279. Treatment of recognized credit risk mitigation—partial credit protection

(1) Where the credit protection for securitization exposures held by an authorized institution in respect of a securitization transaction covers first losses, or covers losses proportionately in accordance with the seniority of different tranches in the transaction, the institution shall—

(*a*) divide the EAD of the securitization exposures into the portion covered by recognized financial collateral (within the meaning of section 139(1)), a recognized guarantee (within the meaning of section 51) or a recognized credit derivative contract (within the meaning of section 51) (referred to in this section as "covered portion") and the portion not covered by credit protection (referred to in this section as "uncovered portion");

(*b*) calculate the risk-weighted amount of the covered portion by applying—

(i) section 278(1)(*a*) to the portion covered by recognized financial collateral;

(ii) section 278(1)(*b*) to the portion covered by a recognized guarantee or recognized credit derivative contract;

(*c*) calculate the risk-weighted amount of the uncovered portion by multiplying the risk-weight determined in accordance with section 270(4) by the EAD of that portion; and

(*d*) aggregate the risk-weighted amount of the covered portion calculated in accordance with paragraph (*b*) and the risk-weighted amount of the uncovered portion calculated in accordance with paragraph (*c*).

(2) Where the credit protection for securitization exposures held by an authorized institution in respect of a securitization transaction covers losses partially but not proportionately as specified in subsection (1), the institution shall—

(*a*) determine the covered portion by applying the credit protection as against the exposures in a descending order of seniority of the different tranches in the transaction and treating as the uncovered portion any exposures to which the credit protection does not so apply; and

(*b*) calculate the risk-weighted amount of the covered portion and uncovered portion in accordance with subsection (1).

280. Treatment of maturity mismatches

For the purposes of calculating the risk-weighted amount of an authorized institution's securitization exposures covered by credit protection,

where there is a maturity mismatch between the securitization exposures and the credit protection, the institution shall apply section 255(3) and (4) as if a reference to an underlying exposure in a synthetic securitization transaction in that section were a reference to a securitization exposure covered by credit protection.

PART 8

CALCULATION OF MARKET RISK

Division 1—General

281. Interpretation of Part 8

In this Part, unless the context otherwise requires—

"commodity-related derivative contract" (商品關聯衍生工具合約) means a futures contract, forward contract, swap contract, option contract or similar derivative contract the value of which is determined by reference to the value of, or any fluctuation in the value of, an underlying commodity or an underlying commodity index (being an index calculated by reference to a basket of commodities);

"conversion factor" (換算因數) means a number published by a futures exchange for determining the price for each debt security deliverable against a bond futures contract;

"debt-related derivative contract" (債務關聯衍生工具合約) means a futures contract, forward contract, swap contract, option contract or similar derivative contract the value of which is determined by reference to the value of, or any fluctuation in the value of, an underlying debt security or an underlying debt security index (being an index calculated by reference to a basket of debt securities);

"debt security" (債務證券) means—

(*a*) a fixed or floating rate bond;

(*b*) a negotiable certificate of deposit;

(*c*) a non-convertible preference share; or

(*d*) a convertible bond, preference share, or any other instrument, which trades like a bond, certificate or share falling within paragraph (*a*), (*b*) or (*c*);

"delta" (得爾塔), in relation to an option contract, means a measure of the rate of change in the value of the option contract to changes in the value of the underlying exposure of the option contract;

"delta-plus approach" (得爾塔附加計算法), in relation to the calculation of an authorized institution's market risk capital charge for its option exposures to debt securities, interest rates, equities, foreign exchange (including gold) and commodities, means the approach set out in Division 9;

"delta-weighted position" (得爾塔加權持倉), in relation to an option contract, means the value of the underlying exposure of the option contract multiplied by the corresponding delta;

"equity" (股權) means—

(*a*) an ordinary share (whether voting or non-voting); or

(*b*) a convertible bond, preference share, or any other instrument, which trades like a share falling within paragraph (*a*);

"equity-related derivative contract" (股權關聯衍生工具合約) means a futures contract, forward contract, swap contract, option contract or similar derivative contract the value of which is determined by reference to the value of, or any fluctuation in the value of, an underlying equity or an underlying equity index (being an index calculated by reference to a basket of equities);

"exchange rate-related derivative contract" (匯率關聯衍生工具合約) means a futures contract, forward contract, swap contract, option contract or similar derivative contract the value of which is determined by reference to the value of, or any fluctuation in the value of, an underlying currency (including gold) or an underlying currency index (being an index calculated by reference to a basket of currencies);

"gamma" (伽馬), in relation to an option contract, means a measure of the rate of change in delta of the option contract to changes in the value of the underlying exposure of the option contract;

"general market risk" (一般市場風險), in relation to an authorized institution, means the risk of loss, arising from changes in interest rates, exchange rates, equity prices or commodity prices, in the value of—

(*a*) the institution's trading book positions held in—

(i) debt securities;

(ii) debt-related derivative contracts;

(iii) interest rate derivative contracts;

(iv) equities; and

(v) equity-related derivative contracts; and

(*b*) the institution's positions held in—

(i) foreign exchange (including gold);

(ii) exchange rate-related derivative contracts;

(iii) commodities; and

(iv) commodity-related derivative contracts;

"interest rate derivative contract" (利率衍生工具合約) means a futures contract, forward contract, swap contract, option contract or similar derivative contract—

(*a*) the value of which changes in response to changes in interest rates; but

(*b*) the underlying exposure of which is neither a debt security nor an index calculated by reference to a basket of debt securities;

"investment grade" (投資等級) means a credit quality grade of 1, 2 or 3 derived from mapping—

(*a*) the ECAI issuer rating of an issuer, being a sovereign, of any debt security; or

(*b*) the ECAI issue specific rating of any debt security issued by a bank, securities firm or corporate (within the meaning of section 51 or 139(1), as the case requires),

to a scale of credit quality grades in the Tables in Schedule 6;

"market risk capital charge" (市場風險資本要求), in relation to an authorized institution, means the amount of the institution's capital required to cover specific risk or general market risk, or both, for an exposure or a portfolio of exposures;

"market risk capital charge factor" (市場風險資本要求因數), in relation to an authorized institution, means a percentage specified in this Part for the calculation of the institution's market risk capital charge;

"mark-to-model" (按模式計值) means an approach to valuing an exposure, or a portfolio of exposures, where the value is benchmarked, extrapolated or calculated from an internal model based on a set of market data;

"matched positions" (配對持倉), in relation to an authorized institution, means 2 opposite positions held by the institution where the risk of loss arising from either position can be offset by the other position;

"maturity method" (到期方法), in relation to the calculation of an authorized institution's market risk capital charge for general market risk for its interest rate exposures, means the approach set out in section 288;

"position" (持倉), in relation to an authorized institution, means the holding or disposal by the institution of an exposure, or a portfolio of exposures, resulting in risk being taken by the institution on market price movements in respect of the exposure, or portfolio of exposures, as the case may be;

"risk category" (風險類別), in relation to the calculation of an authorized institution's market risk, means the class of the institution's market risk exposures which are at risk from—

(*a*) changes in debt security prices or interest rates;

(*b*) changes in exchange rates;

(*c*) changes in equity prices; or

(*d*) changes in commodity prices;

"simplified approach" (簡化計算法), in relation to the calculation of an authorized institution's market risk capital charge for its option exposures to debt securities, interest rates, equities, foreign exchange (including gold) and commodities, means the approach set out in Division 8;

"specific risk" (特定風險), in relation to an authorized institution, means—

(*a*) the risk of loss, arising from changes in the price of debt securities owing to factors relating to the issuers of the debt securities, in the value of the institution's trading book positions held in the debt securities;

(*b*) the risk of loss, arising from changes in the price of equities owing to factors relating to the issuers of the equities, in the value of the institution's trading book positions held in the equities;

(*c*) the risk of loss, arising from changes in the price of debt-related derivative contracts owing to factors relating to the issuers of the underlying debt securities, in the value of the institution's trading book positions held in the debt-related derivative contracts; and

(*d*) the risk of loss, arising from changes in the price of equity-related derivative contracts owing to factors relating to the issuers of the underlying equities, in the value of the institution's trading book positions held in the equity-related derivative contracts;

"specific risk-free security" (無特定風險證券) means a hypothetical debt security, free of specific risk, used for the calculation of the market risk capital charge for general market risk relating to derivative contracts;

"underlying exposure" (基礎風險承擔), in relation to a derivative contract (including a credit derivative contract) for the calculation of an authorized institution's market risk, means the underlying asset, index, financial instrument, rate or thing as designated in the derivative contract;

"vega" (維加), in relation to an option contract, means a measure of the rate of change in the value of the option contract to changes in the volatility of the value of the underlying exposure of the option contract.

Division 2—Calculation of market risk under STM approach: general

282. Application of Divisions 2 to 10

(1) Divisions 2, 3, 4, 5, 6, 7, 8, 9 and 10 apply to an authorized institution which uses the STM approach to calculate its market risk.

(2) Unless the context otherwise requires, a reference to an authorized institution in Divisions 2, 3, 4, 5, 6, 7, 8, 9 and 10 is a reference to an authorized institution which uses the STM approach to calculate its market risk.

(3) Divisions 3, 4, 5 and 6 do not apply to an authorized institution's option exposures in debt securities, interest rates, equities, foreign exchange (including gold) and commodities except to the extent, if any, specified in Division 7, 8 or 9.

283. Positions to be used to calculate market risk

(1) Subject to subsection (2), an authorized institution shall calculate its market risk to take into account the risk of losses arising from fluctuations in the value of—

(*a*) the institution's trading book positions held in—
  (i) debt securities;
  (ii) debt-related derivative contracts;
  (iii) interest rate derivative contracts;
  (iv) equities; and
  (v) equity-related derivative contracts; and

(*b*) the institution's positions held in—
  (i) foreign exchange (including gold);
  (ii) exchange rate-related derivative contracts;
  (iii) commodities; and
  (iv) commodity-related derivative contracts.

(2) An authorized institution shall not include a position in the calculation of its market risk if the position is—

(*a*) a recognized credit derivative contract (within the meaning of section 51, 105 or 139(1), as the case requires) booked in the institution's trading book as a hedge to a credit exposure booked in the institution's banking book; or

(*b*) an exposure which under sections 48 and 49 is required to be deducted from any of the institution's core capital and supplementary capital.

(3) An authorized institution shall value its positions, whether based on a marking-to-market or marking-to-model methodology, in a prudent manner (including by taking into account the liquidity of the positions).

(4) Where the Monetary Authority is satisfied that an authorized institution has contravened subsection (3), the Monetary Authority may, by notice in writing given to the institution, require the institution to reduce all of its positions, or such class of its positions as specified in the notice, to the limit specified in the notice, beginning on such date, or the occurrence of such event, as specified in the notice.

(5) An authorized institution shall comply with the requirements of a notice given to it under subsection (4).

(6) Where a position of an authorized institution does not fall within subsection (1) by virtue of subsection (2)(*a*), the institution shall apply Part 4, 5, 6 or 7, as the case requires, to calculate the credit risk for that position.

284. Calculation of market risk capital charge for each risk category

(1) An authorized institution shall calculate in accordance with this Part the market risk capital charge for its exposures falling into each risk category.

(2) Subject to subsection (3) and section 306(2), an authorized institution shall use the fair value of its positions to calculate the market risk capital charge.

(3) Where the stated notional amount of an exposure held by an authorized institution is leveraged or enhanced by the structure of the exposure, the institution shall use the effective notional amount of the exposure taking into account that the stated notional amount is so leveraged or enhanced, as the case may be, for the purposes of this Part.

285. Calculation of risk-weighted amount for market risk

An authorized institution shall calculate its risk-weighted amount for market risk by multiplying the aggregate of the market risk capital charge as calculated pursuant to section 284(1) by 12.5.

Division 3—Calculation of market risk capital charge for interest rate exposures

286. Calculation of market risk capital charge

An authorized institution shall, for the purposes of calculating the market risk capital charge for its interest rate exposures—

(*a*) calculate in accordance with section 287 the market risk capital charge for specific risk of each of its trading book positions (whether long or short) in debt securities and debt-related derivative contracts; and

(*b*) calculate in accordance with section 288 the market risk capital charge for general market risk of—

(i) its trading book positions (whether long or short) in debt securities, debt-related derivative contracts and interest rate derivative contracts;
(ii) the interest rate exposures arising from its trading book positions (whether long or short) in equity-related derivative contracts; and
(iii) the interest rate exposures arising from its positions (whether long or short) in commodity-related derivative contracts.

287. Calculation of market risk capital charge for specific risk

(1) Subject to subsections (2), (3), (4), (5), (6), (7), (8), (9) and (10), an authorized institution shall, for the purposes of calculating the market risk capital charge for specific risk of its trading book positions (whether long or short) in debt securities and debt-related derivative contracts—

(*a*) assign those positions into the classes specified in column 1 of Table 28, the credit quality grades specified in column 2 of that Table and, if applicable, the residual maturities specified in column 3 of that Table;
(*b*) multiply those positions by the appropriate market risk capital charge factors for specific risk specified in column 3 of Table 28; and
(*c*) calculate the total market risk capital charge for specific risk as the sum of the market risk capital charge for specific risk of each of those positions.

TABLE 28

MARKET RISK CAPITAL CHARGE FACTORS FOR SPECIFIC RISK

Class	Credit quality grade	Market risk capital charge factor for specific risk
sovereign	1	0%
	2 or 3	0.25% (residual maturity of not more than 6 months)

Class	Credit quality grade	Market risk capital charge factor for specific risk
		1.00% (residual maturity of more than 6 months but not more than 24 months)
		1.60% (residual maturity of more than 24 months)
	4 or 5	8.00%
	6	12.00%
	unrated	8.00%
qualifying		0.25% (residual maturity of not more than 6 months)
		1.00% (residual maturity of more than 6 months but not more than 24 months)
		1.60% (residual maturity of more than 24 months)
non-qualifying	4	8.00%
	5	12.00%
	unrated	8.00%

(2) An authorized institution shall not offset between positions referred to in subsection (1) for the purposes of that subsection except for—

(*a*) long and short positions in identical issues (including positions in derivative contracts) with the same issuer, coupon, currency and maturity; and

(*b*) credit derivative contracts set out in section 309, 310 or 311.

(3) For the purposes of subsection (1)—

(*a*) if—

(i) the issuer of any debt securities referred to in that subsection or, in the case of debt-related derivative contracts referred to in that subsection, the issuer of any underlying debt securities, has an ECAI issuer rating; or

(ii) any debt securities referred to in that subsection or, in the case of debt-related derivative contracts referred to in that subsection, any underlying debt securities, have an ECAI issue specific rating,

an authorized institution shall, subject to paragraphs (*b*), (*c*) and (*d*), map the ECAI issuer rating or the ECAI issue specific rating, as the case may be, to a scale of credit quality grades in the Tables in Schedule 6;

(*b*) subject to paragraph (*c*), if the debt securities referred to in that subsection are issued by a sovereign or, in the case of debt-related derivative contracts referred to in that subsection, if the underlying debt securities are issued by a sovereign, an authorized institution shall determine the credit quality grade by reference to the ECAI issuer rating of that sovereign;

(*c*) an authorized institution shall treat as unrated the issuer of any debt securities or, in the case of debt-related derivative contracts, the issuer of any underlying debt securities, referred to in paragraph (*b*) which does not have an ECAI issuer rating;

(*d*) subject to paragraph (*e*), if the debt securities or debt-related derivative contracts referred to in that subsection do not fall within paragraph (*b*), an authorized institution shall determine the credit quality grade to be used by reference to, in the case of debt securities, the ECAI issue specific rating of the debt securities or, in the case of debt-related derivative contracts, the ECAI issue specific rating of the underlying debt securities;

(*e*) an authorized institution shall treat as unrated any debt securities or, in the case of debt-related derivative contracts, any underlying debt securities, referred to in paragraph (*d*) which do not have an ECAI issue specific rating;

(*f*) an authorized institution may only assign a market risk capital charge factor of 0% to—

(i) debt securities referred to in that subsection issued by a sovereign with a credit quality grade of 2 or 3 as determined under paragraph (*b*); or

(ii) debt-related derivative contracts referred to in that subsection in respect of which the underlying debt securities are issued by a sovereign with a credit quality grade of 2 or 3 as determined under paragraph (*b*),

if, and only if, those debt securities or, in the case of those debt-related derivative contracts, those underlying debt securities, are denominated in the domestic currency of that sovereign and funded by the institution in that currency.

(4) An authorized institution may only include in the qualifying class in Table 28—

(*a*) debt securities issued by multilateral development banks and debt-related derivative contracts where the underlying debt securities are issued by multilateral development banks;

(*b*) debt securities, not falling within paragraph (*a*), which are rated investment grade and debt-related derivative contracts where the underlying debt securities, not falling within paragraph (*a*), which are rated investment grade; and

(*c*) if the institution uses the IRB approach to calculate its credit risk, unrated debt securities, and debt-related derivative contracts if the underlying debt securities are unrated, where—

(i) the debt securities, or the underlying debt securities, as the case may be, are assessed as equivalent to investment grade under the institution's rating system on the basis that the debt securities, or the underlying debt securities, as the case may be, have a PD assigned by the institution's rating system of not more than the PD implied by the long run average PD (being a period which captures a reasonable mix of high-default and low-default years of an economic cycle) of a debt security rated investment grade; and

(ii) the issuer of the debt securities, or the issuer of the underlying debt securities, as the case may be—

(A) has any debt securities or equities listed on a recognized stock exchange; or

(B) is subject to supervisory arrangements regarding the maintenance of adequate capital to support its business activities comparable to those prescribed for authorized institutions under the Ordinance and these Rules.

(5) An authorized institution shall—

(*a*) include any debt securities in the non-qualifying class in Table 28 if—

(i) the debt securities are not issued by a sovereign; or

(ii) the debt securities are not included in the qualifying class under subsection (4);

(*b*) include any debt-related derivative contracts in the non-qualifying class in Table 28 if—

(i) the underlying debt securities are not issued by a sovereign; or

(ii) the debt-related derivative contracts are not included in the qualifying class under subsection (4).

(6) Where the issuer of any debt securities referred to in this section or, in the case of any debt-related derivative contracts referred to in this section, the issuer of any underlying debt securities, has more than one ECAI issuer rating assigned to the issuer, an authorized institution shall, for the purposes of this section, apply section 69(2), with all necessary modifications, to the ECAI issuer ratings concerned (as if the references to ECAI issue specific ratings in that subsection were references to ECAI issuer ratings) to ascertain which one of them shall be used for those purposes.

(7) Where any debt securities referred to in this section or, in the case of any debt-related derivative contracts referred to in this section, any underlying debt securities, have more than one ECAI issue specific rating assigned to them, an authorized institution shall, for the purposes of this section, apply section 69(2), with all necessary modifications, to the ECAI issue specific ratings concerned to ascertain which one of them shall be used for those purposes.

(8) Where the Monetary Authority is satisfied that an authorized institution's market risk capital charge for specific risk is underestimated for any non-qualifying debt securities (being debt securities falling within subsection (5)(*a*)) or non-qualifying debt-related derivative contracts (being debt-related derivative contracts falling within subsection (5)(*b*)) which have a high yield to redemption relative to debt securities or debt-related derivative contracts falling within subsection (3)(*b*), the Monetary Authority may, by notice in writing given to the institution—

(*a*) require the institution to apply a higher market risk capital charge factor for specific risk to such non-qualifying debt securities or debt-related derivative contracts, as the case may be, as specified in the notice;

(*b*) prohibit offsetting, for the purposes of calculating the institution's market risk capital charge for general market risk, between such debt securities or debt-related derivative contracts and such other debt securities or debt-related derivative contracts as specified in the notice.

(9) An authorized institution shall comply with the requirements of a notice given to it under subsection (8).

(10) For the avoidance of doubt, it is hereby declared that this section does not apply to interest rate derivative contracts.

(11) In this section—

"sovereign" (官方實體) includes a sovereign foreign public sector entity.

288. Calculation of market risk capital charge for general market risk

(1) An authorized institution shall, for the purposes of calculating the market risk capital charge for general market risk—

(*a*) multiply its long and short positions in interest rate exposures in each time band specified in column 1 of Table 30 within the maturity ladder constructed in accordance with section 289 by the appropriate risk-weight specified in column 4 of that Table;

(*b*) offset the total risk-weighted long and short positions in each time band to produce a single net risk-weighted long or short position for each time band;

(*c*) apply a market risk capital charge factor of 10% on the matched position (being the lesser of the absolute values of the total risk-weighted long and short positions) of each time band, whether long or short, to arrive at a market risk capital charge for each matched position (referred to in this section as "vertical disallowance");

(*d*) subject to subsections (2) and (3)—

(i) first conduct a round of horizontal offsetting between the net risk-weighted positions for the time bands in each of the 3 zones subject to a scale of market risk capital charge factors, expressed as a percentage of the matched positions for each zone, as set out in Table 29;

(ii) then conduct a round of horizontal offsetting between the total net risk-weighted positions for the zones across the 3 zones (being between adjacent zones and between zone 1 and zone 3) subject to a scale of market risk capital charge factors, expressed as a percentage of the matched positions between the zones, as set out in Table 29,

to arrive at a market risk capital charge for each matched position (referred to in this section as "horizontal disallowance"); and

(*e*) apply a market risk capital charge factor of 100% on the remaining net risk-weighted long or short position in interest rate exposures after carrying out the offsetting referred to in paragraphs (*b*) and (*d*).

TABLE 29

HORIZONTAL DISALLOWANCE

Zone	Time band		Market risk capital charge factor		
	Coupon of not less than 3% per annum	Coupon of less than 3% per annum	Within the zone	Between adjacent zones	Between zones 1 and 3
zone 1	not more than 1 month	not more than 1 month	40%		
	more than 1 month but not more than 3 months	more than 1 month but not more than 3 months			
	more than 3 months but not more than 6 months	more than 3 months but not more than 6 months			
	more than 6 months but not more than 12 months	more than 6 months but not more than 12 months			
zone 2	more than 1 year but not more than 2 years	more than 1.0 year but not more than 1.9 years	30%		
	more than 2 years but not more than 3 years	more than 1.9 years but not more than 2.8 years			
	more than 3 years but not more than 4 years	more than 2.8 years but not more than 3.6 years			

Zone	Time band		Market risk capital charge factor		
	Coupon of not less than 3% per annum	Coupon of less than 3% per annum	Within the zone	Between adjacent zones	Between zones 1 and 3
zone 3	more than 4 years but not more than 5 years	more than 3.6 years but not more than 4.3 years	30%	40%	100%
	more than 5 years but not more than 7 years	more than 4.3 years but not more than 5.7 years			
	more than 7 years but not more than 10 years	more than 5.7 years but not more than 7.3 years			
	more than 10 years but not more than 15 years	more than 7.3 years but not more than 9.3 years			
	more than 15 years but not more than 20 years	more than 9.3 years but not more than 10.6 years			
	more than 20 years	more than 10.6 years but not more than 12 years			
		more than 12 years but not more than 20 years			
		more than 20 years			

(2) For the purposes of an authorized institution conducting horizontal offsetting under subsection (1)(*d*)(i), the institution shall—

(*a*) calculate the net risk-weighted long or short position of each time band after separately adding—

(i) long positions to long positions; and

(ii) short positions to short positions;

(*b*) in the case of long and short positions in the same zone, subject the matched position (being the lesser of the absolute values of the total net risk-weighted long and short positions for the zone) to a market risk capital charge factor of 40% for zone 1 and 30% for zone 2 and zone 3; and

(*c*) offset the positions of time bands within the same zone to create the matched position to which the market risk capital charge factor is applied under paragraph (*b*) and a total net risk-weighted long or short position for each zone.

(3) For the purposes of an authorized institution conducting horizontal offsetting under subsection (1)(*d*)(ii), the institution shall—

(*a*) in the case of opposite positions between adjacent zones (being one zone having a total net risk-weighted long position while another zone having a total net risk-weighted short position), subject the matched position (being the lesser of the absolute values of the total net risk-weighted long position in one zone and the total net risk-weighted short position in another zone) to a market risk capital charge factor of 40%;

(*b*) offset the positions between adjacent zones to create the matched position to which the market risk capital charge factor is applied under paragraph (*a*) and a total net risk-weighted long or short position;

(*c*) subject to paragraph (*d*), in the case of opposite positions between zone 1 and zone 3, subject the matched position (being the lesser of the absolute values of the total net risk-weighted long or short position in zone 1 and the total net risk-weighted short or long position respectively in zone 3) to a market risk capital charge factor of 100%; and

(*d*) in order to calculate the horizontal disallowance between zone 1 and zone 3 for the purposes of paragraph (*c*)—

(i) if the total net risk-weighted positions of zone 1 and zone 2 are netted, treat the net position as the remaining position of zone 1;

(ii) if the total net risk-weighted positions of zone 2 and zone 3 are netted, treat the net position as the remaining position of zone 3.

(4) An authorized institution shall derive the market risk capital charge for general market risk for its portfolio of interest rate exposures by aggregating—

(*a*) the total market risk capital charge for vertical disallowance for all time bands calculated in accordance with subsection (1)(*c*);

(*b*) the total market risk capital charge for horizontal disallowance for individual zones and across different zones calculated in accordance with subsection (1)(*d*); and

(*c*) the market risk capital charge for the remaining net risk-weighted long or short position calculated in accordance with subsection (1)(*e*).

(5) An authorized institution shall calculate the market risk capital charge for general market risk for each currency separately, convert each amount so calculated into Hong Kong dollars at current market rates and then aggregate the amounts so calculated.

289. Construction of maturity ladder

(1) Subject to subsections (2), (3), (4), (5) and (6), for the purposes of making the calculation required by section 288(1), an authorized institution shall—

(*a*) slot all of its long or short positions in debt securities, debt-related derivative contracts, interest rate derivative contracts and interest rate exposures arising from equity-related derivative contracts and commodity-related derivative contracts with a coupon of not less than 3% per annum into a maturity ladder comprising the 13 time bands set out in columns 1 and 2 of Table 30; and

(*b*) slot all of its long or short positions in debt securities, debt-related derivative contracts, interest rate derivative contracts and interest rate exposures arising from equity-related derivative contracts and commodity-related derivative contracts with a coupon of less than 3% per annum into a maturity ladder comprising the 15 time bands set out in columns 1 and 3 of Table 30.

TABLE 30

TIME BANDS AND RISK-WEIGHTS

Time band	Coupon of not less than 3% per annum	Coupon of less than 3% per annum	Risk-weight
1	not more than 1 month	not more than 1 month	0.00%

Time band	Coupon of not less than 3% per annum	Coupon of less than 3% per annum	Risk-weight
2	more than 1 month but not more than 3 months	more than 1 month but not more than 3 months	0.20%
3	more than 3 months but not more than 6 months	more than 3 months but not more than 6 months	0.40%
4	more than 6 months but not more than 12 months	more than 6 months but not more than 12 months	0.70%
5	more than 1 year but not more than 2 years	more than 1.0 year but not more than 1.9 years	1.25%
6	more than 2 years but not more than 3 years	more than 1.9 years but not more than 2.8 years	1.75%
7	more than 3 years but not more than 4 years	more than 2.8 years but not more than 3.6 years	2.25%
8	more than 4 years but not more than 5 years	more than 3.6 years but not more than 4.3 years	2.75%
9	more than 5 years but not more than 7 years	more than 4.3 years but not more than 5.7 years	3.25%
10	more than 7 years but not more than 10 years	more than 5.7 years but not more than 7.3 years	3.75%
11	more than 10 years but not more than 15 years	more than 7.3 years but not more than 9.3 years	4.50%
12	more than 15 years but not more than 20 years	more than 9.3 years but not more than 10.6 years	5.25%
13	more than 20 years	more than 10.6 years but not more than 12 years	6.00%
14		more than 12 years but not more than 20 years	8.00%
15		more than 20 years	12.50%

(2) For the purposes of subsection (1), an authorized institution shall—

(*a*) slot fixed rate exposures into the time bands set out in Table 30 in accordance with their respective residual maturities;

(*b*) slot floating rate exposures into the time bands set out in Table 30 in accordance with their respective residual terms to the next interest fixing date;

(*c*) regard interest rate exposures arising from derivative contracts as long and short positions and slot such positions into the time bands set out in Table 30 such that—

(i) interest rate futures contracts, interest rate forward contracts and forward rate agreements are treated as a combination of the long and short positions in a zero-coupon specific risk-free security whereby—

(A) a long or short position in an interest rate futures contract or interest rate forward contract is to be regarded as—

(I) a short or long position respectively with a maturity being the remaining period up to and including the delivery date of the underlying interest rate contract; and

(II) a long or short position respectively with a maturity being the remaining period up to and including the delivery date of the underlying interest rate contract plus the contract period of the underlying interest rate contract; or

(B) a sold or purchased forward rate agreement is to be regarded as—

(I) a short or long position respectively with a maturity being the remaining period up to and including the settlement date of the agreement; and

(II) a long or short position respectively with a maturity being the remaining period up to and including the settlement date of the agreement plus the contract period of the agreement;

(ii) bond futures contracts and bond forward contracts are treated as a combination of the long and short positions in a zero-coupon specific risk-free security and the underlying bond whereby a long or short position in a bond futures contract or bond forward contract is to be regarded as—

(A) a short or long position respectively in a zero-coupon specific risk-free security with a maturity being the remaining period up to and including the delivery date of the underlying bond; and

(B) a long or short position respectively in the underlying bond with a maturity being the remaining period up to and including the delivery date of the underlying bond plus the tenor of the underlying bond;

(iii) interest rate swap contracts under which the institution receives or pays floating rate interest and pays or receives respectively fixed rate interest are to be regarded as—

(A) a short or long position respectively in a fixed rate instrument with a maturity being the remaining period up to and including the maturity date of the swap contract concerned; and

(B) a long or short position respectively in a floating rate instrument with a maturity being the remaining period up to and including the next interest fixing date.

(3) For the purposes of subsection (1), an authorized institution may—

(*a*) exclude from the maturity ladder long and short positions in identical instruments having the same issuer, coupon, currency and maturity;

(*b*) fully offset the matched positions in a futures contract or forward contract and the underlying exposure of the futures contract or forward contract, as the case may be, except that the position in a zero-coupon specific risk-free security referred to in subsection (2)(*c*)(ii)(A) shall be included in the calculation of the institution's market risk capital charge for general market risk.

(4) For the purposes of subsection (1), an authorized institution—

(*a*) in the case of a futures contract or forward contract providing for a range of bonds to be delivered, may only offset positions in the contract and the underlying bond which is readily identifiable as the most profitable for the institution with a short position to deliver;

(*b*) shall, after offsetting the positions in the futures contract or forward contract and the underlying bond pursuant to paragraph (*a*), record the amount of the remaining long position of the contract, up to and including the delivery date of the contract, as the face value of the contract divided by the conversion factor applicable to the contract and multiplied by the current market price of that bond.

(5) Subject to subsection (6), for the purposes of subsection (1), an authorized institution may treat opposite positions in the same type of derivative contract (including the delta-weighted position of option contracts calculated in accordance with section 303) as matched and may fully offset them.

(6) For the purposes of subsection (5), positions in the same type of derivative contract are opposite only if—

(*a*) the positions relate to derivative contracts with the same underlying exposures, are of the same nominal value and denominated in the same currency;

(*b*) in the case of futures contracts, the offsetting positions in the underlying interest rate exposures to which the futures contracts relate are for identical exposures and mature within 7 days of each other;

(*c*) in the case of swap contracts and forward rate agreements, the rates (for floating rate positions) of the contracts or agreements, as the case may be, are identical and the coupons are within 15 basis points; and

(*d*) in the case of swap contracts, forward rate agreements and forward contracts, the next interest fixing date or, for fixed coupon positions or forward contracts, the residual maturity, corresponds within the following limits—

(i) if either of the contracts or agreements, as the case may be, to be offset has an interest fixing date or residual maturity of not more than one month, the interest fixing date or residual maturity, as the case may be, is the same for both contracts or agreements, as the case may be;

(ii) if either of the contracts or agreements, as the case may be, to be offset has an interest fixing date or residual maturity of more than one month but not more than one year, the interest fixing dates or residual maturities, as the case may be, are within 7 days of each other; and

(iii) if either of the contracts or agreements, as the case may be, to be offset has an interest fixing date or residual maturity of more than one year, the interest fixing dates or residual maturities, as the case may be, are within 30 days of each other.

290. Use of alternatives requires Monetary Authority's prior consent

An authorized institution shall—

(*a*) use the methodology prescribed in this Division to calculate its positions to be included in the maturity ladder unless it has the prior consent of the Monetary Authority to use a different methodology; and

(*b*) use the maturity method to calculate the market risk capital charge for general market risk for its portfolio of interest rate exposures unless it has the prior consent of the Monetary Authority to use a different method.

Division 4—Calculation of market risk capital charge for equity exposures

291. Calculation of market risk capital charge

An authorized institution shall, for the purposes of calculating the market risk capital charge for its trading book positions (whether long or short) in equities and equity-related derivative contracts—

(*a*) calculate the market risk capital charge for specific risk of each of those positions; and

(*b*) calculate the market risk capital charge for general market risk of those positions.

292. Preliminary steps to calculating market risk capital charge

(1) For the purposes of section 291—

(*a*) subject to paragraph (*b*), an authorized institution shall make a separate calculation for each of its positions in equities and equity-related derivative contracts for each exchange where the equities or, in the case of equity-related derivative contracts, the underlying equities concerned are listed or traded;

(*b*) if an equity is listed on more than one exchange, an authorized institution shall make the calculation referred to in paragraph (*a*) only in respect of that exchange which is the primary listing of the equity;

(*c*) an authorized institution shall convert its equity-related derivative contracts into positions in the underlying equity by—

(i) valuing its futures contracts and forward contracts relating to an individual equity at the fair value of the underlying equity;

(ii) valuing its futures contracts relating to equity indices as—

(A) the current index value multiplied by the monetary value of one index point set by the futures exchange where the futures contract is traded; or

(B) the fair value of the underlying basket of equities used to compile the index;

(*d*) an authorized institution shall regard each of its equity swap contracts as long and short positions such that—

(i) in the case of an equity swap contract under which the institution—

(A) is receiving an amount based on the change in value of a particular equity or equity index; and

(B) is paying an amount based on the change in value of a different equity or equity index,

the position in sub-subparagraph (A) is the long position, and the position in sub-subparagraph (B) is the short position, of the equity swap contract;

(ii) in the case of an equity swap contract which involves a position requiring the receipt or payment of fixed or floating rate interest, the institution treats the position under the maturity method;

(*e*) if equities are to be received or delivered under a forward contract, an authorized institution shall treat any interest rate exposure arising out of the contract under the maturity method; and

(*f*) an authorized institution shall treat any interest rate exposure arising out of an equity futures contract or an equity index futures contract under the maturity method.

(2) For the purposes of section 291, an authorized institution may—

(*a*) fully offset its matched positions in each identical equity or equity index with the same delivery month in each exchange in order to produce a single net long or short position;

(*b*) offset a futures contract in a given equity against an opposite position in the same equity.

293. Calculation of market risk capital charge for specific risk

Subject to section 292, an authorized institution shall calculate the market risk capital charge for specific risk of the institution's trading book positions in equities and equity-related derivative contracts as 8% of its total gross (long plus short) position.

294. Calculation of market risk capital charge for general market risk

(1) Subject to subsection (2) and section 292, an authorized institution shall calculate the market risk capital charge for general market risk of the institution's trading book positions in equities and equity-related derivative contracts as 8% of its total net position in equities and equity-related derivative contracts (being the difference between the sum of the institution's long positions and the sum of the institution's short positions).

(2) An authorized institution shall not, for the purposes of subsection (1), offset net long and short positions on different exchanges.

Division 5—Calculation of market risk capital charge for foreign exchange (including gold) exposures

295. Preliminary steps to calculating market risk capital charge

(1) Subject to subsection (2), an authorized institution shall, for the purposes of calculating the market risk capital charge for its positions in foreign exchange (including gold) and exchange rate-related derivative contracts—

(*a*) determine the amount of its net open position (being the sum of the net spot position and the net forward position) in each currency and in gold;

(*b*) convert each amount determined under paragraph (*a*) into Hong Kong dollars at current market rates; and

(*c*) subject to Division 7, in relation to those positions arising from foreign currency option contracts, apply paragraphs (*a*) and (*b*) to each currency to which the option contracts relate.

(2) An authorized institution shall, for the purposes of calculating the market risk capital charge for its positions in foreign exchange (including gold) and exchange rate-related derivative contracts, not exclude any of its structural positions from such calculation except after consultation with the Monetary Authority.

296. Calculation of market risk capital charge

(1) Subject to subsection (2) and section 295, an authorized institution shall calculate the market risk capital charge for the institution's positions in foreign exchange (including gold) as 8% of its total net open position derived by aggregating—

(*a*) the sum of the institution's net long or short positions less its United States dollars position against its Hong Kong dollars position; and

(*b*) the institution's net position in gold (whether long or short).

(2) For the purposes of subsection (1)(*a*)—

(*a*) the sum of an authorized institution's net long or short positions is the sum of—

(i) its total net long or short position in each foreign currency (including gold and, if applicable, the net delta-weighted position of option contracts in each such currency); and

(ii) its Hong Kong dollars position such that the total of all net long positions for all currencies is the same as the total of all net short positions for all currencies;

(*b*) the United States dollars position against the Hong Kong dollars position in respect of an authorized institution is—

(i) zero if the institution's net open positions in United States dollars and Hong Kong dollars are both long or both short;

(ii) the smaller of the 2 positions (expressed as the absolute value) if the institution's net open positions in United States dollars and Hong Kong dollars are opposite positions.

Division 6—Calculation of market risk capital charge for commodity exposures

297. Preliminary steps to calculating market risk capital charge

(1) An authorized institution shall, for the purposes of calculating the market risk capital charge for its positions in commodities and commodity-related derivative contracts—

(*a*) convert its gross (long plus short) position in each commodity to which those positions relate (measured in barrels, kilograms or grams or such other standard unit of measurement as is applicable to the commodity concerned) into monetary terms at the current market price of the commodity;

(*b*) subject to Division 7, treat positions arising from commodity option contracts as commodity exposures;

(*c*) value a futures contract or forward contract relating to a commodity by reference to the notional amount of the standard unit of measurement of the commodity converted into monetary terms at current market price and apply the maturity method to any interest rate exposure arising out of that contract;

(*d*) in the case of a commodity swap contract under which one leg of the swap contract relates to a position or series of positions referenced to a fixed price and the other leg of the swap contract relates to a position or series of positions referenced to the current market price of a reference commodity or commodities—

(i) for each payment under the swap contract, value each of the positions at the notional amount of the swap contract;

(ii) treat each such position—

(A) as long if the institution is paying at a fixed price and receiving at a floating market price; and

(B) as short if the institution is receiving at a fixed price and paying at a floating market price; and

(iii) treat any such leg which involves receiving or paying at a fixed or floating interest rate as an interest rate exposure to which the maturity method applies.

(2) An authorized institution—

(*a*) subject to paragraph (*b*), may, for the purposes referred to in subsection (1), offset long and short positions in the same commodity when calculating its open positions;

(*b*) shall not so offset its positions in different types of commodities.

298. Calculation of market risk capital charge

An authorized institution shall calculate the market risk capital charge for its commodity exposures as the sum of—

(*a*) 15% of the institution's net position in each commodity; and

(*b*) 3% of the institution's gross (long plus short) position in each commodity.

Division 7—Calculation of market risk capital charge for option exposures: general

299. Approaches which authorized institution may use to calculate market risk capital charge for option exposures

An authorized institution shall, for the purposes of calculating the market risk capital charge for its option exposures to debt securities, interest rates, equities, foreign exchange (including gold) and commodities—

(*a*) subject to paragraph (*c*) and section 300, use the simplified approach;
(*b*) subject to paragraph (*c*) and section 302, use the delta-plus approach; or
(*c*) with the prior consent of the Monetary Authority, use another approach.

Division 8—Calculation of market risk capital charge for option exposures: simplified approach

300. Application of Division 8

(1) An authorized institution shall not use the simplified approach to calculate the market risk capital charge for its option exposures unless the institution—

(*a*) purchases option contracts but does not write option contracts; or
(*b*) purchases option contracts and only writes option contracts which are fully hedged by matched long positions in the same option contracts.

(2) An authorized institution which uses the simplified approach to calculate the market risk capital charge for its option exposures shall—

(*a*) exclude from that calculation—
(i) option contracts written by it; and
(ii) the corresponding purchased option contracts which fully hedge the option contracts referred to in subparagraph (i); and
(*b*) only use its outstanding purchased option contracts for that calculation.

301. Calculation of market risk capital charge for outstanding purchased option contracts

(1) Subject to subsection (3), an authorized institution shall, for the purposes of calculating the market risk capital charge for its outstanding purchased option contracts (with or without related positions in the underlying exposures of those option contracts)—

(*a*) where the institution has—
(i) a long position in a put option contract and a long position in the underlying exposure of the put option contract; or

(ii) a long position in a call option contract and a short position in the underlying exposure of the call option contract,

multiply the fair value of the position in the underlying exposure of the option contract by the sum of the market risk capital charge factors for general market risk and specific risk for the position in the underlying exposure of such option contract as set out in Table 31 less the amount by which the option contract is in-the-money (if any);

(*b*) where the institution has a long position in a put option contract or a long position in a call option contract, use the lesser of—

(i) the fair value of the underlying exposure of the option contract multiplied by the sum of the market risk capital charge factors for general market risk and specific risk for the underlying exposure of such option contract as set out in Table 31; or

(ii) the fair value of the option contract; and

(*c*) calculate in a way such that—

(i) the market risk capital charge is calculated separately for individual option contracts but together with the related position in the underlying exposure of such option contracts;

(ii) the institution uses the sum of the market risk capital charge for individual option contracts to calculate the total market risk capital charge for its portfolio of option exposures.

TABLE 31

Market Risk Capital Charge Factor for Each Risk Category

Risk category	Market risk capital charge factor for specific risk	Market risk capital charge factor for general market risk
interest rate	as per the market risk capital charge factors for specific risk set out in Table 28 according to the class, credit quality grade and residual maturity	as per the risk-weights set out in Table 30 according to the residual maturity for fixed rate exposures or residual term to next interest fixing date for floating rate exposures and coupon rate

Risk category	Market risk capital charge factor for specific risk	Market risk capital charge factor for general market risk
equity	8.00%	8.00%
foreign exchange	0.00%	8.00%
commodity	0.00%	15.00%

(2) For the purposes of subsection (1)(*a*), where the amount derived from the calculation under that subsection is negative, an authorized institution shall treat the market risk capital charge for the relevant outstanding purchased option contract and the position in the underlying exposure of such option contract as zero.

(3) Where it is unclear to an authorized institution which side of an option contract purchased by it constitutes the underlying exposure for the purposes of the simplified approach, the institution shall take the exposure which would be received by it if the option under the contract were exercised to be the underlying exposure for this purpose.

(4) An authorized institution shall, for the purposes of calculating the market risk capital charge for an option contract purchased by it which has a residual maturity of more than 6 months—

(*a*) subject to paragraph (*b*), compare the strike price of the option contract with the forward price of the underlying exposure of the option contract;

(*b*) if it is not practicable for the institution to comply with paragraph (*a*), take the amount by which the option contract is considered to be in-the-money as zero.

(5) An authorized institution shall add the market risk capital charge calculated under this Division to the market risk capital charge calculated for the risk category concerned.

Division 9—Calculation of market risk capital charge for option exposures: delta-plus approach

302. Application of Division 9

An authorized institution which writes option contracts (other than such an authorized institution which, by virtue of section 300(1)(*b*), uses the simplified approach) shall—

(*a*) incorporate the delta-weighted positions of its outstanding option contracts into their respective risk categories; and

(*b*) calculate and provide the following market risk capital charges against those positions—

(i) the market risk capital charge for general market risk and specific risk for delta risk;

(ii) the market risk capital charge for gamma risk; and

(iii) the market risk capital charge for vega risk.

303. Delta risk

An authorized institution shall, for the purposes of calculating its delta risk—

(*a*) slot its delta-weighted positions which have debt securities or interest rates as the underlying exposures of the relevant option contracts into the time bands set out in Table 30;

(*b*) treat its interest rate option contracts as having long and short positions such that—

(i) one position is referenced to the time the option contract concerned takes effect; and

(ii) the other position is referenced to the time the option contract concerned matures;

(*c*) subject to paragraph (*d*), calculate the market risk capital charge for its option contracts with equities or equity indices as the underlying exposure by applying the calculation treatment under Division 4 to the delta-weighted positions of those option contracts;

(*d*) for the purposes of paragraph (*c*), treat equities or equity indices on each exchange as a separate underlying exposure;

(*e*) calculate the market risk capital charge for its option contracts with foreign exchange or gold as the underlying exposure by applying the calculation treatment under Division 5 to the net delta-weighted positions (being the difference between the institution's total delta-weighted long positions and its total delta-weighted short positions) of those option contracts; and

(*f*) calculate the market risk capital charge for its option contracts with commodities as the underlying exposure by applying the calculation treatment under Division 6 to the delta-weighted positions of those option contracts.

304. Gamma risk

(1) An authorized institution shall calculate the gamma impact of each of its option contracts by the use of Formula 28.

FORMULA 28

Calculation of Gamma Impact of Option Contracts

$$\text{Gamma impact} = {}^{1}/_{2} \times \text{Gamma} \times \text{VU}^2$$

where—

VU = variation of the underlying exposure of the option contract calculated as—

(*a*) for option contracts relating to debt securities, debt security indices and interest rates, the fair value of that underlying exposure multiplied by the risk-weight for the appropriate time band set out in Table 30;

(*b*) for option contracts relating to equities and equity indices, the fair value of that underlying exposure multiplied by 8%;

(*c*) for option contracts relating to foreign exchange (including gold), the fair value of that underlying exposure multiplied by 8%; and

(*d*) for option contracts relating to commodities, the fair value of that underlying exposure multiplied by 15%.

(2) For the purposes of subsection (1), an authorized institution shall treat the following positions as the same underlying exposure—

(*a*) for interest rate exposures, positions within each time band set out in Table 30;

(*b*) for equities and equity indices exposures, positions on each exchange;

(*c*) for foreign exchange and gold exposures, positions in each currency pair and gold; and

(*d*) for commodity exposures, positions in each commodity.

(3) An authorized institution shall—

(*a*) offset the positive and negative gamma impacts for each option contract on the same underlying exposure to produce a positive or negative net gamma impact for that exposure; and

(*b*) only use negative net gamma impacts to calculate the market risk capital charge for gamma risk.

(4) An authorized institution shall calculate the total market risk capital charge for gamma risk as the sum of the absolute value of the negative net gamma impacts.

305. Vega risk

(1) An authorized institution shall calculate the market risk capital charge for vega risk by multiplying the sum of the vegas for all its option contracts on the same underlying exposure, applying section 304(2) by a proportional shift in volatility of ±25%.

(2) An authorized institution shall calculate the total market risk capital charge for vega risk as the sum of the absolute value of the individual market risk capital charges for vega risk calculated under subsection (1).

Division 10—Calculation of market risk capital charge for credit derivative contracts booked in authorized institutions' trading book

306. Application of Division 10

(1) This Division applies to credit derivative contracts booked in an authorized institution's trading book.

(2) An authorized institution shall use the notional amount of the credit derivative contract to calculate the market risk capital charge for its credit derivative contracts except for section 312(6) and (7) where the fair value of the credit-linked note shall be used.

307. Specific risk

(1) Where an authorized institution has entered into a total return swap or credit default swap as the protection seller, the institution shall record a long position in the reference obligation specified in the swap contract.

(2) Where an authorized institution has entered into a total return swap or credit default swap as the protection buyer, the institution shall record a short position in the reference obligation specified in the swap contract.

(3) Where an authorized institution has purchased a credit-linked note, the institution shall record a long position in—

(*a*) the reference obligation specified in the note; and

(*b*) the note issuer.

(4) Where an authorized institution has issued a credit-linked note, the institution shall record a short position in the reference obligation specified in the note.

(5) Where an authorized institution—

(*a*) is the protection buyer of a first-to-default credit derivative contract or the issuer of a first-to-default credit-linked note; and

(*b*) does not hold any long position in an underlying exposure which is identical to the reference obligation specified in the contract or note, as the case may be,

the institution shall record a short position in only one of the reference obligations in the basket of reference obligations specified in the contract or note, as the case may be (being the reference obligation which would yield the highest market risk capital charge for specific risk among the various reference obligations in the basket of reference obligations specified in the contract or note, as the case may be).

(6) Where an authorized institution is the protection buyer of a first-to-default credit derivative contract or the issuer of a first-to-default credit-linked note, the institution may offset the market risk capital charge for specific risk of the institution's long position in an underlying exposure which is identical to the reference obligation specified in the contract or note, as the case may be, against the market risk capital charge for specific risk of the institution's short position in that one of the reference obligations in the basket of reference obligations specified in the contract or note, as the case may be, which would yield the lowest market risk capital charge for specific risk for all of the reference obligations specified in the contract or note, as the case may be.

(7) Subject to subsection (8), where an authorized institution is the protection seller of a first-to-default credit derivative contract or the purchaser of a first-to-default credit-linked note, the institution shall record long positions in each of the reference obligations in the basket of reference obligations specified in the contract or note, as the case may be, but in such circumstances the institution's total market risk capital charge for specific risk for the contract or note, as the case may be, shall not exceed the institution's maximum liability under the contract or the fair value of the note, as the case may be.

(8) An authorized institution is not required to comply with subsection (7) in respect of a first-to-default credit derivative contract or first-to-default credit-linked note if it demonstrates to the satisfaction of the Monetary Authority that there is a material positive correlation among the reference obligations in the basket of reference obligations specified in the contract or note, as the case may be, such that the value of each of the reference obligations in the basket would be likely to fall in the case of a fall in the value of any one of the reference obligations in the basket.

(9) Where an authorized institution enters into a credit default swap, total return swap or credit-linked note which provides for payment to be made proportionately in respect of the reference obligations in the basket of reference obligations specified in the swap contract or note, as the case may be, the institution shall record its positions in the reference obligations according to their respective proportions specified in the swap contract or note, as the case may be.

(10) Where an authorized institution has purchased or issued a credit-linked note which is referenced to multiple reference obligations and satisfies the conditions for a qualifying debt security or debt-related derivative contract set out in section 287(4), the institution may—

(*a*) if it has purchased the note, record the specific risk arising from its long positions in the multiple reference obligations specified in the note as a single long position in the note;

(*b*) if it has issued the note, record the specific risk arising from its short positions in the multiple reference obligations specified in the note as a single short position in the note.

308. Use of credit derivative contracts to offset specific risk

(1) Subject to subsection (2), an authorized institution may use a credit derivative contract booked in the institution's trading book to offset the market risk capital charge for specific risk calculated for the institution's trading book position in the underlying exposure which is identical to the reference obligation specified in the credit derivative contract, or in another credit derivative contract, in accordance with section 309, 310 or 311.

(2) Where section 309, 310 or 311 does not permit an authorized institution to use a credit derivative contract booked in the institution's trading book to offset the market risk capital charge for specific risk calculated for the institution's trading book position in the underlying exposure which is identical to the reference obligation specified in the credit derivative contract, or in another credit derivative contract, the institution shall calculate and provide the market risk capital charge against both trading book positions.

309. Offsetting in full

(1) For the purposes of section 308(1), an authorized institution may fully offset its position in a credit derivative contract against a position in the underlying exposure which is identical to the reference obligation specified in the credit derivative contract, or against a position in another credit derivative contract, where the values of the 2 positions, being the long or short position in the credit derivative contract, and the short or long position respectively in the underlying exposure which is identical to the reference obligation specified in the credit derivative contract or the short or long position respectively in the other credit derivative contract, always move in the opposite direction and broadly to the same extent due to—

(*a*) the 2 positions consisting of identical exposures; or

(*b*) a long or short position in the underlying exposure being hedged by a total return swap and there being a match between the reference obligation specified in the total return swap and the position in the underlying exposure in every respect, and notwithstanding that the maturity of the total return swap may be different from that of the position in the underlying exposure.

(2) Where an authorized institution has fully offset its position in a credit derivative contract against a position in the underlying exposure which is identical to the reference obligation specified in the credit derivative contract, or against a position in another credit derivative contract, pursuant to subsection (1), no market risk capital charge for specific risk is required to be calculated in respect of those positions.

310. Offsetting by 80%

(1) For the purposes of section 308(1), an authorized institution may offset 80% of the market risk capital charge for specific risk of its position in a credit derivative contract against a position in the underlying exposure which is identical to the reference obligation specified in the contract where—

(*a*) the values of the 2 positions, being the long or short position in the contract, and the short or long position respectively in the underlying exposure which is identical to the reference obligation specified in the contract, always move in the opposite direction but not broadly to the same extent as set out in section 309(1); and

(*b*) the institution demonstrates to the satisfaction of the Monetary Authority that the contract can mitigate the credit risk of the institution's position in the underlying exposure effectively.

(2) For the purposes of the demonstration referred to in subsection (1)(*b*), an authorized institution falls within that subsection in any case where—

(*a*) subject to paragraphs (*b*), (*c*) and (*d*), the institution's long or short position in the underlying exposure referred to in that subsection is effectively hedged by a credit default swap or credit-linked note;

(*b*) there is a match between—

(i) the reference obligation specified in the credit default swap or credit-linked note referred to in paragraph (*a*) and the position in the underlying exposure;

(ii) the maturity of the reference obligation specified in the credit default swap or credit-linked note referred to in paragraph (*a*) and of the position in the underlying exposure; and

(iii) the currency in which the reference obligation specified in the credit default swap or credit-linked note referred to in paragraph (*a*) and the position in the underlying exposure are denominated;

(*c*) the credit event definitions and settlement mechanisms and other key factors of the credit default swap or credit-linked note referred to in paragraph (*a*) do not cause the price movement of the swap contract or note, as the case may be, to materially deviate from the price movement of the position in the underlying exposure; and

(*d*) the credit default swap or credit-linked note referred to in paragraph (*a*) transfers risk effectively taking account of any restrictive payout provisions (including fixed payouts and materiality thresholds).

(3) Where an authorized institution offsets its positions in a credit derivative contract pursuant to subsection (1)—

(*a*) only 20% of the market risk capital charge for specific risk is required to be calculated for the position with the higher market risk capital charge for specific risk; and

(*b*) the market risk capital charge for specific risk to be calculated for the other position shall be zero.

311. Other offsetting

(1) For the purposes of section 308(1), an authorized institution may offset partially the market risk capital charge for specific risk of its position in a credit derivative contract against a position in the underlying exposure which is identical to the reference obligation specified in the contract where the values of the 2 positions, being the long or short position in the contract, and the short or long position respectively in the underlying exposure which is identical to the reference obligation specified in the contract, usually move in the opposite direction in any case where—

(*a*) the position would fall within section 309(1)(*b*) but for there being an asset mismatch between the reference obligation and the position in the underlying exposure (being that the reference obligation and the position in the underlying exposure are similar but not identical) and—

(i) the reference obligation specified in the contract ranks for payment or repayment equally with, or junior to, the position in the underlying exposure; and

(ii) the obligor in respect of the position in the underlying exposure is the same legal entity as the obligor in respect of the reference obligation and legally enforceable cross default or cross acceleration clauses are included in the terms of the position in the underlying exposure and the reference obligation;

(*b*) the position would fall within section 309(1)(*a*) or 310 but for there being a currency or maturity mismatch between the contract and the position in the underlying exposure; or

(*c*) the position would fall within section 310 but for there being a mismatch between the position in the underlying exposure and the reference obligation specified in the contract (being that the reference obligation and the position in the underlying exposure are similar but not identical) and the position in the underlying exposure is included in one of the deliverable obligations specified in the contract.

(2) Where an authorized institution offsets its positions in a credit derivative contract pursuant to subsection (1)—

(*a*) the position with the higher market risk capital charge for specific risk shall be subject to a partial allowance to reflect the extent of the offsetting but, in any case, not higher than 80%; and

(*b*) the market risk capital charge for specific risk to be calculated for the other position shall be zero.

312. General market risk

(1) Where an authorized institution has entered into a total return swap as the protection seller, the institution shall—

(*a*) record a long position in the reference obligation specified in the swap contract;

(*b*) if there are periodic interest payments under the swap contract, record a short position in a specific risk-free security with fixed or floating rate interest according to the payment terms of the swap contract.

(2) Where an authorized institution has entered into a total return swap as the protection buyer, the institution shall—

(*a*) record a short position in the reference obligation specified in the swap contract;

(*b*) if there are periodic interest payments under the swap contract, record a long position in a specific risk-free security with fixed or floating rate interest according to the payment terms of the swap contract.

(3) Where an authorized institution has entered into a credit default swap with no periodic premiums or interest payments under the swap contract, the institution is not required to calculate or provide the market risk capital charge for general market risk for the swap contract.

(4) Where an authorized institution has entered into a credit default swap as the protection seller with periodic premiums or interest payments under the swap contract, the institution shall record a long position in a specific risk-free security with fixed or floating rate interest according to the payment terms of the swap contract.

(5) Where an authorized institution has entered into a credit default swap as the protection buyer with periodic premiums or interest payments under the swap contract, the institution shall record a short position in a specific risk-free security with fixed or floating rate interest according to the payment terms of the swap contract.

(6) Where an authorized institution has purchased a credit-linked note, the institution shall record a long position in the note.

(7) Where an authorized institution has issued a credit-linked note, the institution shall record a short position in the note.

313. Counterparty credit risk

(1) Where an authorized institution has entered into a total return swap as the protection buyer or the protection seller, the institution shall calculate and provide the amount of capital required to cover the counterparty credit risk of its position in the swap contract.

(2) Where an authorized institution has entered into a credit default swap as the protection buyer, the institution shall calculate and provide the amount of capital required to cover the counterparty credit risk of its position in the swap contract.

(3) Where an authorized institution has entered into a credit default swap as the protection seller with no periodic premiums or interest payments under the swap contract, the institution is not required to calculate or provide any amount of capital required to cover the counterparty credit risk of its position in the swap contract.

(4) Where an authorized institution has entered into a credit default swap as the protection seller with periodic premiums or interest payments under the swap contract, the institution shall calculate and provide the amount of capital required to cover the counterparty credit risk of its position in the swap contract.

(5) For the avoidance of doubt, it is hereby declared that—

(*a*) there is no counterparty credit risk for an authorized institution as the purchaser or issuer of a credit-linked note;

(*b*) the following provisions apply in the case of an authorized institution's counterparty credit risk under credit derivative contracts booked in the institution's trading book—

(i) section 71(2);
(ii) section 118(2);
(iii) sections 165 and 181;
(iv) sections 234(5) and 235;
(v) sections 260(5) and 261; or
(vi) sections 268(3) and 269,

as the case requires.

314. Foreign exchange risk

Where an authorized institution has entered into a credit derivative contract denominated in a currency other than Hong Kong dollars, the institution shall apply the calculation treatment under Division 5 to its foreign exchange position in the contract.

Division 11—Calculation of market risk under IMM approach: general

315. Application of Divisions 11 and 12

(1) Divisions 11 and 12 apply to an authorized institution which uses the IMM approach to calculate its market risk.

(2) Unless the context otherwise requires, a reference to an authorized institution in Divisions 11 and 12 is a reference to an authorized institution which uses the IMM approach to calculate its market risk.

316. Positions to be used to calculate market risk

(1) Subject to subsection (2), an authorized institution shall calculate its market risk to take into account the risk of losses arising from fluctuations in the value of—

(*a*) the institution's trading book positions held in—

(i) debt securities;
(ii) debt-related derivative contracts;
(iii) interest rate derivative contracts;
(iv) equities; and
(v) equity-related derivative contracts; and

(*b*) the institution's positions held in—

(i) foreign exchange (including gold);
(ii) exchange rate-related derivative contracts;
(iii) commodities; and
(iv) commodity-related derivative contracts.

(2) An authorized institution shall not include a position in the calculation of its market risk if the position is—

(*a*) a recognized credit derivative contract (within the meaning of section 51, 105 or 139(1), as the case requires) booked in the institution's trading book as a hedge to a credit exposure booked in the institution's banking book; or

(*b*) an exposure which under sections 48 and 49 is required to be deducted from any of the institution's core capital and supplementary capital.

(3) An authorized institution shall value its positions, whether based on a marking-to-market or marking-to-model methodology, in a prudent manner (including by taking into account the liquidity of the positions).

(4) Where the Monetary Authority is satisfied that an authorized institution has contravened subsection (3), the Monetary Authority may, by notice in writing given to the institution, require the institution to reduce all of its positions, or such class of its positions as specified in the notice, to the limit specified in the notice, beginning on such date, or the occurrence of such event, as specified in the notice.

(5) An authorized institution shall comply with the requirements of a notice given to it under subsection (4).

(6) Where a position of an authorized institution does not fall within subsection (1) by virtue of subsection (2)(*a*), the institution shall apply Part 4, 5, 6 or 7, as the case requires, to calculate the credit risk for that position.

317. Calculation of risk-weighted amount for market risk

(1) An authorized institution shall calculate the risk-weighted amount for market risk as the sum of—

(*a*) the market risk capital charge for general market risk calculated by the institution's internal model; and

(*b*) where applicable, the market risk capital charge for specific risk calculated by the institution's internal model,

multiplied by 12.5.

(2) Where an authorized institution uses one internal model to calculate both the market risk capital charge for general market risk and the market risk capital charge for specific risk, the institution shall, in that calculation—

(*a*) use the higher of—

(i) the institution's VaR for all risk categories as at the last trading day; or

(ii) the average VaR for the last 60 trading days multiplied by a multiplication factor determined under section 319; and

(*b*) subject to section 2(*e*) of Schedule 3, apply an additional capital charge (referred to in this Division as "capital surcharge") for default risk calculated in accordance with section 318.

(3) Where an authorized institution uses more than one internal model to calculate the market risk capital charge for general market risk and the market risk capital charge for specific risk, the institution shall comply with subsection (2) except that it shall apply subsection (2)(*a*) separately to the VaR generated from each model.

318. Default risk

(1) An authorized institution may, to avoid double counting, when calculating the default risk of its trading book positions, take into account the extent to which default risk has already been incorporated into the institution's internal model (in particular, for positions which would be closed out within 10 trading days in the event of adverse market conditions or other indications of deterioration in the credit environment).

(2) The default risk referred to in section 2(*e*) of Schedule 3 shall not be treated as having been captured through a capital surcharge unless the authorized institution concerned demonstrates to the satisfaction of the Monetary Authority that the capital surcharge provides sufficient capital to cover that default risk in respect of the institution's positions.

(3) Where an authorized institution captures the default risk referred to in section 2(*e*) of Schedule 3 through a capital surcharge, the capital surcharge shall not be subject to a multiplication factor determined under section 319.

319. Multiplication factor

(1) The multiplication factor to be used by an authorized institution shall be the sum of—

(*a*) the value of 3;

(*b*) a plus factor specified in column 2 of Table 32 opposite to the number of back-testing exceptions specified in column 1 of that Table for the last 250 trading days; and

(*c*) any additional plus factor assigned to the institution pursuant to subsection (3).

TABLE 32

PLUS FACTORS FOR BACK-TESTING EXCEPTIONS

Number of back-testing exceptions	Plus factor
less than 5	0.00
5	0.40
6	0.50
7	0.65
8	0.75
9	0.85
10 or more	1.00

(2) For the purposes of calculating the number of back-testing exceptions under subsection (1)(*b*), an authorized institution may exclude any back-testing exceptions if the institution demonstrates to the satisfaction of the Monetary Authority that those back-testing exceptions are temporary.

(3) Where—

(*a*) an authorized institution uses the IMM approach to calculate its market risk; and

(*b*) the Monetary Authority is satisfied that the institution has ceased to satisfy any of the requirements specified in Schedule 3 applicable to or in relation to the institution,

the Monetary Authority may, by notice in writing given to the institution, assign an additional plus factor to the institution.

Division 12—Calculation of market risk capital charge for credit derivative contracts booked in authorized institutions' trading book

320. IMM approach to calculation of market risk

(1) An authorized institution shall comply with Division 11 and Schedule 3 to use the IMM approach to calculate the market risk capital charge for credit derivative contracts booked in its trading book.

(2) An authorized institution which does not use the IMM approach to calculate the market risk capital charge for credit derivative contracts booked in its trading book shall use the STM approach to calculate those charges as set out in Division 10.

321. Counterparty credit risk

(1) Where an authorized institution has entered into a total return swap as the protection buyer or the protection seller, the institution shall calculate and provide the amount of capital required to cover the counterparty credit risk of its position in the swap contract.

(2) Where an authorized institution has entered into a credit default swap as the protection buyer, the institution shall calculate and provide the amount of capital required to cover the counterparty credit risk of its position in the swap contract.

(3) Where an authorized institution has entered into a credit default swap as the protection seller with no periodic premiums or interest payments under the swap contract, the institution is not required to calculate or provide any amount of capital required to cover the counterparty credit risk of its position in the swap contract.

(4) Where an authorized institution has entered into a credit default swap as the protection seller with periodic premiums or interest payments under the swap contract, the institution shall calculate and provide the amount of capital required to cover the counterparty credit risk of its position in the swap contract.

(5) For the avoidance of doubt, it is hereby declared that—

(*a*) there is no counterparty credit risk for an authorized institution as the purchaser or issuer of a credit-linked note;

(*b*) the following provisions apply in the case of an authorized institution's counterparty credit risk under credit derivative contracts booked in the institution's trading book—

(i) section 71(2);
(ii) section 118(2);
(iii) sections 165 and 181;
(iv) sections 234(5) and 235;
(v) sections 260(5) and 261; or
(vi) sections 268(3) and 269,

as the case requires.

322. Foreign exchange risk

Where an authorized institution has entered into a credit derivative contract denominated in a currency other than Hong Kong dollars, the institution shall apply the calculation treatment under Division 11 to its foreign exchange position in the contract.