-style transactions covered by bilateral netting agreements for individual counterparty. The VaR models approach is available to banks that have received supervisory approval for an internal market risk model. Banks which have not received supervisory approval for use of models can separately apply for supervisory approval to use their internal VaR models for calculation of potential price volatility for repo-style transactions. VaR models will only be accepted when a bank can prove

the quality of its model through the backtesting of its output using one year of historical data.

ii. The quantitative and qualitative requirements for the use of VaR model are identical to the rules for market risk in principle. With regard to the holding period, the minimum will be 5-business days for repo-style transactions, rather than the 10-business days specified for market risk. The minimum holding period should be adjusted upwards for market instruments with poor liquidity.

iii. The calculation of the exposure E* after risk mitigation for banks using the VaR model is as follows:

$E^* = \text{Max}\ \{0, [(\sum E - \sum C) + \text{VaR value one business day before the output of internal market risk model}]\}$

(E is the current value of exposure, C is the current value of collateral)

(C) On-balance sheet netting

1. Applicable rules:

Banks meeting the following requirements may calculate capital requirements for on-balance sheet assets and liabilities on the basis of net credit exposures:

(1) The bank has legal basis for enforcing the netting or offsetting agreement in each relevant jurisdiction regardless of whether the counterparty is insolvent or bankrupt;

(2) The bank is able at any time to determine those assets and liabilities with the same counterparty that are subject to the netting agreement;

(3) The banks has proper measures in place to monitor and control the agreement termination risks;

(4) The bank monitors and controls the relevant exposures on a net basis.

2. Calculation method:

For banks that adopt on-balance sheet netting, assets are treated as exposures, while liabilities are treated as collaterals which are substituted into the formula under the comprehensive approach for calculating exposure amount after risk mitigation.

(1) When there is daily mark-to-market, the 10-business day holding period applies. The haircut rules and adjustment refer to the rules for collateralized transactions above; the treatment for transactions where there is a maturity mismatch is as described below.

(2) Risk-weighted asset= exposure amount after risk mitigation× risk weight of the counterparty.

(D) Guarantees and credit derivatives

1. Range of eligible guarantors (counter guarantors)/protection providers:

(1) The following protection providers are recognized:

a. Sovereign entities (including Bank for International Settlements, the International Monetary Fund, the European Central Bank and the European Community, and multilateral development banks), public entities, domestic credit guarantee organizations[26], banks (including other multilateral development banks) and securities firms with a lower risk weight than the counterparty;

b. Other credit protection providers[27] rated A- or better, including the credit protection provided by the parent company, subsidiaries or affiliates of the obligor with a lower risk weight than the obligor.

(2) Sovereign guarantee and counter guarantee:

When a lower risk weight may be applied to a bank's exposures to the sovereign (or central bank) where the bank is incorporated and where the exposure is denominated in domestic currency and funded in that currency, the same treatment may be extended to portions of claims guaranteed by the sovereign where the guarantee is denominated in the domestic currency and the exposure is funded in that currency. A claim may be covered by a guarantee that is indirectly counter-guaranteed by a sovereign. Such a claim may be treated as covered by a sovereign guarantee provided that:

a. the sovereign counter-guarantee covers all credit risk elements of the claim;

[26] Refer to facilities guaranteed by SME Credit Guarantee Fund, Agricultural Credit Guarantee Fund, Overseas Chinese Credit Guarantee Fund, and International Cooperative Development Fund with risk weight one category less favorable than that for the sovereign (e.g. when 0% risk weight is applied to our central government, those credit guarantee providing organizations receive a 20% risk weight). With respect to the risk weights for tranched cover, the protection is treated the same as a special credit protection project. That is, one half of each tranche is subject to 20% risk weight, while the other half is subject to the risk weight appropriate to the counterparty. However banks are required to compute the reported default amount of the tranched cover. If the reported default amount is higher than the agreed coverage, the 20% risk weight is applicable to the tranche only up to the limit of the subrogation. The portion exceeding the cap of subrogation is subject to the risk weight appropriate to the counterparty.

[27] Insurance companies approved by the supervisory authority to offer residential mortgage guarantee may apply to the supervisory authority for exemption from partial additional operational requirements under special status if the mortgage guarantee they provide does not meet all additional operational requirements for eligible guarantors. For loans guaranteed by residential real estate where the bank determines risk weight on the basis of loan-to-value ratio, risk weight may be determined by the external credit rating received by the insurance company (see Table 6), which however has a floor of 35%. Additionally, if the insurance company that provides residential mortgage guarantee and the bank belong to the same financial holding company, the risk mitigation provisions described above do not apply.

b. Except that the counter-guarantee need not be direct and explicit to the original claim, both the original guarantee and the counter-guarantee meet all operational requirements for guarantees, except; and

c. The indirect guarantee provides rigorous protection effect and that no historical evidence suggests that the coverage of the counter-guarantee is less than effectively equivalent to that of a direct sovereign guarantee.

2. Minimum operational requirements for eligible guarantees and credit derivatives

(1) Operational requirements common to guarantees and credit derivatives:

a. The credit protection effect of guarantees or credit derivative must be direct, explicit, irrevocable, and unconditional, and the risk management process of the bank (including credit protection buyer and credit protection provider) must meet the minimum operational requirements.

b. All documentation used in guarantees and credit derivatives must be binding on all parties and legally enforceable in all relevant jurisdictions. Banks must have conducted sufficient legal review to verify this and have a well-founded legal basis to reach this conclusion, and undertake such further review as necessary to ensure continuing enforceability.

c. A guarantee (counter-guarantee) or credit derivative must represent a direct claim on the protection provider and must be explicitly referenced to specific exposures or a pool of exposures, so that the extent of the cover is clearly defined and incontrovertible.

d. Other than non-payment by a protection buyer of money due in respect of the credit protection contract it must be irrevocable; there must be no clause in the contract that would allow the protection provider unilaterally to cancel the credit cover or that would increase the effective cost of cover as a result of deteriorating credit quality in the hedged exposure[28].

[28] The irrevocability condition does not require that the credit protection and the exposure be maturity matched; rather that the maturity agreed beforehand may not be reduced *ex post* by the protection provider. Later section will set forth the treatment of call options in determining remaining maturity for credit protection.

e. The contract must also be unconditional; there should be no clause in the protection contract that could prevent the protection provider from being obliged to pay out in a timely manner in the event that the original counterparty fails to make the payment(s) due.

(2) Additional operational requirements for guarantees:

a. On the qualifying default or non-payment of the counterparty, the bank may in a timely manner pursue the guarantor for any monies outstanding under the documentation governing the transaction.

b. The guarantor may make one lump sum payment of all monies under such documentation to the bank, or the guarantor may assume the future payment obligations of the counterparty covered by the guarantee.

c. The bank has the right to receive any such payments from the guarantor without first having to take legal actions in order to pursue the counterparty for payment.

d. The guarantee is an explicitly documented obligation assumed by the guarantor.

e. The guarantee covers all types of payments the obligor is expected to make under the documentation governing the transaction, for example notional amount, additional payments etc.

f. Where a guarantee covers payment of principal only, interests and other uncovered payments should be treated as unsecured.

(3) Additional operational requirements for credit derivatives:

a. The credit events specified by the contracting parties must at a minimum cover:

(a) while the underlying obligation is still in effect, failure to pay the amounts according to the terms of the contract (if the contract specifies a grace period, the grace period should be in line with the grace period in the underlying obligation);

(b) bankruptcy, insolvency or inability of the obligor to pay its debts, or its failure or

admission in writing of its possible inability to pay its debts as they become due, and similar events; and

(c) restructuring of the underlying obligation involving forgiveness or postponement of principal, interest or fees that results in a credit loss event (i.e. charge-off, specific provision or other similar debit to the profit and loss account). When restructuring is not specified as a credit event, the underlying obligation will be treated according to rules for partial recognition of credit derivative.

b. If the credit derivative covers obligations that do not include the underlying obligation, section (g) below governs whether asset mismatch is permissible in the recognition of CRM effect.

c. In line with the rules for maturity mismatch, the credit derivative shall not terminate prior to expiration of any grace period required for a default on the underlying obligation to occur as a result of a failure to pay (the grace period is used to determine whether failure to pay as agreed constitutes a default).

d. Credit derivatives allowing for cash settlement are recognized for capital purposes provided a robust valuation process is in place to estimate loss reliably. There must be a clearly specified period for obtaining post-credit event valuations of the underlying obligation. If the reference obligation specified in the credit derivative for purposes of cash settlement is different than the underlying obligation, section (g) below governs whether the asset mismatch is permissible in the recognition of CRM effect.

e. If the protection buyer must transfer the underlying obligation to the protection provider for settlement purpose, the terms of the underlying obligation must provide that the parties to the transaction or any related third party may not refuse or delay such transfer.

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

g. A mismatch between the underlying obligation and the reference obligation under the credit derivative (i.e. the obligation used for purposes of determining cash settlement value or the deliverable obligation) is permissible if: (a) the reference obligation ranks on a par with or is junior to the underlying obligation, and (b) the underlying obligation and reference obligation share the same obligor (i.e. the same legal entity) and legally enforceable cross-default or cross-acceleration clauses are in place.

h. A mismatch between the underlying obligation and the obligation used for purposes of determining whether a credit event has occurred is permissible if: (a) the latter obligation ranks on a par with or is junior to the underlying obligation, and (b) the underlying obligation and reference obligation share the same obligor (i.e. the same legal entity) and legally enforceable cross-default or cross acceleration clauses are in place.

3. Range of credit derivatives eligible for recognition:

Only credit default swaps and total return swaps that provide credit protection equivalent to guarantees will be eligible for recognition of the CRM effect. Other types of credit derivatives will not be eligible for recognition at this time. Cash funded credit linked notes issued by the bank against exposures in the banking book which meet the criteria for credit derivatives will be treated as cash collateralized transactions, and will be treated according to the rules for collateralized transactions. Where a bank buys credit protection through a total return swap and records the net payments received on the swap as net income, but does not record deterioration in the value of the asset that is protected (either through reductions in fair value or by increasing the reserves), the credit protection will not be recognized.

4. Risk weights:

The protected (secured) portion of exposure is assigned the risk weight of the guarantor or protection provider. The uncovered (unsecured) portion of the exposure is assigned the risk weight of the underlying counterparty.

5. Default payment threshold:

Materiality thresholds on payments below which no payment is made in the event of loss are equivalent to retained first loss positions of the bank and must be deducted 50% each from Tier 1 capital and eligible Tier 2 capital.

6. Adjustment of credit risk mitigation (CRM) value:

(1) Proportional cover

a. When the restructuring of the underlying obligation is not covered by the credit derivative, but the credit derivative meets the additional operational requirements described above, partial recognition of the credit derivative will be allowed. If the hedged amount of the credit derivative is less than or equal to the amount of the underlying obligation, 60% of the amount of the hedge can be recognized. If the amount of the credit derivative is larger than that of the underlying obligation, then the recognized amount of hedge is capped at 60% of the amount of the underlying obligation[29].

b. Where the amount guaranteed or the amount of credit protection position is less than the amount of the exposure, and the secured and unsecured portions are of equal seniority, i.e. the bank and the guarantor share losses on a pro-rata basis capital relief will be afforded on a proportional basis: i.e. the protected portion of the exposure will receive the treatment applicable to eligible guarantees/credit derivatives, with the remainder treated as unsecured.

(2) Currency mismatches

Where the credit protection is denominated in a currency different from that in which the exposure is denominated, i.e. there is a currency mismatch, the amount of the exposure deemed to be protected would be reduced by the application of a haircut H_{FX}.

[29]The 60% recognition factor is subject to change after the supervisory authority considers additional data if necessary.

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

where

G = nominal amount of the credit protection.

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

The appropriate haircut based on a 10-business day holding period (assuming daily marking to- market) will be applied. If a bank uses the supervisory haircuts it will be 8%. The haircuts must be scaled up using the square root of time formula, depending on the frequency of revaluation of the credit protection

(3) Maturity mismatches

a. When calculating risk-weighted assets, a maturity mismatch occurs when the residual maturity of a hedge is less than that of the underlying exposure.

b. The maturity of the underlying exposure and the maturity of the hedge should both be defined conservatively. The effective maturity of the underlying exposure should be taken as the longest possible remaining time before the counterparty is scheduled to perform its obligation, taking into account grace period. For the hedge, embedded options which may reduce the term of the hedge should be taken into account so that the shortest possible effective maturity is used. Where the protection seller has the right to a call, the maturity should be at the first callable date. If the protection-buying bank has the right to a call but the terms of the arrangement at origination of the hedge contain a positive incentive for the bank to call the transaction before contractual maturity, the remaining time to the first callable date will be deemed to be the effective maturity. For example, where there is a step-up in cost in conjunction with a call feature or where the effective cost of protection increases over time even if credit quality remains the same or increases, the effective maturity will be the remaining time to the first callable date.

c. Hedges with maturity mismatches are only recognized when their original maturities are greater than or equal to one year. The maturity of hedges for exposures with original maturities of less than one year must be matched to be recognized. Hedges with maturity mismatches will not be recognized when they have a residual maturity of three months or less.

d. When there is a maturity mismatch with eligible credit risk mitigants (collateral, on-balance sheet netting, guarantees and credit derivatives) adjustment should be made wit the following formula.

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

where

Pa = value of the credit protection adjusted for maturity mismatch.

P= value of credit protection (e.g. collateral amount, guarantee amount) after all haircut adjustments.

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

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

7. Other items related to the treatment of CRM techniques

(1) Treatment of multiple CRM techniques

In the case where a bank uses multiple CRM techniques covering a single exposure (e.g. a bank covers an exposure partly by collateral and partly by guarantee), the bank will be required to subdivide the exposure into several portions covered by each type of CRM technique (e.g. portion covered by collateral, portion covered by guarantee) and the risk-weighted assets of each portion must be calculated separately. When credit protection provided by a single protection provider has differing maturities, they must be subdivided into separate protection as well.

(2) First-to-default credit derivatives

a. First-to-default credit derivatives are cases where a bank obtains credit protection for a basket of reference assets and where the first default among the reference assets triggers the credit protection and the credit event also terminates the contract. Where a bank is a credit protection purchaser (buyer), the bank may recognize regulatory capital relief for the asset within the basket with the lowest risk-weighted amount, but only if the notional amount is less than or equal to the notional amount of the credit derivative.

b. Where a bank is a credit protection provider (seller), if the product has an external credit rating from an eligible credit assessment institution, the risk weight applied to securitization tranches will be applied. If the product is not rated by an eligible external credit assessment institution, the risk weights of the assets included in the basket will be aggregated up to a maximum of 1250% and multiplied by the nominal amount of the protection provided by the credit derivative to obtain the risk-weighted asset amount.

(3) Second-to-default credit derivatives

a. Second-to-default credit derivatives are cases where the second default among the assets within the basket triggers the credit protection, the bank that is a protection buyer through such a product will only be able to recognize any capital relief if first-default protection has also be obtained or when one of the assets within the basket has already defaulted.

b. When the bank is a credit protection provider, the capital treatment is the same as that for first-to-default credit derivatives. However when aggregating the risk weights, the asset with the lowest risk weighted amount can be excluded from the calculation.

(4) Tranched cover

Where a bank transfers a portion of the risk of an exposure in one or more tranches to one or more protection sellers and retains some level of risk of the loan and the risk transferred and the risk retained are of different seniority, banks may obtain credit protection for either

the senior tranches (e.g. second loss position) or the junior tranche (e.g. first loss position). In this case the rules as set out in Credit Risk - Securitization Framework will apply.