



MAS Notice 1111

11 June 2021

NOTICE TO MERCHANT BANKS
BANKING ACT, CAP 19

NOTICE ON RISK BASED CAPITAL ADEQUACY REQUIREMENTS FOR MERCHANT BANKS INCORPORATED IN SINGAPORE

CONTENTS

Part I	Introduction	1-1
Part II	Definitions	2-1
	Annex 2A Glossary	2-2
Part III	Scope of Application	3-1
Part IV	Minimum Tier 1 CAR and Total CAR	4-1
Part V	Definition of Capital	5-1
	Division 1 Tier 1 Capital	5-1
	Division 2 Tier 2 Capital.....	5-9
	Annex 5A Application of the Limits on Perpetual Non-cumulative Preference Shares, Tier 2 Capital and Lower Tier 2 Capital.....	5-20
Part VI	Credit Risk	6-1
	Division 1 Overview of Credit RWA Calculation	6-1
	Sub-division 1 Introduction	
	Sub-division 2 Exposures Included in the Calculation of SA(CR) RWA	
	Sub-division 3 Calculation of SA(CR) RWA	
	Sub-division 4 Calculation of Credit RWA for Equity Exposures	
	Sub-division 5 Calculation of Credit RWA for Securitisation Exposures	
	Division 2 Measurement of Exposures	6-5
	Sub-division 1 Introduction	

Sub-division 2	Measurement of E for On-balance Sheet Assets	
Sub-division 3	Measurement of E for Off-balance Sheet Items Other than Pre-settlement Counterparty Exposures Arising from OTC Derivative Transactions, Long Settlement Transactions and SFTs	
Sub-division 4	Recognition of Eligible Financial Collateral for On-balance Sheet Assets and Off-Balance Sheet Items Other than Equity Exposures, Securitisation Exposures, OTC Derivative Transactions, Long Settlement Transactions and SFTs	
Sub-division 5	Recognition of Eligible Financial Collateral for Securitisation Exposures	
Sub-division 6	Measurement of E for Pre-settlement Counterparty Exposures Arising from OTC Derivative Transactions and Long Settlement Transactions	
Sub-division 7	Measurement of E for Pre-settlement Counterparty Exposures Arising from SFTs	
Sub-division 8	Exceptions to the Measurement of E	
Sub-division 9	Measurement of E for Unsettled Transactions	
Division 3	SA(CR)	6-12
Sub-division 1	Categorisation of SA(CR) Exposures	
Sub-division 2	Credit Quality Grade and External Credit Assessments	
Sub-division 3	Risk Weights	
Sub-division 4	Treatment of Credit Protection and Recognition of Eligible Financial Collateral	
Division 4	Equity Exposures	6-30
Sub-division 1	Definition of Equity Exposures	
Sub-division 2	Overview of Calculation of Credit RWA for Equity Exposures	
Sub-division 3	Calculation of Credit Risk-Weighted Exposure Amount for Equity Exposures Using SA(EQ)	
Division 5	Securitisation	6-35
Sub-division 1	Introduction	
Sub-division 2	Requirements for the Recognition of Risk Transference	
Sub-division 3	Treatment of Securitisation Exposures	
Sub-division 4	SA(SE)	
Sub-division 5	Early Amortisation Provisions	
Annex 6A	CCFs for Off-Balance Sheet Items under the SA(CR)	6-45
Annex 6B	CCFs for Off-Balance Sheet Items under the SA(SE)	6-47
Annex 6C	CCFs for Early Amortisation Exposures	6-48
Annex 6D	CRM	6-49
Annex 6E	Treatment for Specific Types Credit Protection Bought	6-60
Annex 6F	Calculation of E* for Collateralised Transactions Other Than OTC Derivative Transactions and Long Settlement Transactions	6-62
Annex 6G	Methods and Haircuts for Recognising Collateral	6-63
Annex 6H	Qualifying Repo-Style Transactions	6-67
Annex 6I	Core Market Participants	6-68
Annex 6J	Qualifying Bilateral Netting Agreements	6-69
Annex 6K	Current Exposure Method	6-75
Annex 6L	CCR Standardised Method	6-79
Annex 6M	Credit Quality Grades and Recognised ECAIs	6-89
Annex 6N	Qualifying MDBs	6-92
Annex 6O	Qualifying Mortgage Insurance	6-93
Annex 6P	Requirements for Exclusion of Securitised Exposures from the Calculation of Credit RWA	6-95

Part VII	Market Risk	7-1
Division 1	Overview of Market RWA Calculation	7-1
Sub-division 1	Introduction	
Sub-division 2	Methods of Measuring Market Risks	
Sub-division 3	Determination of the Trading Book	
Sub-division 4	Trading Book Policy Statement	
Sub-division 5	Treatment of Structural Foreign Exchange Positions	
Sub-division 6	Risk Management Standards	
Division 2	SA(MR)	7-8
Sub-division 1	Interest Rate Risk	
Sub-division 2	Equity Risk	
Sub-division 3	Foreign Exchange Risk	
Sub-division 4	Commodity Risk	
Sub-division 5	Treatment of Options	
Annex 7A	Derivation of Notional Positions for Interest Rate-Related Derivatives	7-35
Annex 7B	Treatment of Credit Derivatives in the Trading Book	7-37
Annex 7C	Applicable Risk Charges or Matching Factors for Calculation of Specific Risk and General Market Risk Capital Requirements for Interest Rate Risk under the SA(MR)	7-43
Annex 7D	Illustration on the Calculation of the General Market Risk Capital Requirement for Interest Rate Risk under the Maturity Method	7-48
Annex 7E	Derivation of Notional Positions for Equity Derivatives	7-51
Annex 7F	Qualifying Equity Indices	7-53
Annex 7G	Derivation of Notional Positions for Foreign Currency and Gold Derivatives	7-54
Annex 7H	Derivation of Notional Positions for Commodity Derivatives	7-55
Annex 7I	Illustration on the Calculation of the Market Risk Capital Requirement for Commodity Risk under the Maturity Ladder Approach ...	7-57
Annex 7J	Illustration on the Calculation of the Market Risk Capital Requirement for Options under the Simplified Approach	7-58
Annex 7K	Illustration on the Calculation of the Market Risk Capital Requirement for Options under the Delta-plus Method	7-59
Annex 7L	Illustrations on Determining Delta-Weighted Positions for Interest Rate Options	7-61
Annex 7M	Example of Matrices for Analysing Option Portfolios under the Scenario Approach	7-62
Annex 7N	Standards for a Prudent Valuation Framework	7-63
Part VIII	Operational Risk	8-1
Division 1	Overview of Operational RWA Calculation	8-1
Division 2	BIA	8-2
Division 3	SA(OR)	8-4
Annex 8A	Example of Gross Income Computation	8-8
Annex 8B	Example of Annual Gross Income Computation for Previous Three Years	8-9
Annex 8C	Mapping of Business Lines	8-10

Part IX	Reporting Schedules	9-1
Division 1	Introduction	9-1
Division 2	Scope and Frequency of Reporting	9-2
Annex 9A	Capital Adequacy Reporting Schedules	
Annex 9B	Credit Risk Reporting Schedules	
Annex 9C	Market Risk Reporting Schedules	
Annex 9D	Operational Risk Reporting Schedules	
Annex 9E	Other Reporting Schedules	
Annex 9F	Written Confirmation from CFOs	

PART I: INTRODUCTION

1.1.1 This Notice is issued pursuant to section 10(2) as applied by section 55ZB(1) and section 65A(2), of the Banking Act (Cap. 19) (the “Act”) and applies to all merchant banks incorporated in Singapore (“Merchant Banks”).

1.1.2 This Notice establishes the minimum capital adequacy ratios for a Merchant Bank and the methodology a Merchant Bank must use for calculating these ratios.

1.1.3 In addition to complying with the minimum regulatory capital requirements in this Notice, a Merchant Bank must consider whether it has adequate capital to cover its exposure to all risks.

1.1.4 This Notice takes effect on 1 July 2021.

PART II: DEFINITIONS

2.1.1 The expressions used in this Notice are defined in the Glossary at Annex 2A.

2.1.2 The expressions used in this Notice shall, except where defined in this Notice or where the context otherwise requires, have the same meanings as in the Act.

2.1.3 Any reference to a paragraph, Sub-division, Division, Part or Annex is a reference to a paragraph, Sub-division, Division, Part or Annex in this Notice unless otherwise specified.

GLOSSARY

α	means in relation to the BIA, 15%;
β	means – (a) in relation to the CCR standardised method, the fixed beta factor set out in paragraph 1.1 of Annex 6L; and (b) in relation to the SA(OR), the fixed beta factor set out for each business line in Table 8-1;
ABCP programme or asset-backed commercial paper programme	means a programme under which commercial paper is issued by a bankruptcy-remote SPE to third party investors with an original maturity of one year or less which is backed by assets or other exposures held by the bankruptcy-remote SPE;
ABCP programme sponsor	means an entity which – (a) establishes an ABCP programme; (b) approves the sellers of exposures permitted to participate in an ABCP programme; (c) approves the asset pools to be purchased by an ABCP programme; or (d) administers the ABCP programme by monitoring the assets backing the asset-backed commercial paper, arranging for the placement of securities, compiling monthly reports or ensuring compliance with the ABCP programme documents and with the credit and investment policy of the ABCP programme;
Accounting Loss Allowance	means the loss allowance for expected credit losses on the selected non-credit-impaired exposures ¹ set out in Appendix C of MAS Notice 1005, that is determined and recognised in accordance with the impairment measurement requirements under FRS 109;
Accounting Standards	has the same meaning as in section 4(1) of the Companies Act (Cap. 50);
affiliate	means – (a) an entity that has a beneficial interest in 20% or more of the total number of ordinary shares or controls 20% or more of the voting power in the Merchant Bank; (b) an entity in which the Merchant Bank has a beneficial interest in 20% or more of the total number of ordinary shares or controls 20% or more of the voting power in the entity; or (c) an entity in which a related corporation of the Merchant Bank has a beneficial interest in 20% or more of the number of

¹ To avoid doubt, “non-credit-impaired exposures” means credit exposures that do not fall within the definition of “credit-impaired financial asset” under FRS 109.

	ordinary shares or controls 20% or more of the voting power in the entity;
approved exchange	has the same meaning as in section 2 of the Securities and Futures Act (Cap. 289);
asset class	means, in relation to the SA(CR), one of the classes of exposures set out in Sub-division 1 of Division 3 of Part VI;
associate	has the same meaning as “associate” under the Accounting Standards;
banking book	means all on-balance sheet and off-balance sheet exposures of a Merchant Bank other than its trading book positions;
banking group	means the Merchant Bank and its banking group entities;
banking group entity	means any subsidiary or any other entity which is treated as part of the Merchant Bank's group of entities according to the Accounting Standards;
banking institution	means – (a) any bank; (b) any finance company licensed under the Finance Companies Act (Cap. 108); or (c) any entity established or incorporated in a foreign country or jurisdiction which is approved, licensed, registered or otherwise regulated by a bank regulatory agency of the foreign country or jurisdiction to carry on banking business under the laws of the foreign country or jurisdiction;
bank regulatory agency	in relation to a foreign country or jurisdiction, means an authority in the foreign country or jurisdiction exercising any function that corresponds to a regulatory function of the Authority under the Act;
BCBS	means the Basel Committee on Banking Supervision;
BIA or basic indicator approach	means the approach for calculating operational risk capital requirements set out in Division 2 of Part VIII;
Board	means the board of directors, or a designated committee of the board of directors;
capital investments	in relation to a Merchant Bank, means all exposures of a capital nature, including – (a) any ordinary share; (b) any preference share; (c) any instrument treated as regulatory capital in relation to any financial institution approved, licensed, registered or otherwise regulated by a regulatory agency;

	(d) any lending on non-commercial terms or which is not at arm's length; and (e) any guarantee issued to third parties for the benefit of subsidiaries and associates on non-commercial terms or which is not at arm's length;
CCF	means credit conversion factor;
CCR or counterparty credit risk	means the risk that the counterparty to a transaction or portfolio of transactions could default before the final settlement of the transaction's cash flows where there is bilateral risk of loss, giving rise to an economic loss to the Merchant Bank if the transaction or portfolio of transactions with the counterparty has a positive economic value at the time of default, and vice versa;
CCR standardised method	means the method for calculating E for any pre-settlement counterparty exposure arising from any OTC derivative transaction or long settlement transaction set out in Annex 6L;
central counterparty	means an approved clearing house in respect of a clearing facility as defined in section 2(1) the Securities and Futures Act which is regulated by the Authority, or a clearing house utilised by a recognised securities exchange set out in the Schedule of the Securities and Futures (Recognised Securities Exchange) Order 2018 in respect of a clearing facility which is regulated by a financial services regulatory authority of a country or jurisdiction other than Singapore;
clean-up call	means an option which permits the securitisation exposures to be called before all of the underlying exposures or securitisation exposures have been repaid. In the case of a traditional securitisation, this is generally accomplished by repurchasing the remaining securitisation exposures once the underlying exposures or the outstanding securities issued have fallen below some specified level. In the case of a synthetic securitisation, the clean-up call may take the form of a clause that extinguishes the credit protection;
collective investment scheme	has the same meaning as in section 2 of the Securities and Futures Act;
controlled early amortisation provision	means an early amortisation provision where the following requirements are complied with: (a) the originator has an appropriate capital and liquidity plan in place to ensure that it has sufficient capital and liquidity available in the event of an early amortisation; (b) throughout the duration of the transaction there is a pro rata sharing of interest and principal, expenses, losses and recoveries based on the proportion of the originator's interests

- and the investors' interests in the receivables outstanding at the beginning of the month;
- (c) the amortisation period is sufficient for at least 90% of the total debt outstanding at the beginning of the amortisation period to have been repaid or recognised as in default; and
 - (d) the speed of repayment is not more rapid than would be achieved by straight-line amortisation over the period set out in sub-paragraph (c);

core market participant	means any of the entities listed in Annex 6I;
corporate exposure	means, in relation to the SA(CR), an exposure that falls within the definition in paragraph 6.3.1(f);
corporation	means any body corporate formed or incorporated or existing in Singapore or outside Singapore and includes any foreign company;
CPF	means the Central Provident Fund Board constituted under section 3 of the Central Provident Fund Act (Cap. 36);
CRE	means commercial real estate;
credit derivative	means any contract which transfers the credit risk of a reference obligation or set of reference obligations from the protection buyer to the protection seller, such that the protection seller has an exposure to the reference obligation(s);
credit enhancement	means a contractual arrangement in which a Merchant Bank retains or assumes a securitisation exposure that, in substance, provides some degree of credit protection to other parties to the securitisation;
credit RWA	means the risk-weighted assets for credit risk determined in the manner set out in paragraph 6.1.1;
credit-enhancing interest only strip	means an on-balance sheet asset that represents a valuation of cash flows related to future margin income and is subordinated to the other securitisation exposures in a securitisation;
CRM or credit risk mitigation	means any technique used by a Merchant Bank to reduce the credit risk associated with any exposure which the Merchant Bank holds;
CTP or correlation trading portfolio	means a portfolio that incorporates – (a) securitisation exposures² that meet all of the following criteria: (i) the positions are not either of the following:

² To avoid doubt, this includes n-th-to-default credit derivatives.

- (A) resecuritisation positions;
- (B) derivatives of securitisation exposures that do not provide a pro rata share in the proceeds of a securitisation tranche³;
- (ii) all reference instruments are single-name products, including single-name credit derivatives and traded indices based on single-name products, for which a liquid two-way market exists;
- (iii) the positions do not reference an underlying exposure that would fall within the scope of the regulatory retail asset class, the residential mortgage asset class, or the CRE asset class, as set out in paragraph 6.3.1(g), (h) and (i), respectively, under the SA(CR);
- (iv) the positions do not reference a claim on a special purpose entity, where the special purpose entity instrument is backed, directly or indirectly, by a position that would itself be excluded if held by a Merchant Bank directly;

and

- (b) exposures that are not securitisation exposures and that hedge the securitisation exposures described in subparagraph (a),

and for the purposes of this definition, a liquid two-way market is deemed to exist where there are independent bona fide offers to buy and sell so that a price reasonably related to the last sales price or current bona fide competitive bid and offer quotations can be determined within one day and trades settled at such price within a relatively short time conforming to trade custom;

currency mismatch	means a situation where an exposure and the collateral or credit protection provided in support of it are denominated in different currencies;
current exposure	means the larger of zero, or the current market value of a transaction or portfolio of transactions within a netting set with a counterparty that would be lost upon the immediate default of the counterparty, assuming no recovery on the value of those transactions in a bankruptcy or insolvency;
current exposure method	means the method for calculating E for any pre-settlement counterparty exposure arising from any OTC derivative transaction or long settlement transaction set out in Annex 6K;
Deductions from Tier 1 Capital	means the sum of the items set out in paragraph 5.1.7;
Deductions from Tier 2 Capital	means the sum of the items set out in paragraph 5.2.12;

³ For example, this will exclude options on a securitisation exposure or a leveraged securitisation exposure.

DvP	means delivery-versus-payment;
early amortisation exposure	means any securitisation exposure or class of securitisation exposures for which a Merchant Bank is subject to the early amortisation treatment in accordance with Sub-division 5 of Division 5 of Part VI;
early amortisation provision	means a contractual clause which requires, on the occurrence of defined events, an investor's position to be redeemed prior to the original maturity of the securities issued;
ECAI	means an external credit assessment institution, and includes all entities trading under the trade name of that external credit assessment institution;
eligible credit protection	means any guarantee (or other instrument as the Authority may allow) or credit derivative where the requirements and guidelines set out in Annex 6D are satisfied;
eligible financial collateral	means – (a) in relation to the FC(SA), one or more types of collateral set out in paragraph 2.2 of Annex 6D; and (b) in relation to the FC(CA), one or more types of collateral set out in paragraph 2.6 of Annex 6D, where the requirements and guidelines set out in Annex 6D are satisfied;
eligible liquidity facility	in relation to the SA(SE), means a liquidity facility where the following requirements are complied with: (a) the facility documentation clearly identifies the nature, purpose and extent of any undertaking or commitment provided to the SPE, and limits the circumstances under which it may be drawn; (b) the facility is limited to a specified amount and duration, unless the Merchant Bank is able to withdraw, at its absolute discretion, the facility at any time with a reasonable period of notice; (c) any draw made under the facility is provided to the SPE and not directly to investors, and is limited to the amount that is likely to be repaid fully from the liquidation of the underlying exposures and any seller-provided credit enhancements; (d) the facility does not cover any losses incurred in the underlying exposures prior to a draw, and is not structured such that draw-down is certain (as indicated by regular or continuous draws or continuous revolving funding); (e) the facility is subject to an asset quality test that precludes it from being drawn to cover credit risk exposures where the obligor(s) are in default; (f) if the exposures that the liquidity facility is required to fund are securities with an external credit assessment by a

recognised ECAI, the facility is used to fund only securities that have a credit quality grade of "8" or better or a short-term credit quality grade of "III" or better as set out in Tables 6M-3 and 6M-4, respectively, at the time of funding;

- (g) the facility cannot be drawn after all applicable⁴ credit enhancements from which the facility would benefit have been exhausted;
- (h) repayment of draws on the facility is not subordinated to any interests of any note holder in the programme or subject to deferral or waiver;
- (i) the obligations of the Merchant Bank under the facility are standalone from its obligations under any other facility, commitment or undertaking provided by the Merchant Bank;
- (j) either –
 - (i) an independent third party co-provides 25% of the liquidity facility that is to be drawn and re-paid on a pro rata basis; or
 - (ii) all the underlying exposures have a credit quality grade of "3" or better or a short-term credit quality grade of "III" or better as set out in Tables 6M-1 and 6M-2, respectively, and the facility documentation expressly provides that the Merchant Bank may reduce (and ultimately withdraw) its funding if the external credit assessment of the exposures falls to a credit quality grade of "4" or worse or to a short-term credit quality grade of "IV" as set out in Tables 6M-1 and 6M-2, respectively;

eligible protection provider	means any of the following, excluding an individual, in the case of a Merchant Bank using the SA(CR), SA(EQ) or SA(SE), a guarantor or protection seller which is – (a) a central government, a central bank, the Bank for International Settlements, the International Monetary Fund, the European Central Bank, the European Union, the European Stability Mechanism or European Financial Stability Facility; (b) an MDB; (c) a PSE; (d) a banking institution; or (e) any other entity with a credit quality grade of "2" or better as set out in Table 6M-1;
Eligible Tier 1 Capital	has the meaning in paragraph 4.1.1;
Eligible Total Capital	has the meaning in paragraph 4.1.2;
equity exposure	has the meaning given to it in Sub-division 1 of Division 4 of Part VI;

⁴ Examples are transaction-specific and programme-wide credit enhancements

ESR or excess spread ratio	in relation to securitisation exposures with early amortisation features, means the ratio of the 3-month average excess spread to the point at which a Merchant Bank is required to trap excess spread as economically required by the structure, expressed as a percentage;
excess spread	means any gross finance charge collections and other income received by the trust or SPE after deducting certificate interest, servicing fees, charge-offs, and other senior trust or SPE expenses;
FC(CA) or financial collateral comprehensive approach	means the method for calculating the effects of CRM arising from eligible financial collateral set out in Annex 6F;
FC(SA) or financial collateral simple approach	means the method for calculating the effects of CRM arising from eligible financial collateral set out in Sub-division 4 of Division 3 of Part VI;
financial asset	has the same meaning as in FRS 32;
financial instrument	means any contract between two entities that gives rise to both a financial asset of one entity and a financial liability or equity of another entity, and includes both non-derivative and derivative instruments;
financial liability	has the same meaning as in FRS 32;
financial year	has the same meaning as in section 4(1) of the Companies Act;
foreign company	has the same meaning as in section 4(1) of the Companies Act;
FRA	means a forward rate agreement;
FRS 32	means the Singapore Financial Reporting Standard 32;
FRS 109	means the Singapore Financial Reporting Standard 109;
FRS 110	means the Singapore Financial Reporting Standard 110;
funded credit protection	means a CRM where the reduction of the credit risk of an exposure of a Merchant Bank is derived from the right of the Merchant Bank, in the event of the default of a counterparty or on the occurrence of other specified credit events relating to the counterparty, to liquidate, to obtain transfer or appropriation of, or to retain, certain assets or amounts;
FVOCI	means fair value through other comprehensive income;

gain-on-sale	means any increase in the equity of a Merchant Bank which is an originator resulting from the sale of underlying exposures in a securitisation;
general allowance	means loss allowance for credit exposures that do not fall within the definition of "credit-impaired financial asset" under FRS 109 and includes loss allowances maintained by a Merchant Bank in excess of the Accounting Loss Allowance;
hedging set	means a group of risk positions from the transactions within a single netting set for which only their balance is relevant for determining E under the CCR standardised method;
holding period	in relation to collateralised transactions, means the period of time over which the exposure or collateral values are assumed to move before a Merchant Bank is able to close out the transactions;
implicit support	means any support that a Merchant Bank provides to a securitisation in excess of its predetermined contractual obligations;
instrument	means a financial instrument or a contract giving rise to a position in foreign exchange or commodities, where commodities includes non-physical goods ⁵ ;
insurance subsidiary	means – (a) a subsidiary which carries on insurance business as an insurer; (b) a subsidiary which is – (i) a holding company of the subsidiary referred to in subparagraph (a); and (ii) subject to capital adequacy requirements set out in a direction issued by the Authority under section 28 of the Monetary Authority of Singapore Act; or (c) a subsidiary of the holding company referred to in subparagraph (b), which is included by the holding company in its computation of capital adequacy requirements set out in a direction issued by the Authority under section 28 of the Monetary Authority of Singapore Act;
IOSCO	means the International Organisation of Securities Commissions;
ISDA	means the International Swaps and Derivatives Association;
IT	means information technology;
legal risk	means the risk of loss resulting from exposures to fines, penalties, damages or sums payable resulting from criminal prosecution,

⁵ An example is electric power.

	regulatory actions, supervisory actions, civil claims, settlements or similar actions;
long settlement transaction	means any transaction where a counterparty undertakes to deliver a security, a commodity or a foreign exchange amount against cash, other financial instruments or commodities, or vice versa, at a settlement or delivery date which is contractually specified as more than the lower of the market standard for this particular transaction type and five business days after the date on which the Merchant Bank enters into the transaction;
Lower Tier 2 Capital	means the sum of the items which comply with the requirements set out in paragraph 5.2.6;
LT2 or Lower Tier 2 capital instrument	means a capital instrument set out in paragraph 5.2.6;
main index	"main index" means an index which – (a) comprises equities listed on any approved exchange or overseas exchange; and (b) is referenced by futures or options traded on any approved exchange or overseas exchange;
margin lending transaction	means a transaction in which a Merchant Bank extends credit in connection with the purchase, sale, carrying or trading of securities, where the loan amount is collateralised by securities whose value is generally greater than the amount of the loan, and does not include other loans that happen to be collateralised by securities;
mark-to-model	in relation to market risk, means any valuation which has to be benchmarked, extrapolated or otherwise calculated from a market input;
market RWA	means the risk-weighted assets for market risk determined in the manner set out in Part VII;
maturity mismatch	means a situation where the residual maturity of the credit risk mitigant is less than the residual maturity of the underlying credit exposure;
MDB or multilateral development bank	means an institution which – (a) is created by two or more countries or jurisdictions; (b) provides financing and professional advice, for economic and social development projects; and (c) has its own independent legal and operational status;
n-th-to-default credit derivative	means a contract where – (a) the payoff is based on the n-th asset to default in a basket of underlying reference instruments; and

	(b) the transaction terminates and is settled once the n-th default occurs;
Net Tier 1 Capital	means Tier 1 Capital subject to Limits less the items specified in paragraph 5.1.7(a) to (n);
netting	means bilateral netting, including – (a) netting by novation, where obligations between two counterparties to deliver a given currency on a given value date under a transaction are automatically amalgamated with all other obligations under other transactions to deliver on the same currency and value date, thereby extinguishing former transactions with a single legally binding new transaction; and (b) close-out netting, where some or all of the ongoing transactions between two counterparties are terminated due to the default of either counterparty or upon the occurrence of a termination event as defined in the netting agreement, whereupon the values of such transactions are combined and reduced to a single payable sum, but does not include payments netting which is designed to reduce the operational cost of daily settlements, where the gross obligations of the counterparties are not in any way affected;
netting agreement	means any agreement which effects netting between two counterparties, or any other arrangement to effect netting, which does not contain a walkaway clause ⁶ ;
netting set	means a group of transactions between two counterparties that is subject to a qualifying bilateral netting agreement; any transaction which is not subject to a qualifying bilateral netting agreement shall be deemed as its own netting set;
NGR	means the ratio of the net current replacement cost to the gross current replacement cost;
non-controlled early amortisation provision	means an early amortisation provision where the requirements of a controlled early amortisation provision are not complied with;
operational risk	means the risk of loss resulting from – (a) inadequate or failed internal processes; (b) actions or omissions of persons; (c) systems; or (d) external events, including legal risk, but does not include strategic or reputational risk;

⁶ “Walkaway clause” means any provision which permits a party to a netting agreement that is not in default to make limited payments or no payments at all, to a defaulting party under the same netting agreement, even if the party that is in default is a net creditor under the netting agreement.

operational RWA	means the risk-weighted assets for operational risk, determined in the manner set out in Part VIII;
originator	means – (a) an entity which, either itself or through related entities, directly or indirectly, creates the exposure being securitised ⁷ ; or (b) any entity which purchases or advises or causes an SPE to purchase the exposures of a third party, which are then used in a securitisation (to avoid doubt, selling credit protection such that the entity or the SPE has a long position in the credit risk of the obligor is equivalent to purchasing exposures) ⁸ ;
OTC	means over-the-counter;
OTC derivative transaction	means a derivative contract, including an exchange rate contract, interest rate contract, equity contract, precious metal or other commodity contract or credit derivative contract which is not traded on an exchange;
overseas exchange	has the same meaning as in section 2 of the Securities and Futures Act;
PE/VC investments	has the same meaning as defined in MAS Notice 1018;
PSE or public sector entity	means – (a) a regional government or local authority that is able to exercise one or more functions of the central government at the regional or local level; (b) an administrative body or non-commercial undertaking responsible to, or owned by, a central government, regional government or local authority, which performs regulatory or non-commercial functions; (c) a statutory board in Singapore (other than the Authority); or (d) a town council in Singapore established pursuant to the Town Councils Act (Cap. 329A);
qualifying bilateral netting agreement	means a bilateral netting agreement where the requirements set out in Annex 6J are complied with;
qualifying MDB	means an MDB listed in Annex 6N;

⁷ Where an entity lends to an SPE with a view to enabling that SPE to make loans which are then used in a securitisation, the entity will generally be deemed to be acting as an originator.

⁸ An entity which advises or causes an SPE to purchase the exposures of a third party, which are then used in a securitisation will generally not be deemed to be acting as an originator if –

- (a) the entity has not advised or caused the SPE to purchase any exposures which are then used in a securitisation before the date of issue of securities effecting the transfer of credit risk of those exposures to the investors in the securitisation;
- (b) the entity will not be liable for any losses incurred by the SPE arising from the exposures (to avoid doubt, the entity may still be liable for losses arising from a breach of its fiduciary duties); and
- (c) the entity does not undertake to achieve a minimum performance for the exposures.

qualifying repo-style transaction	means a repo-style transaction where the requirements set out in Annex 6H are complied with;
recognised ECAI	means an ECAI referred to in Annex 6M;
reference obligation	means any obligation specified under a credit derivative contract used for purposes of either determining cash settlement value or the deliverable obligation;
regulated exchange	means an exchange approved, licensed or otherwise regulated by the Authority or regulated by a financial services regulatory authority other than the Authority;
regulatory capital	means capital which is used to meet regulatory requirements;
repo	means a repurchase transaction;
repo-style transaction	means a transaction comprising any of the following: (a) a repo; (b) a reverse repo; (c) a securities lending transaction; (d) a securities borrowing transaction, where the value of the transaction depends on market valuation and the transaction is often subject to margin agreements;
resecuritisation exposure	means a securitisation exposure in which the risk associated with an underlying pool of exposures is tranching and at least one of the underlying exposures is a securitisation exposure, and includes an exposure to one or more resecuritisation exposures;
risk charge	in relation to a market risk position, means the percentage assigned to that position to derive the capital requirement;
risk position	means a risk number which is assigned to a transaction under the CCR standardised method following a predetermined algorithm;
risk weight	in relation to an exposure, means a degree of risk expressed as a percentage assigned to that exposure;
RWA	means risk-weighted assets;
RWE	means risk-weighted exposure;
SA(CR) or standardised approach to credit risk	means the approach for calculating credit risk-weighted exposure amounts set out in Division 3 of Part VI or, if the reference is to any regulatory requirements of, or administered by, a bank regulatory agency other than the Authority, the equivalent under those requirements;
SA(CR) exposure	means any exposure for which a Merchant Bank is using the SA(CR) to calculate its credit risk-weighted exposure amount;

SA(EQ) or standardised approach for equity exposures	means the approach for calculating credit risk-weighted exposure amounts for equity exposures set out in Sub-division 3 of Division 4 of Part VI;
SA(EQ) exposure	means any equity exposure for which a Merchant Bank is using the SA(EQ) to calculate its credit risk-weighted exposure amount;
SA(MR) or standardised approach to market risk	means the approach for calculating market risk capital requirements set out in Division 2 of Part VII;
SA(OR) or standardised approach to operational risk	means the approach for calculating operational risk capital requirements set out in Division 3 of Part VIII;
SA(SE) or standardised approach for securitisation exposures	means the approach for calculating credit risk-weighted exposure amounts for securitisation exposures set out in Sub-division 4 of Division 5 of Part VI;
SA(SE) exposure	means any securitisation exposure for which a Merchant Bank is using the SA(SE) to calculate its credit risk-weighted exposure amount;
securities	means – (a) any securities as defined in section 2 of the Securities and Futures Act; (b) any specified securities-based derivatives contracts as defined in section 2 of the Securities and Futures Act; or (c) any units in a collective investment scheme;
securities firm	means – (a) any entity holding a capital markets services licence under section 84(1) of the Securities and Futures Act; or (b) any entity established or incorporated in a foreign country or jurisdiction which is approved, licensed, registered or otherwise regulated by a regulatory agency of the foreign country or jurisdiction to carry on business in capital markets services under the laws of the foreign country or jurisdiction;
securitisation	means any transaction or scheme involving the tranching of credit risk associated with an exposure or a pool of exposures and which has the following characteristics: (a) payments in the transaction or scheme depend on the performance of the exposure or pool of exposures;

	(b) the subordination of tranches determines the distribution of losses during the ongoing life of the transaction or scheme; and (c) junior tranches can absorb losses without interrupting contractual payments to more senior tranches;
securitisation exposure	means any exposure to a securitisation, and includes – (a) any on-balance sheet exposure to securities issued pursuant to a securitisation⁹, regardless of whether it was retained by the originator at, or repurchased by the originator after, the origination of the securitisation; (b) any off-balance sheet exposure to a securitisation¹⁰; and (c) reserve accounts¹¹ recorded as an asset by the originator;
securitised exposure	means an exposure, securitised by a Merchant Bank in its capacity as originator or ABCP programme sponsor, that forms an underlying exposure of a securitisation;
servicer	means any entity which carries out administrative functions relating to the cash flows of the underlying exposure or pool of exposures of a securitisation, including setting up and operating the mechanism for collecting payments of interest or principal derived from the underlying exposures and channeling these funds to the investors or the trustee representing them, customer service, cash management, maintenance of records and reporting duties;
SFT	means a securities or commodities financing transaction comprising any one of the following: (a) a repo or a reverse repo; (b) a securities or commodities lending transaction or securities or commodities borrowing transaction; (c) a margin lending transaction, for which the value of the transaction depends on market valuation and the transaction is often subject to margin agreements;
small business	means a corporation, partnership, limited liability partnership, sole proprietorship, trust, or fund (including a collective investment scheme or closed-end fund), with reported annual sales of less than or equal to S\$100 million;
SPE or special purpose entity	means a corporation, trust, or other entity established for a specific purpose, the activities of which are limited to those appropriate to accomplish that purpose and the structure of which is intended to isolate the SPE from the credit risk of an originator or seller of exposures;

⁹ Examples are asset-backed securities, mortgage-backed securities and collateralised debt obligations.

¹⁰ Examples are through credit enhancements, liquidity facilities, credit derivatives or tranching cover, interest rate swaps or currency swaps.

¹¹ Examples are cash collateral accounts.

specific allowance	means loss allowance for credit exposures that fall within the definition of “credit-impaired financial asset” under FRS 109;
specific wrong-way risk	means the risk that arises when exposure to a particular counterparty is positively correlated with the probability of default of the counterparty due to the nature of the transactions with that counterparty;
structured note	has the same meaning as in section 240AA(5) of the Securities and Futures Act;
synthetic securitisation	means a structure with at least two different tranches which reflect different degrees of credit risk where credit risk of an underlying exposure or pool of exposures is transferred, in whole or in part, through the use of funded or unfunded credit derivatives or guarantees;
Tier 1 Capital	means the sum of the items set out in paragraph 5.1.1;
Tier 1 capital instrument	means any of the capital instruments set out in paragraph 5.1.1;
Tier 1 Capital subject to Limits	means the sum of the items set out in paragraph 5.1.1, subject to the limit set out in paragraph 5.1.10;
Tier 1 CAR	means Tier 1 capital adequacy ratio, calculated in accordance with paragraph 4.1.1;
Tier 2 Capital	means the sum of the items set out in paragraphs 5.2.1 and 5.2.6;
Tier 2 capital instrument	means any of the capital instruments set out in paragraphs 5.2.1 and 5.2.6;
Tier 2 Capital subject to Limits	means the sum of Upper Tier 2 Capital and Lower Tier 2 Capital, subject to the limits set out in paragraphs 5.2.10 and 5.2.11;
Total Capital	means the sum of Net Tier 1 Capital and Tier 2 Capital subject to Limits;
Total CAR	means total capital adequacy ratio, calculated in accordance with paragraph 4.1.2;
trading book	has the meaning in Sub-division 3 of Division 1 of Part VII;
traditional securitisation	means a structure where the cash flow from an underlying exposure or pool of exposures is used to service at least two different tranches reflecting different degrees of credit risk;
tranche	means a contractually established segment of the credit risk associated with an underlying exposure or pool of exposures, where a position in the segment entails a risk of credit loss greater than or less than a position of the same amount in each other such

	segment, without taking account of credit protection provided by third parties directly to the holders of positions in the segment or in other segments;
unconsolidated subsidiary	means a subsidiary whose assets and liabilities are not included in the consolidated financial statements of the banking group;
unfunded credit protection	means a CRM where the reduction of the credit risk of an exposure of a Merchant Bank is derived from the undertaking of a third party to pay an amount in the event of the default of a counterparty or on the occurrence of other specified events;
unrated	in relation to any exposure, means that the exposure does not have an external credit assessment from a recognised ECAI;
Upper Tier 2 Capital	means the sum of the items set out in paragraph 5.2.1;
USD	means the United States dollar; and
UT2 or Upper Tier 2 capital instrument	means a capital instrument set out in paragraph 5.2.1.

PART III: SCOPE OF APPLICATION

Requirements to Apply at the Solo and Group Levels

3.1.1 A Merchant Bank must comply with the capital adequacy ratio requirements in this Notice at two levels:

- (a) the Merchant Bank standalone ("Solo") level capital adequacy ratio requirements, which measure the capital adequacy of a Merchant Bank based on its standalone capital strength and risk profile; and
- (b) the consolidated ("Group") level capital adequacy ratio requirements, which measure the capital adequacy of a Merchant Bank based on its capital strength and risk profile after consolidating the assets and liabilities of its banking group entities, taking into account –
 - (i) any exclusions of certain banking group entities provided for under paragraphs 3.1.2 and 3.1.3; and
 - (ii) any adjustments pursuant to Division 5 of Part VI.

Non-consolidation of Certain Subsidiaries at the Group Level

3.1.2 A Merchant Bank must –

- (a) not consolidate the assets and liabilities of an insurance subsidiary; and
- (b) account for the investment in such a subsidiary at cost,

when preparing the consolidated financial statements of the banking group for the purposes of calculating its capital adequacy ratio requirements at the Group level.

3.1.3 Subject to paragraph 3.1.2 and Part V, a Merchant Bank may exclude from consolidation the assets and liabilities of any other subsidiary when preparing the consolidated financial statements of the banking group for the purposes of calculating its capital adequacy ratio requirements at the Group level only where such non-consolidation is expressly permitted under the Accounting Standards. Despite the provisions set out in this paragraph, the exemption for an entity that is a parent from presenting consolidated financial statements in paragraph 4(a) of FRS 110 does not apply to the Merchant Bank for the purposes of complying with paragraph 3.1.1(b).

3.1.4 Pursuant to paragraphs 3.1.1(b), 3.1.2 and 3.1.3, and for the purposes of the capital adequacy ratio requirements at the Group level in this Notice (other than paragraphs 3.1.1(b), 3.1.2 and 3.1.3), a Merchant Bank must deem –

- (a) all assets, liabilities, equity, transactions, exposures and operations of a banking group entity of a Merchant Bank to be that of the Merchant Bank (per the scope of consolidation in paragraphs 3.1.1(b), 3.1.2 and 3.1.3); and

- (b) all collateral held by a banking group entity of a Merchant Bank to be collateral held by the Merchant Bank (per the scope of consolidation in paragraphs 3.1.1(b), 3.1.2 and 3.1.3).

PART IV: MINIMUM TIER 1 CAR AND TOTAL CAR

4.1.1 A Merchant Bank must calculate its Tier 1 CAR as follows:

$$\text{Tier 1 CAR} = \frac{\text{Eligible Tier 1 Capital}}{\text{Credit RWA} + \text{Market RWA} + \text{Operational RWA}}$$

where

$$\text{Eligible Tier 1 Capital} = \text{Tier 1 Capital subject to Limits} - \text{Deductions from Tier 1 Capital}$$

4.1.2 A Merchant Bank must calculate its Total CAR as follows:

$$\text{Total CAR} = \frac{\text{Eligible Total Capital}}{\text{Credit RWA} + \text{Market RWA} + \text{Operational RWA}}$$

where

$$\text{Eligible Total Capital} = \text{Eligible Tier 1 Capital} + \left(\text{Tier 2 Capital subject to Limits} - \text{Deductions from Tier 2 Capital} \right)$$

4.1.3 A Merchant Bank must, at all times, maintain at both the Solo and Group levels, the following minimum ratios:

- (a) minimum Tier 1 CAR of at least 6%;
- (b) minimum Total CAR of at least 8%.

4.1.4 The Authority may, if it considers appropriate in the particular circumstances of a Merchant Bank, having regard to the risks arising from the activities of the Merchant Bank and such other factors as the Authority considers relevant, pursuant to section 10(3) of the Act, as applied by section 55ZB(1) and section 65A(2), vary the minimum Tier 1 CAR or minimum Total CAR applicable to that Merchant Bank.

4.1.5 A Merchant Bank may, subject to the prior approval of the Authority and compliance with such conditions as the Authority may impose, adopt any one or more alternative approaches to those set out in Part VI for credit risk, Part VII for market risk and Part VIII for operational risk in this Notice.

PART V: DEFINITION OF CAPITAL

Division 1: Tier 1 Capital

Tier 1 Capital

5.1.1 For the purposes of Parts II and IV, Tier 1 Capital is the sum of the following items, calculated at both the Solo and Group level, as the case may be:

- (a) paid-up ordinary share capital;
- (b) disclosed reserves, excluding –
 - (i) any revaluation reserves;
 - (ii) unrealised fair value gains on revaluation of FVOCI equity securities;
 - (iii) unrealised fair value gains or losses on revaluation of FVOCI debt securities and FVOCI loans;
 - (iv) cumulative fair value gains or losses on cashflow hedges of financial instruments that are measured at amortised cost;
 - (v) unrealised fair value gains or losses on financial liabilities arising from changes in the credit worthiness of the Merchant Bank or any banking group entity;
 - (vi) unrealised fair value gains or losses on non-trading financial liabilities unless the Merchant Bank can demonstrate that the application of the fair value option to these liabilities is part of an identifiable and effective hedging strategy; and
 - (vii) balances maintained in a non-distributable regulatory loss allowance reserve account pursuant to paragraph 6.3 of MAS Notice 1005;

after deducting any interim or final dividends which have been declared by the Board of the Merchant Bank or any banking group entity on any class of shares and any interim losses incurred since the end of the last financial reporting period.

Any interim profits earned since the end of the last financial reporting period may be included as disclosed reserves where the following conditions are met:

- (A) every interim financial statement is prepared using the same accounting policies and practices applied in the preparation of the year-end financial statements, unless the change in the accounting policy or practice is in accordance with any statutory requirement;
- (B) every interim financial statement and every significant transaction is reviewed in a timely manner by an external auditor;

- (C) the external auditor of the Merchant Bank has not expressed a qualified opinion on any of the interim financial statements in the preceding 12 months of the end of the interim financial reporting period and confirms that nothing has come to his attention during the review that could render the interim financial information false or misleading;
- (c) any paid-up perpetual non-cumulative preference shares which complies with the requirements set out in paragraphs 5.1.4 to 5.1.6;
- (d) any minority interest arising from accounting consolidation of subsidiaries, other than minority interests in preference shares that do not qualify as Tier 1 capital.

5.1.2 Tier 1 Capital excludes any Tier 1 capital instruments of the Merchant Bank which are held by the Merchant Bank or any of its banking group entities (including treasury shares, where applicable). To avoid doubt, this exclusion does not cover capital instruments held by a banking group entity where –

- (a) the investments in the capital instruments are funded by external parties other than the Merchant Bank or any of its banking group entities⁵¹;
- (b) the risks and rewards associated with the investments in the capital instruments are borne primarily by the external parties; and
- (c) decisions to transact in the capital instruments are made independently from the issuer of the capital instruments and in the interests of the external parties.

5.1.3 For the purposes of paragraph 5.1.1(b)(vi), an effective hedging strategy is one where the gains or losses on the revaluation of these liabilities are offset by corresponding losses or gains on the revaluation of the derivatives that have been clearly identified as hedging such liabilities.

Requirements Relating to a Merchant Bank Issuing Paid-Up Perpetual Non-Cumulative Preference Shares

5.1.4 A Merchant Bank intending to issue any paid-up perpetual non-cumulative preference shares for the purposes of inclusion as Tier 1 Capital under paragraph 5.1.1(c) must –

- (a) consult the Authority well in advance to allow adequate time for review if the instrument has additional features which are not explicitly addressed in paragraph 5.1.6; and
- (b) submit the following documents to the Authority before including such issuance as Tier 1 Capital:

⁵¹ Examples are life insurance policyholders or other third-party investors.

- (i) a declaration signed by the chief executive or chief financial officer of the Merchant Bank confirming –
 - (A) that the Merchant Bank is responsible for complying with the requirements for inclusion of the issuance of paid-up perpetual non-cumulative preference shares as Tier 1 Capital;
 - (B) that all the requirements for the inclusion of the issuance of paid-up perpetual non-cumulative preference shares as Tier 1 Capital set out in this Notice have been met by the Merchant Bank;
 - (C) the expected date on which the issuance would be included as Tier 1 Capital of the Merchant Bank; and
 - (D) that the Merchant Bank is aware that the Authority may take such necessary action against the Merchant Bank, including requiring the Merchant Bank to exclude the issuance for inclusion as Tier 1 Capital, if the issuance does not, or subsequently does not, comply with the requirements set out in this Notice;
- (ii) all the executed agreements and offering documents governing the issuance of the paid-up perpetual non-cumulative preference shares;
- (iii) all external legal opinions obtained by the Merchant Bank in respect of the issuance of the paid-up perpetual non-cumulative preference shares stating that the requirements in paragraph 5.1.6 have been met;
- (iv) a memorandum of compliance stating how the issuance complies with each of the requirements set out in paragraph 5.1.6 and identifying the relevant portions of the agreements and offering documents governing the issuance of the paid-up perpetual non-cumulative preference shares which address each requirement;
- (v) where the agreements and offering documents governing the issuance of the paid-up perpetual non-cumulative preference shares are governed by the laws of a country or jurisdiction other than Singapore, a written external legal opinion from an advocate and solicitor qualified to practise Singapore law that he has reviewed all the agreements and offering documents governing the issuance, including any legal opinion from foreign law practitioners provided pursuant to sub-paragraph (b)(iii) and the memorandum of compliance, and confirms that the memorandum of compliance read together with such agreements, offering documents, legal opinions and any letter of undertaking provided by the Merchant Bank or any banking group entity addresses the requirements of paragraph 5.1.6.

5.1.5 For the purposes of paragraph 5.1.4(b)(iii), the written external legal opinion must be reasonably unqualified, in particular with respect to the requirements relating to loss absorption, priority of claims, and waiver of set-off amounts or benefits.

Minimum Requirements for Paid-Up Perpetual Non-Cumulative Preference Shares

5.1.6 To qualify for inclusion as Tier 1 Capital, any paid-up perpetual non-cumulative preference shares must comply with the following requirements:

- (a) the preference shares, if redeemable (whether through a call option, repurchase or otherwise), may be redeemed only at the option of the Merchant Bank with the prior approval of the Authority.⁵² Without prejudice to any other matter that the Authority may consider relevant, the Authority must, in determining whether to grant its approval, have regard to whether the Merchant Bank's capital is likely to remain adequate after redemption;
- (b) the preference shares do not have any call option within the first five years from the issue date, other than a call option which may be exercised by the Merchant Bank where –
 - (i) the preference shares were issued for the purposes of a merger with, or acquisition by, the Merchant Bank and the merger or acquisition is aborted;
 - (ii) there is a change in tax status of the preference shares due to changes in the applicable tax laws of the country or jurisdiction in which the preference shares were issued;
 - (iii) in the case of a merger or acquisition, the preference shares are exchanged for shares or any instrument of the surviving or new Merchant Bank (as the case may be) with terms and conditions that qualify the shares or instrument as equal or higher quality capital; or
 - (iv) there is a change in this Notice relating to the recognition of the preference shares as capital for calculating Tier 1 CAR and Total CAR;
- (c) the agreement governing the issuance of the preference shares does not contain any provision that mandates or creates an incentive for the Merchant Bank to repay the outstanding principal of the instrument early;
- (d) any dividend to be paid under the preference shares is only paid to the extent that the Merchant Bank has profits distributable under written law, determined as at the last public disclosure of its financial statements;

⁵² The Authority is not likely to grant any approval for redemption within the first five years from the issue date except in any one of the situations set out in paragraph 5.1.6(b).

Approval is likely to be granted after the first five years from the issue date –

- (a) where the preference shares are replaced by equal or higher quality capital (including an increase in retained earnings);
- (b) where the Merchant Bank or any of its banking group entities is reducing its operations in Singapore or elsewhere; or
- (c) in any one of the situations set out in paragraph 5.1.6(b).

- (e) the Merchant Bank has full discretion over the amount and timing of dividends paid under the preference shares;
- (f) the dividend rate, or the formulae for calculating dividend payments, is fixed at the time of issuance of the preference shares and is not thereafter linked to the credit standing of the Merchant Bank or any banking group entity⁵³;
- (g) the preference shares are available to absorb the losses of the Merchant Bank without it being obliged to cease carrying on business;
- (h) the holder of the preference shares has a priority of claim in respect of the principal and dividends of the preference shares in the event of a winding up of the Merchant Bank, which is lower than that of depositors, other creditors of the Merchant Bank, and holders of Tier 2 capital instruments, except such persons (other than depositors) expressed to rank equally with or behind holders of the preference shares;
- (i) the preference shares are not covered under any arrangement that legally or economically enhances the priority of the claim of the holder of the preference shares as against the persons set out in sub-paragraph (h);
- (j) the holder of the preference shares waives his right, if any, to set off any amounts he owes the Merchant Bank against any subordinated amount owed to him due to the preference shares and commits to return any set-off amounts or benefits received to the liquidator;
- (k) the main features of the preference shares, in particular sub-paragraphs (d) to (j), are disclosed clearly and accurately;
- (l) the agreement governing the issuance of the preference shares cannot be changed without the prior approval of the Authority where such proposed changes could impact its eligibility as Tier 1 Capital.

Deductions from Tier 1 Capital

5.1.7 Deductions from Tier 1 Capital is the sum of the following items, whether at the Solo or Group level, as the case may be:

- (a) goodwill;
- (b) any intangible asset, including but not limited to copyright, patents and other intellectual property;
- (c) any deferred tax asset, except for any deferred tax assets associated with general allowances as set out in paragraph 5.2.1(a). At the Solo level, deferred tax assets may be netted against deferred tax liabilities prior to being included as a Deduction from Tier 1 Capital. At the Group level, the

⁵³ To avoid doubt, this does not preclude linking dividends to movements in general market indices.

following are not permitted for the purposes of calculating Tier 1 CAR or Total CAR:

- (i) intra-entity netting of deferred tax assets against deferred tax liabilities for any banking group entity incorporated or established outside Singapore;
- (ii) inter-entity netting of deferred tax assets against deferred tax liabilities.

However, the Authority may permit sub-paragraphs (c)(i) and (c)(ii) if the Merchant Bank confirms in writing to the Authority that it has received written opinions from external auditors and legal advisors that the relevant tax authorities allow or would allow, deferred tax assets to be offset against deferred tax liabilities in a liquidation or winding up of the banking group entities incorporated or established outside Singapore;

- (d) 50% of capital investments in every insurance subsidiary at the Solo and Group levels. A Merchant Bank must –

- (i) not consolidate its investment in an insurance subsidiary; and
- (ii) account for such investments at cost,

when preparing the consolidated financial statements of the banking group for the purposes of calculating its regulatory capital requirements at the Group level;

- (e) 50% of capital investments in every unconsolidated subsidiary which is approved, licensed, registered or otherwise regulated by the Authority, unless a deduction has been made pursuant to sub-paragraph (d);
- (f) 50% of capital investments in every unconsolidated subsidiary which is not approved, licensed, registered or otherwise regulated by the Authority, unless a deduction has been made pursuant to sub-paragraph (d);
- (g) 50% of capital investments in every company in which a stake of 10% or more is acquired or held, and where the company is acquired or held in the course of the satisfaction of debts due to the Merchant Bank or any of its banking group entities to be disposed of at the earliest suitable opportunity, unless a deduction has been made pursuant to sub-paragraphs (d) to (f);
- (h) 50% of capital investments in every associate, in excess of 20% of each tranche of such capital investments, unless a deduction has been made pursuant to sub-paragraphs (d) to (g). The Merchant Bank must subject exposures that are not deducted to the appropriate capital treatment as set out in Part VI;
- (i) 50% of capital investments in any financial institution incorporated in Singapore which is approved, licensed, registered or otherwise regulated by the Authority, in excess of 2% of Eligible Total Capital of the Merchant

Bank at the Solo or Group level, unless a deduction has been made pursuant to sub-paragraph (d), (e) or (g). The Merchant Bank must subject exposures in the banking book that are not deducted to the appropriate capital treatment as set out in Part VI. The Merchant Bank must subject exposures in the trading book that are not deducted to the appropriate capital treatment set out in Part VII;

- (j) 50% of PE/VC investments held beyond the relevant holding periods set out in MAS Notice 1018, unless otherwise approved by the Authority;
- (k) 50% of the full amount of capital deficits in regulated financial subsidiaries and 50% of the pro rata share of capital deficits in regulated financial associates. In the event that a re-capitalisation plan is in place or an irrevocable commitment has been given by other shareholders to make up the capital deficit, the Authority may approve a corresponding reduction in the amount of deductions in respect of such capital deficits;
- (l) any amount that is to be included as Deductions from Tier 1 Capital pursuant to Part VI or Part VII;
- (m) 50% of capital investments in any financial institution that are designed to artificially inflate the capital position of the Merchant Bank, unless a deduction has been made pursuant to sub-paragraphs (d) to (g);
- (n) any other item or class of items which the Authority may specify in writing to the Merchant Bank for the purposes of this paragraph.

5.1.8 Despite paragraph 5.1.7(d), for the purposes of determining Deductions from Tier 1 Capital, the capital investments held through the following funds by an insurance subsidiary must be included as part of the capital investments of the banking group:

- (a) any insurance fund established and maintained for its general business or any equivalent fund;
- (b) any insurance fund established and maintained for its non-participating policies or any equivalent fund;
- (c) any insurance fund established and maintained for its participating policies, and which relates to assets held other than for the purposes of meeting the liabilities in respect of the policies of the insurance fund or any equivalent fund;
- (d) any insurance fund established and maintained for its investment-linked policies, and which relates to assets held other than for the purposes of meeting those liabilities in respect of the policies of the insurance fund, the values of which are dependent on the value of the underlying assets or any equivalent fund;
- (e) the shareholders' funds of any insurance subsidiary.

5.1.9 For the purposes of computing Tier 1 CAR at the Group level, paragraph 5.1.7(h) does not apply where the Merchant Bank recognises its interest in a joint venture

company using the proportionate consolidation method of accounting. In such cases, the Merchant Bank must apply the applicable risk weights to its proportionate share of the assets or exposures of the joint venture company to calculate the risk-weighted exposure amount associated with its investment in the joint venture company. The Merchant Bank must apply its chosen accounting treatment across all joint venture companies.

Limits on Perpetual Non-Cumulative Preference Shares

5.1.10 The amount of paid-up perpetual non-cumulative preference shares included for the purposes of calculating Tier 1 CAR ("Allowable Preference Shares") must not exceed 30% of the Net Tier 1 Capital of the Merchant Bank at the Solo or Group level, as the case may be.⁵⁴

5.1.11 Any excess over the limit described in paragraph 5.1.10 will not qualify as Eligible Tier 1 Capital for the calculation of Tier 1 CAR but may qualify as Upper Tier 2 Capital in accordance with paragraph 5.2.1(d).

⁵⁴ Please see example at Annex 5A.

Division 2: Tier 2 Capital

Upper Tier 2 Capital

5.2.1 For the purposes of Parts II and IV, Upper Tier 2 Capital is the sum of the following items, calculated at both the Solo and Group level, as the case may be:

- (a) general allowances made for impairment losses that have yet to be identified or that have not been allocated specifically to any asset or class of assets, provided the following conditions are satisfied:
 - (i) deferred tax assets associated with these general allowances ("associated deferred tax assets") are deducted from the notional amount of these general allowances;
 - (ii) the amount of general allowances included as Upper Tier 2 Capital, after deducting associated deferred tax assets, does not exceed 1.25% of the sum of the credit RWA set out in paragraph 6.1.1;
- (b) 45% of revaluation surpluses on land and building assets, where the following conditions pertaining to revaluations are satisfied:
 - (i) the valuation of any land and building asset is obtained from a qualified valuer and the increase in value is recorded as a revaluation surplus in the financial statements;
 - (ii) a new valuation from a qualified property valuer is obtained -
 - (A) at least once every 3 years; or
 - (B) where the value of the land or building has been substantially impaired by any event,whichever is earlier;
 - (iii) impairment charges taken against any land and building asset are not netted against revaluation surpluses from any other asset;
 - (iv) the external auditor of the Merchant Bank has not expressed a qualified opinion on the revaluation of any land and building asset;
- (c) 45% of revaluation gains on FVOCI equity securities that are listed or traded on a regulated exchange, but excluding any equity security required to be deducted under paragraph 5.2.12, and where the following conditions pertaining to revaluations are satisfied:
 - (i) each equity security is valued at least monthly and with greater frequency under volatile market conditions;
 - (ii) impairment charges taken against any equity security are taken as a charge to profit and loss account and are not to be netted against gains from any other asset;

- (iii) the external auditor of the Merchant Bank has not expressed a qualified opinion on the revaluation of any equity security;
- (d) any paid-up perpetual non-cumulative preference shares in excess of the limit described in paragraph 5.1.10;
- (e) any UT2 which complies with the requirements set out in paragraphs 5.2.3 to 5.2.5.

5.2.2 Upper Tier 2 Capital excludes any Upper Tier 2 capital instruments of the Merchant Bank which are held by the Merchant Bank or any of its banking group entities. To avoid doubt, this exclusion does not cover capital instruments held by a banking group entity where –

- (a) the investments in the capital instruments are funded by external parties other than the Merchant Bank or any of its banking group entities⁵⁵;
- (b) the risks and rewards associated with the investments in the capital instruments are borne primarily by the external parties; and
- (c) decisions to transact in the capital instruments are made independently from the issuer of the capital instruments and in the interests of the external parties.

Requirements Relating to the Merchant Bank Issuing UT2

5.2.3 A Merchant Bank intending to issue any UT2 for the purposes of inclusion as Upper Tier 2 Capital under paragraph 5.2.1(e) must –

- (a) consult the Authority well in advance to allow adequate time for review if the instrument has additional features which are not explicitly addressed in paragraph 5.2.5; and
- (b) submit the following documents to the Authority before including such issuance as Upper Tier 2 Capital:
 - (i) a declaration signed by the chief executive or chief financial officer of the Merchant Bank confirming –
 - (A) that the Merchant Bank is responsible for complying with the requirements for inclusion of the issuance of the UT2 as Upper Tier 2 Capital;
 - (B) that all the requirements for the inclusion of the issuance of the UT2 set out in this Notice have been met by the Merchant Bank;

⁵⁵ Examples are life insurance policy holders and other third-party investors.

- (C) the expected date on which the issuance would be included as Upper Tier 2 Capital of the Merchant Bank; and
 - (D) that the Merchant Bank is aware that the Authority may take such necessary action against the Merchant Bank, including requiring the Merchant Bank to exclude the issuance for inclusion as Upper Tier 2 Capital, if the issuance does not, or subsequently does not, comply with the requirements set out in this Notice;
- (ii) all the executed agreements and offering documents governing the issuance of the UT2;
- (iii) all external legal opinions obtained by the Merchant Bank in respect of the issuance of the UT2 stating that the requirements in paragraph 5.2.5 have been met;
- (iv) a memorandum of compliance stating how the issuance complies with each of the requirements set out in paragraph 5.2.5 and identifying the relevant portions of the agreements and offering documents governing the issuance of the UT2 which address each requirement;
- (v) where the agreements and offering documents governing the issuance of the UT2 are governed by the laws of a country or jurisdiction other than Singapore, a written external legal opinion from an advocate and solicitor qualified to practise Singapore law that he has reviewed all the agreements and offering documents governing the issuance, including any legal opinion from foreign law practitioners provided pursuant to sub-paragraph (b)(iii) and the memorandum of compliance, and confirms that the memorandum of compliance read together with such agreements, offering documents, legal opinions and any letter of undertaking provided by the Merchant Bank or any banking group entity addresses the requirements of paragraph 5.2.5.

5.2.4 For the purposes of paragraph 5.2.3(b)(iii), the written external legal opinion must be reasonably unqualified, in particular with respect to the requirements relating to loss absorption, priority of claims, waiver of set-off amounts or benefits and subordination.

Minimum Requirements for UT2

5.2.5 To qualify for inclusion as Upper Tier 2 Capital, a UT2 must comply with the following requirements:

- (a) the UT2 is issued and fully paid-up in cash. Only the net proceeds received from the issuance of UT2 are included as capital;
- (b) the UT2 does not have a maturity date;

- (c) the UT2, if redeemable (whether through a call option, repurchase or otherwise), may be redeemed only at the option of the Merchant Bank with the prior approval of the Authority⁵⁶. Without prejudice to any other matter that the Authority may consider relevant, the Authority must, in determining whether to grant its approval, have regard to whether the Merchant Bank's capital is likely to remain adequate after redemption;
- (d) the agreement governing the issuance of the UT2 does not have any call option within the first five years from the issue date, other than a call option which may be exercised by the Merchant Bank where -
 - (i) the UT2 was issued for the purposes of a merger with, or acquisition by, the Merchant Bank and the merger or acquisition is aborted;
 - (ii) there is a change in tax status of the UT2 due to changes in the applicable tax laws of the country or jurisdiction in which the UT2 was issued;
 - (iii) in the case of a merger or acquisition, the UT2 is exchanged for shares or any instrument of the surviving or new Merchant Bank (as the case may be) with terms and conditions that qualify the shares or instrument as equal or higher quality capital; or
 - (iv) there is a change in this Notice relating to the recognition of the UT2 as capital for calculating Total CAR;
- (e) the agreement governing the issuance of the UT2 does not contain any provision that mandates or creates an incentive for the Merchant Bank to repay the outstanding principal of the instrument early⁵⁷;
- (f) the agreement governing the issuance of the UT2 provides the Merchant Bank with an option to defer any dividend or coupon payment on the instrument, where the Merchant Bank -
 - (i) has not paid or declared a dividend on its ordinary and other classes of preference shares in the preceding financial year; or
 - (ii) determines that no dividend is to be paid on its ordinary shares in the current financial year.

Such deferred dividends or interest may bear interest, but the interest rate payable on deferred dividends or interest must not exceed market rates;

⁵⁶ The Authority is not likely to grant any approval for redemption within the first five years from the issue date except in any one of the situations set out in paragraph 5.2.5(d) or where there are strong justifications (e.g. the Merchant Bank makes a simultaneous issue of new capital which is of equal or higher quality). Approval is likely to be granted after the first five years from the issue date -

- (a) where the UT2 is replaced by equal or higher quality capital (including an increase in retained earnings);
- (b) where the Merchant Bank or any of its banking group entities is reducing its operations in Singapore or elsewhere; or

- (c) in any one of the situations set out in paragraph 5.2.5(d).

⁵⁷ Examples are a cross-default or negative pledge clause or a restrictive covenant for an UT2 issued as debt.

- (g) the dividend or coupon rate, or the formulae for calculating dividend or coupon payments, is fixed at the time of issuance of the UT2 and is not thereafter linked to the credit standing of the Merchant Bank or any banking group entity⁵⁸;
- (h) the UT2 is available to absorb the losses of the Merchant Bank without it being obliged to cease carrying on business. In this regard, for an UT2 classified legally as debt, this condition may be achieved if the agreement governing the issuance of the UT2 specifically provides for the principal and coupon payments to absorb losses where the Merchant Bank would otherwise be insolvent, or for the holders of the UT2 to be treated as if they were holders of a specified class of share capital in any proceedings commenced for the winding up of the Merchant Bank;
- (i) the holder of the UT2 has a priority of claim in respect of the principal and dividend or coupon payments of the UT2, in the event of a winding up of the Merchant Bank, which is lower than that of depositors, other creditors of the Merchant Bank, and holders of LT2, except such persons (other than depositors) expressed to rank equally with or behind holders of the UT2;
- (j) the UT2 is not secured or covered under any arrangement that legally or economically enhances the priority of the claim of any holder of the UT2 as against the persons set out in sub-paragraph (i);
- (k) the holder of the UT2 waives his right, if any, to set off any amounts he owes the Merchant Bank against any subordinated amount owed to him due to the UT2 and commits to return any set-off amounts or benefits received to the liquidator;
- (l) the subordination provisions of the UT2 are governed by the laws of Singapore. Where the UT2 is to be subject to the laws of a country or jurisdiction other than Singapore, the Merchant Bank must satisfy itself that all the relevant conditions specified in this paragraph are met under the laws of that country or jurisdiction;
- (m) the main features of the UT2, in particular sub-paragraphs (f) to (k) are disclosed clearly and accurately;
- (n) the agreement governing the issuance of the UT2 cannot be changed without the prior approval of the Authority where such proposed changes could impact its eligibility as Upper Tier 2 Capital;
- (o) where a Merchant Bank issues UT2 in a foreign currency, the UT2 is to be revalued periodically (at least monthly) in terms of Singapore dollars at the prevailing exchange rates. Where the Merchant Bank intends to use a swap to hedge the foreign exchange exposure arising from the foreign currency UT2, it must consult the Authority on the capital treatment applicable to the hedge prior to such use.

⁵⁸ To avoid doubt, this does not preclude linking dividends or coupons to movements in general market indices.

Lower Tier 2 Capital

5.2.6 Lower Tier 2 Capital is any LT2 which complies with the requirements set out in paragraphs 5.2.7 to 5.2.9, whether at the Solo or Group level, as the case may be. Lower Tier 2 Capital excludes any Lower Tier 2 capital instruments of the Merchant Bank which are held by the Merchant Bank or any of its banking group entities except capital instruments held by a banking group entity where –

- (a) the investments in the capital instruments are funded by external parties other than the Merchant Bank or any of its banking group entities⁵⁹;
- (b) the risks and rewards associated with the investments in the capital instruments are borne primarily by the external parties; and
- (c) decisions to transact in the capital instruments are made independently from the issuer of the capital instruments and in the interests of the external parties.

Requirements Relating to the Merchant Bank Issuing LT2

5.2.7 A Merchant Bank intending to issue any LT2 for the purposes of inclusion as Lower Tier 2 Capital under paragraph 5.2.6 must –

- (a) consult the Authority well in advance to allow adequate time for review if the instrument has additional features which are not explicitly addressed in paragraph 5.2.9; and
- (b) submit the following documents to the Authority before including such issuance as Lower Tier 2 Capital:
 - (i) a declaration signed by the chief executive or chief financial officer of the Merchant Bank confirming –
 - (A) that the Merchant Bank is responsible for complying with the requirements for inclusion of the issuance of the LT2 as Lower Tier 2 Capital;
 - (B) that all the requirements for the inclusion of the issuance of the LT2 set out in this Notice have been met by the Merchant Bank;
 - (C) the expected date on which the issuance would be included as Lower Tier 2 Capital of the Merchant Bank; and
 - (D) that the Merchant Bank is aware that the Authority may take such necessary action against the Merchant Bank, including requiring the Merchant Bank to exclude the issuance for inclusion as Lower Tier 2 Capital, if the issuance does not, or subsequently does not, comply with the requirements set out

⁵⁹ Examples are life insurance policyholders or other third-party investors.

in this Notice;

- (ii) all the executed agreements and offering documents governing the issuance of the LT2;
- (iii) all external legal opinions obtained by the Merchant Bank in respect of the issuance of the LT2 stating that the requirements in paragraph 5.2.9 have been met;
- (iv) a memorandum of compliance stating how the issuance complies with each of the requirements set out in paragraph 5.2.9 and identifying the relevant portions of the agreements and offering documents governing the issuance of the LT2 which address each requirement;
- (v) where the agreements and offering documents governing the issuance of the LT2 are governed by the laws of a country or jurisdiction other than Singapore, a written external legal opinion from an advocate and solicitor qualified to practise Singapore law that he has reviewed all the agreements and offering documents governing the issuance, including any legal opinion from foreign law practitioners provided pursuant to sub-paragraph (b)(iii) and the memorandum of compliance, and confirms that the memorandum of compliance read together with such agreements, offering documents, legal opinions and any letter of undertaking provided by the Merchant Bank or any banking group entity addresses the requirements of paragraph 5.2.9.

5.2.8 For the purposes of paragraph 5.2.7(b)(iii), the written external legal opinion must be reasonably unqualified, in particular with respect to the requirements relating to priority of claims, waiver of set-off amounts or benefits and subordination.

Minimum Requirements for LT2

5.2.9 To qualify for inclusion as Lower Tier 2 Capital, an LT2 must comply with the following requirements:

- (a) the LT2 is issued and fully paid-up in cash. Only the net proceeds received from the issuance of LT2 are included as capital;
- (b) the LT2 has a minimum original maturity of at least five years. Where the agreement governing the issuance of the LT2 provides for the loan to be drawn down in a series of tranches, the minimum original maturity for each tranche is five years from the date of its draw-down;
- (c) any redemption of the LT2 at the option of the Merchant Bank (whether through a call option, repurchase or otherwise) is subject to the prior approval of the Authority⁶⁰. Without prejudice to any other matter that the

⁶⁰ Approval is likely to be granted where –

Authority may consider relevant, the Authority will, in determining whether to grant its approval, have regard to whether the Merchant Bank's capital is likely to remain adequate after redemption;

- (d) the agreement governing the issuance of the LT2 does not contain any provision that mandates or creates an incentive for the Merchant Bank to repay the outstanding principal of the instrument early⁶¹;
- (e) where the LT2 provides the holders with the option to demand repayment prior to maturity, the earliest possible repayment date will be regarded as the effective maturity date of the LT2 for the purposes of this paragraph;
- (f) the dividend or coupon rate, or the formulae for calculating dividend or coupon payments is fixed at the time of issuance of the LT2 and is not thereafter linked to the credit standing of the Merchant Bank or any banking group entity⁶²;
- (g) the holder of the LT2 has a priority of claim in respect of the principal and dividend or coupon payments of the LT2, in the event of a winding up of the Merchant Bank, which is lower than that of depositors and other creditors of the Merchant Bank, except such persons (other than depositors) expressed to rank equally with or behind holders of the LT2;
- (h) the LT2 is not secured or covered under any arrangement that legally or economically enhances the priority of the claim of any holder of the LT2 as against the persons set out in sub-paragraph (g);
- (i) the holder of the LT2 waives his right to set off any amounts he owes the Merchant Bank against any subordinated amount owed to him due to the LT2 and commits to return any set-off amounts or benefits received to the liquidator;
- (j) the subordination provisions of the LT2 are governed by the laws of Singapore. Where the LT2 is to be subject to the laws of a country or jurisdiction other than Singapore, the Merchant Bank must satisfy itself that all the relevant conditions specified in this paragraph are met under the laws of that country or jurisdiction;
- (k) the main features of the LT2, in particular sub-paragraphs (f) to (i), are disclosed clearly and accurately;

-
- (a) the LT2 is replaced by equal or higher quality capital (including an increase in retained earnings);
 - (b) the Merchant Bank or any of its banking group entities is reducing its operations in Singapore or elsewhere;
 - (c) the LT2 was issued for the purposes of a merger with, or acquisition by, the Merchant Bank and the merger or acquisition is aborted;
 - (d) there is a change in tax status of the LT2 due to changes in the applicable tax laws of the country or jurisdiction in which the LT2 was issued;
 - (e) in the case of a merger or acquisition, the LT2 is exchanged for shares or any instrument of the surviving or new Merchant Bank (as the case may be) with terms and conditions that qualify the shares or instrument as equal or higher quality capital; or
 - (f) there is a change in this Notice relating to the recognition of the LT2 as capital for calculating Total CAR.

⁶¹ Examples are a cross-default or negative pledge clause or a restrictive covenant for an LT2 issued as debt.

⁶² To avoid doubt, this does not preclude linking dividends or coupons to movements in general market indices.

- (l) the agreement governing the issuance of the LT2 cannot be changed without the prior approval of the Authority where such proposed changes could impact its eligibility as Tier 2 Capital;
- (m) the LT2 does not qualify in full for inclusion as Tier 2 Capital in its final five years to maturity. The eligible amount must be amortised on a straight-line basis by 20% per annum in accordance with Table 5-1. Where the LT2 is repayable in separate tranches, each tranche must be amortised individually, as if it were a separate loan;

Table 5-1: Amortisation Schedule for LT2

Years to maturity (x)	Amortised amount eligible to be included in Tier 2 Capital
$x > 4$	100%
$3 < x \leq 4$	80%
$2 < x \leq 3$	60%
$1 < x \leq 2$	40%
$x \leq 1$	20%

- (n) where a Merchant Bank issues LT2 in a foreign currency, the LT2 is to be revalued periodically (at least monthly) in terms of Singapore dollars at the prevailing exchange rates. Where the Merchant Bank intends to use a swap to hedge the foreign exchange exposure arising from the foreign currency LT2, it must consult the Authority on the capital treatment applicable to the hedge prior to such use.

Limits on Tier 2 Capital

5.2.10 The amount of Tier 2 Capital included for the purposes of calculating Total CAR ("Allowable Tier 2 Capital") must not exceed 100% of the Net Tier 1 Capital of the Merchant Bank at the Solo or Group level, as the case may be.⁶³

5.2.11 The amount of Lower Tier 2 Capital included for the purposes of calculating Total CAR ("Allowable Lower Tier 2 Capital") must not exceed 25% of Total Capital of the Merchant Bank at the Solo or Group level, as the case may be.⁶⁴

Deductions from Tier 2 Capital

5.2.12 Deductions from Tier 2 Capital is the sum of the following items, whether at the Solo or Group level, as the case may be:

⁶³ Please see example at Annex 5A.

⁶⁴ Please see example at Annex 5A.

- (a) 50% of capital investments in every insurance subsidiary at the Solo and Group levels. A Merchant Bank must –
 - (i) not consolidate its investment in an insurance subsidiary; and
 - (ii) account for such investments at cost,when preparing the consolidated financial statements of the banking group for the purposes of calculating its regulatory capital requirements at the Group level;
- (b) 50% of capital investments in every unconsolidated subsidiary which is approved, licensed, registered or otherwise regulated by the Authority, unless a deduction has been made pursuant to sub-paragraph (a);
- (c) 50% of capital investments in every unconsolidated subsidiary which is not approved, licensed, registered or otherwise regulated by the Authority, unless a deduction has been made pursuant to sub-paragraph (a);
- (d) 50% of capital investments in every company in which a stake of 10% or more is acquired or held, and where the company is acquired or held in the course of the satisfaction of debts due to the Merchant Bank or any of its banking group entities to be disposed of at the earliest suitable opportunity, unless a deduction has been made pursuant to sub-paragraphs (a) to (c);
- (e) 50% of capital investments in every associate, in excess of 20% of each tranche of such capital investments unless a deduction has been made pursuant to sub-paragraphs (a) to (d). The Merchant Bank must subject exposures that are not deducted to the appropriate capital treatment as set out in Part VI;
- (f) 50% of capital investments in any financial institution incorporated in Singapore which is approved, licensed, registered or otherwise regulated by the Authority, in excess of 2% of Eligible Total Capital of the Merchant Bank at the Solo or Group level, unless a deduction has been made pursuant to sub-paragraph (a), (b) or (e). The Merchant Bank must subject exposures in the banking book that are not deducted to the appropriate capital treatment as set out in Part VI. The Merchant Bank must subject exposures in the trading book that are not deducted to the appropriate capital treatment set out in Part VII;
- (g) unless otherwise approved by the Authority, 50% of PE/VC investments held beyond the relevant holding periods set out in MAS Notice 1018;
- (h) 50% of the full amount of capital deficits in regulated financial subsidiaries and 50% of the pro rata share of capital deficits in regulated financial associates. In the event that a re-capitalisation plan is in place or an irrevocable commitment has been given by other shareholders to make up the capital deficit, the Authority may approve a corresponding reduction in the amount of deductions in respect of such capital deficits;

- (i) any amount that is to be included as Deductions from Tier 2 Capital pursuant to Part VI or Part VII;
- (j) 50% of capital investments in any financial institution that are designed to artificially inflate the capital position of the Merchant Bank, unless a deduction has been made pursuant to sub-paragraphs (a) to (d);
- (k) any other item or class of items which the Authority may specify in writing to the Merchant Bank for the purposes of this paragraph.

5.2.13 For the purposes of computing Total CAR at the Group level, paragraph 5.2.12(e) does not apply where the Merchant Bank recognises its interest in a joint venture company using the proportionate consolidation method of accounting. In such cases, the Merchant Bank must apply the applicable risk weights to its proportionate share of the assets or exposures of the joint venture company to calculate the risk-weighted exposure amount associated with its investment in the joint venture company. A Merchant Bank must apply its chosen accounting treatment to all joint venture companies.

5.2.14 Despite paragraph 5.2.12(a), for the purposes of determining Deductions from Tier 2 Capital, the capital investments held through the following funds by an insurance subsidiary must be included as part of the capital investments of the banking group:

- (a) any insurance fund established and maintained for its general business or any equivalent fund;
- (b) any insurance fund established and maintained for its non-participating policies or any equivalent fund;
- (c) any insurance fund established and maintained for its participating policies, and which relates to assets held other than for the purposes of meeting the liabilities in respect of the policies of the insurance fund or any equivalent fund;
- (d) any insurance fund established and maintained for its investment-linked policies, and which relates to assets held other than for the purposes of meeting those liabilities in respect of the policies of the insurance fund, the values of which are dependent on the value of the underlying assets or any equivalent fund;
- (e) the shareholders' funds of any insurance subsidiary.

APPLICATION OF THE LIMITS ON PERPETUAL NON-CUMULATIVE PREFERENCE SHARES, TIER 2 CAPITAL AND LOWER TIER 2 CAPITAL

This Annex explains by way of examples, the application of –

- the 30% limit on perpetual non-cumulative preference shares;
- the limit on Tier 2 Capital; and
- the limit on Lower Tier 2 Capital,

set out in paragraphs 5.1.10, 5.1.11, 5.2.10 and 5.2.11.

Example of financial information of a Merchant Bank:

Paid-up ordinary share capital	\$55
Disclosed reserves	\$25
Perpetual non-cumulative perpetual preference share capital ("Preference shares")	\$14
UT2	\$15
Minority Interest ("MI")	\$5
Goodwill	\$10
Intangible assets	\$3
Deferred tax assets	\$2
General allowances	\$5
45% of revaluation surplus on land and building assets ("Revaluation surplus")	\$5
45% of revaluation gains on FVOCI equity securities ("Revaluation gains")	\$6

Application of the 30% Limit on Preference shares

Example 1

Step 1: Calculate the portion of Net Tier 1 Capital that will form the threshold to compute the Allowable Preference Shares according to the following formula:

<i>Paid-up ordinary share capital (\$55)</i> + <i>Disclosed reserves(\$25)</i> + <i>MI (\$5)</i> less <i>Goodwill (\$10)</i> less <i>Intangible assets (\$3)</i> less <i>Deferred tax assets (\$2)</i>
<i>Portion of Net Tier 1 Capital that will form the threshold for Step 2 = \$70</i>

Step 2: Calculate the Allowable Preference Shares as follows:

<i><u>Portion of Net Tier 1 Capital that will form the threshold (\$70) * 30%</u></i> <i>70%</i>
<i>Allowable Preference Shares = \$30</i>

Application of the Limit on Tier 2 Capital

Example 2

Step 1: Calculate Net Tier 1 Capital as follows:

<i>Paid-up ordinary share capital (\$55)</i>
+
<i>Disclosed reserves (\$25)</i>
+
<i>Preference shares (\$14)</i>
+
<i>MI (\$5)</i>
less
<i>Goodwill(\$10)</i>
less
<i>Intangible assets (\$3)</i>
less
<i>Deferred tax assets (\$2)</i>
<i>Net Tier 1 Capital = \$84</i>

Step 2: Calculate Allowable Tier 2 Capital as follows:

<i>Net Tier 1 Capital (\$84) * 100%</i>
<i>Allowable Tier 2 Capital = \$84</i>

Application of the Limit on Lower Tier 2 Capital

Example 3

Step 1: Calculate Net Tier 1 Capital (See Step 1 of Example 2).

Step 2: Calculate Upper Tier 2 Capital as follows:

<i>UT2 (\$15)</i> + <i>General allowances (\$5)</i> + <i>Revaluation surplus (\$5)</i> + <i>Revaluation gains (\$6)</i>
<i>Upper Tier 2 Capital = \$31</i>

Step 3: Calculate Allowable Lower Tier 2 Capital as follows:

<i><u>[Net Tier 1 Capital (\$84) + Upper Tier 2 Capital (\$31)] * 25%</u></i> <i>75%</i>
<i>Allowable Lower Tier 2 Capital = \$38.33</i>

PART VI: CREDIT RISK

Division 1: Overview of Credit RWA Calculation

Sub-division 1: Introduction

6.1.1 The credit RWA of a Merchant Bank is the sum of its SA(CR) RWA calculated in accordance with Sub-division 3 of this Division, its SA(EQ) RWA calculated in accordance with Sub-division 4 of this Division and its SA(SE) RWA calculated in accordance with Sub-division 5 of this Division.

Sub-division 2: Exposures Included in the Calculation of SA(CR) RWA

6.1.2 A Merchant Bank must include in its calculation of SA(CR) RWA -

- (a) any on-balance sheet asset; and
- (b) any off-balance sheet item,

but must not include -

- (i) any equity exposure;
- (ii) any securitisation exposure;
- (iii) any securitised exposure that meets the requirements for the recognition of risk transference in a traditional securitisation set out in Sub-division 2 of Division 5 of this Part; or
- (iv) any exposure classified as a position or instrument in the trading book in accordance with Division 1 of Part VII.

6.1.3 For the purposes of Part VI, "off-balance sheet item" includes -

- (a) any pre-settlement counterparty exposure arising from an OTC derivative transaction, whether such OTC derivative transaction is classified by the Merchant Bank as a banking or trading book exposure;
- (b) the underlying securities in a derivative transaction, long settlement transaction, or SFT, that is in substance similar to a forward purchase or credit substitute;
- (c) any pre-settlement counterparty exposure arising from a long settlement transaction, whether such long settlement transaction is classified by the Merchant Bank as a banking or trading book exposure; and
- (d) any pre-settlement counterparty exposure arising from an SFT, whether such SFT is classified by the Merchant Bank as a banking or trading book

exposure. To avoid doubt, a Merchant Bank must include the on-balance sheet leg of an SFT under paragraph 6.1.2(a).

Sub-division 3: Calculation of SA(CR) RWA

6.1.4 To calculate its SA(CR) RWA, a Merchant Bank must -

- (a) apply the exposure measurement requirements in Division 2 of this Part to calculate E, or where applicable E*, for any SA(CR) exposure;
- (b) categorise that SA(CR) exposure in accordance with Sub-division 1 of Division 3 of this Part;
- (c) allocate an applicable credit quality grade and risk weight for that SA(CR) exposure in accordance with Sub-divisions 2 and 3 respectively of Division 3 of this Part;
- (d) calculate the credit risk-weighted exposure amount for that SA(CR) exposure using the following formula:

$$\text{Credit RWE} = \text{Exposure} \times \text{RW}$$

where -

- (i) "Credit RWE" refers to the credit risk-weighted exposure amount for that SA(CR) exposure;
 - (ii) "Exposure" refers to E, or where applicable E*, for that SA(CR) exposure; and
 - (iii) "RW" refers to the applicable risk weight for that SA(CR) exposure determined in accordance with sub-paragraph (c); and
- (e) aggregate the credit risk-weighted exposure amounts calculated in accordance with sub-paragraph (d) for all its SA(CR) exposures.

Sub-division 4: Calculation of Credit RWA for Equity Exposures

6.1.5 To calculate its SA(EQ) RWA, a Merchant Bank must -

- (a) apply the exposure measurement requirements in Division 2 of this Part to calculate E for any SA(EQ) exposure;
- (b) calculate the credit risk-weighted exposure amount for that SA(EQ) exposure in accordance with Sub-division 3 of Division 4 of this Part; and
- (c) aggregate the credit-risk weighted exposure amounts calculated in accordance with sub-paragraph (b) for all its SA(EQ) exposures.

Sub-division 5: Calculation of Credit RWA for Securitisation Exposures

6.1.6 To calculate its SA(SE) RWA, a Merchant Bank must -

- (a) apply the exposure measurement requirements in Division 2 of this Part to calculate E, or where applicable E*, for any SA(SE) exposure;
- (b) allocate an applicable credit quality grade for that SA(SE) exposure in accordance with Sub-division 4 of Division 5 of this Part;
- (c) calculate the credit-risk weighted exposure amount for each SA(SE) exposure, except for those SA(SE) exposures which the Merchant Bank is required to include as Deductions from Tier 1 Capital and Deductions from Tier 2 Capital, using the following formula:

$$\text{Credit RWE} = \text{Exposure} \times \text{RW}$$

where -

- (i) "Credit RWE" refers to the credit risk-weighted exposure amount for that SA(SE) exposure;
 - (ii) "Exposure" refers to E, or where applicable E*, for that SA(SE) exposure calculated in accordance with sub-paragraph (a); and
 - (iii) "RW" refers to the applicable risk weight for that SA(SE) exposure determined in accordance with sub-paragraph (b); and
- (d) aggregate the credit risk-weighted exposure amounts calculated in accordance with sub-paragraph (c) for all its SA(SE) exposures to the credit risk-weighted exposure amounts calculated in accordance with paragraph 6.1.7(c).

6.1.7 To calculate its RWA for early amortisation exposures, a Merchant Bank must -

- (a) apply the exposure measurement requirements in Division 2 of this Part to calculate E for any early amortisation exposure;
- (b) calculate the credit-risk weighted exposure amount for each early amortisation exposure using the following formula:

$$\text{Credit RWE} = \text{Exposure} \times \text{RW}$$

where -

- (i) "Credit RWE" refers to the credit risk-weighted exposure amount for that early amortisation exposure;
- (ii) "Exposure" refers to E for that early amortisation exposure calculated in accordance with sub-paragraph (a); and

- (iii) "RW" refers to the risk weight appropriate to the underlying exposure type as if the exposure had not been securitised; and
- (c) aggregate the credit risk-weighted exposure amounts calculated in accordance with sub-paragraph (b) for all its early amortisation exposures using the SA(SE).

Division 2: Measurement of Exposures

Sub-division 1: Introduction

6.2.1 A Merchant Bank must apply the exposure measurement requirements set out in this Division and the standards for prudent valuation set out in Annex 7N to calculate E, or where applicable E*, for any SA(CR) exposure, SA(EQ) exposure or SA(SE) exposure.

6.2.2 A Merchant Bank must consult with the Authority on the appropriate treatment to apply in the measurement of E for transactions that have not been addressed in this Division.

6.2.3 A Merchant Bank must calculate E, or where applicable E*, for any SA(CR) exposure, SA(EQ) exposure or SA(SE) exposure net of any specific allowance attributable to such SA(CR) exposure, SA(EQ) exposure or SA(SE) exposure as determined in accordance with the Accounting Standards.

Sub-division 2: Measurement of E for On-balance Sheet Assets

6.2.4 Subject to paragraph 6.2.6, a Merchant Bank must ensure that E for each on-balance sheet asset is the carrying amount of the asset as determined in accordance with the Accounting Standards.¹⁰¹ A Merchant Bank must ensure that E is equal to the fair value of that asset presented in the balance sheet except that -

- (a) for any asset held at cost, the Merchant Bank must ensure that E is equal to the cost of the asset presented in the balance sheet;
- (b) for any FVOCI debt security or FVOCI loan, the Merchant Bank must ensure that E is equal to the fair value less allowance for impairment of that FVOCI debt security or FVOCI loan, adjusted by deducting any unrealised fair value gains and adding back any unrealised fair value losses on revaluation (broadly equivalent to the amortised cost of the FVOCI debt security or FVOCI loan less any allowance for impairment); and
- (c) for any land and building asset or FVOCI equity security where the Merchant Bank has recognised the revaluation surpluses or accumulated revaluation gains as Upper Tier 2 Capital pursuant to paragraph 5.2.1(b) and (c) respectively, the Merchant Bank must ensure that E includes only the portion of unrealised revaluation surpluses or accumulated revaluation gains that have been included as Upper Tier 2 Capital (equivalent to the sum of historical cost and 45% of the revaluation surpluses or accumulated revaluation gains, less depreciation and any allowance for impairment).

6.2.5 In the case of a lease where a Merchant Bank is the lessor and exposed to residual value risk, which is the potential loss due to the fair value of the leased asset

¹⁰¹ A Merchant Bank should allocate any foreign exchange transaction or translation gain or loss from a foreign currency-denominated on-balance sheet item as well as interest earned on a fixed income instrument to the exposure to which it accrues.

declining below the estimate of its residual value reflected on the balance sheet of the Merchant Bank at lease inception, the Merchant Bank must calculate –

- (a) an exposure to the lessee equivalent to the discounted lease payment stream; and
- (b) an exposure to the residual value of the leased assets equivalent to the estimate of the residual value reflected in the balance sheet of the Merchant Bank.

6.2.6 A Merchant Bank must not recognise the effect of netting agreements relating to on-balance sheet assets and liabilities.

Sub-division 3: Measurement of E for Off-balance Sheet Items Other than Pre-settlement Counterparty Exposures Arising from OTC Derivative Transactions, Long Settlement Transactions and SFTs

6.2.7 For each off-balance sheet item other than a pre-settlement counterparty exposure arising from an OTC derivative transaction, long settlement transaction or SFT, a Merchant Bank must calculate E by –

- (a) in the case of an early amortisation exposure, multiplying the amount of investors' interest with the applicable CCF set out in Annex 6C; and
- (b) in all other cases, multiplying the notional amount of each item¹⁰² with –
 - (i) the applicable CCF set out in Annex 6A if that item is an SA(CR) exposure; or
 - (ii) the applicable CCF set out in Annex 6B if that item is an SA(SE) exposure.

6.2.8 Where a Merchant Bank posts collateral that is held with a counterparty for any transaction other than an SFT, the Merchant Bank must apply a 100% CCF to the fair value of the collateral.¹⁰³

6.2.9 A Merchant Bank that is exposed to the risk of the underlying securities in an OTC derivative transaction, long settlement transaction or SFT, which is in substance similar to a forward purchase or credit substitute, must calculate E for such an exposure in accordance with this Sub-division.

6.2.10 For the purposes of paragraph 6.2.7 –

- (a) "investors' interest" means the sum of –
 - (i) investors' drawn balances related to the securitised exposures; and

¹⁰² A Merchant Bank should allocate any foreign exchange transaction or translation gain or loss from a foreign currency-denominated off-balance sheet item to the exposure to which it accrues.

¹⁰³ This is to account for the counterparty credit risk arising from the risk that the obligor receiving such collateral may default.

- (ii) E associated with investors' undrawn balances related to the securitisation exposures. A Merchant Bank must determine E by allocating the undrawn balances of securitised exposures on a pro rata basis based on the proportions of the originator's and investor's shares of the securitised drawn balances; and
- (b) the notional amount of an off-balance sheet item refers to the amount which has been committed but is as yet undrawn. A Merchant Bank must apply the CCF to the lower of the value of the unused committed credit line, and the value which reflects any possible constraining availability of the facility¹⁰⁴. If a Merchant Bank contends that the availability of a facility is constrained, the Merchant Bank must have sufficient line monitoring and management procedures to support this contention.

6.2.11 To avoid doubt, where a Merchant Bank has provided unfunded credit protection via a total return swap, the Merchant Bank must calculate E as the notional amount of the underlying reference credit exposure for which the Merchant Bank is providing protection adjusted for any payments received from or made to the protection buyer and recognised in the profit and loss account of the Merchant Bank. Where a Merchant Bank has provided unfunded credit protection via a credit default swap, the Merchant Bank must calculate E as the notional amount of the underlying reference credit exposure for which the Merchant Bank is providing protection.

Sub-division 4: Recognition of Eligible Financial Collateral for On-balance Sheet Assets and Off-balance Sheet Items Other than Equity Exposures, Securitisation Exposures, OTC Derivative Transactions, Long Settlement Transactions and SFTs

6.2.12 A Merchant Bank which has taken eligible financial collateral for any transaction other than an equity exposure, a securitisation exposure, an OTC derivative transaction, long settlement transaction or SFT may recognise the effect of such collateral in accordance with paragraphs 6.2.13 to 6.2.15.

6.2.13 A Merchant Bank using the SA(CR) may use either the FC(SA) or the FC(CA) to recognise the effect of eligible financial collateral. The Merchant Bank must apply the chosen approach consistently to its entire banking book and must not use a combination of both approaches.

6.2.14 A Merchant Bank using the SA(CR) and the FC(SA) may recognise the effect of eligible financial collateral in accordance with Sub-division 4 of Division 3 of this Part. Paragraph 6.2.15 does not apply where a Merchant Bank uses the FC(SA).

6.2.15 A Merchant Bank using the SA(CR) and the FC(CA) may calculate E*, the SA(CR) exposure adjusted for eligible financial collateral, in accordance with Annex 6F and substitute E* for E when calculating the credit risk-weighted exposure amount for that SA(CR) exposure under Sub-division 3 of Division 1 of this Part.

¹⁰⁴ An example is the existence of a ceiling on the potential lending amount which is related to an obligor's reported cash flow.

Sub-division 5: Recognition of Eligible Financial Collateral for Securitisation Exposures

6.2.16 A Merchant Bank which has taken eligible financial collateral for a securitisation exposure may recognise the effect of such collateral used to hedge the credit risk of a securitisation exposure, in accordance with paragraphs 6.2.17 to 6.2.19.

6.2.17 A Merchant Bank using the SA(SE) may use either the FC(SA) or the FC(CA) to recognise the effect of eligible financial collateral. The Merchant Bank must apply the chosen approach consistently to its entire banking book and must not use a combination of both approaches.

6.2.18 A Merchant Bank using the SA(SE) and the FC(SA) may recognise the effect of eligible financial collateral in accordance with Sub-division 4 of Division 5 of this Part. Paragraph 6.2.19 does not apply to a Merchant Bank using the FC(SA).

6.2.19 A Merchant Bank using the SA(SE) and the FC(CA) may calculate E^* , the SA(SE) exposure adjusted for eligible financial collateral, in accordance with Annex 6F and substitute E^* for E when calculating the credit risk-weighted exposure amount for that SA(SE) exposure under Sub-division 5 of Division 1 of this Part.

Sub-division 6: Measurement of E for Pre-settlement Counterparty Exposures Arising from OTC Derivative Transactions and Long Settlement Transactions

6.2.20 For each OTC derivative transaction or long settlement transaction, a Merchant Bank must calculate E for the pre-settlement counterparty exposure arising from that OTC derivative transaction or long settlement transaction using one of the following methods:

- (a) the current exposure method set out in Annex 6K;
- (b) the CCR standardised method set out in Annex 6L.

6.2.21 Except in the cases set out in paragraph 7.1 of Annex 6L, combined use of the CCR standardised method and the current exposure method within an entity in the banking group is not allowed. However, a Merchant Bank may use the current exposure method in one entity within the banking group and the CCR standardised method in another entity within the same banking group.

6.2.22 Regardless of the method used by a Merchant Bank for calculating E for the pre-settlement counterparty exposure arising from OTC derivative transactions and SFTs, a Merchant Bank may determine E for the pre-settlement counterparty exposure arising from long settlement transactions using any of the methods set out in paragraph 6.2.20.

Sub-division 7: Measurement of E for Pre-Settlement Counterparty Exposures Arising from SFTs

6.2.23 A Merchant Bank must treat an SFT as a collateralised transaction for the purposes of this Notice, despite the wide range of structures which could be used for SFTs.

6.2.24 A Merchant Bank on either side of an SFT must hold capital for the SFT.¹⁰⁵

6.2.25 A Merchant Bank must determine E for a pre-settlement counterparty exposure arising from an SFT as follows:

- (a) in the case where the Merchant Bank has lent collateral to a counterparty or sold collateral to a counterparty with a commitment to repurchase those collateral at a specified price on a specified future date, the latest fair value of the collateral lent or sold;
- (b) in the case where the Merchant Bank has lent cash to a counterparty through the borrowing of collateral from the counterparty or paid cash for the purchase of collateral from a counterparty with a commitment to resell those collateral at a specified price on a specified future date, the amount of cash lent or paid.

6.2.26 Where a Merchant Bank, acting as an agent of a party (the "third party"), arranges an SFT between a counterparty and a third party and provides a guarantee to the counterparty that the third party will perform on its obligations, then the risk to the Merchant Bank is the same as if the Merchant Bank had entered into the transaction as a principal. In such circumstances, the Merchant Bank must calculate capital requirements as if it were itself the principal to the SFT.

6.2.27 A Merchant Bank which has taken eligible financial collateral for any SFT where the pre-settlement counterparty exposure is determined in accordance with paragraph 6.2.25 may recognise the effect of such collateral in accordance with paragraphs 6.2.28 to 6.2.31.

6.2.28 A Merchant Bank using the SA(CR) may use either the FC(SA) or the FC(CA) to recognise the effect of eligible financial collateral for any SFT in the banking book. The Merchant Bank must apply the chosen approach consistently to its entire banking book and must not use a combination of both approaches. For a pre-settlement counterparty exposure arising from any SFT in the trading book, a Merchant Bank using SA(CR) must only use the FC(CA) to recognise the effect of eligible financial collateral.

6.2.29 A Merchant Bank using the SA(CR) and FC(SA) may recognise the effect of eligible financial collateral for any SFT in accordance with Sub-division 4 of Division 3 of this Part. Paragraphs 6.2.30 to 6.2.32 do not apply where a Merchant Bank uses the FC(SA).

¹⁰⁵ For example, a Merchant Bank must hold capital for repos and reverse repos, securities lending and securities borrowing transactions.

6.2.30 A Merchant Bank which has taken eligible financial collateral for any SFT that is not covered by a qualifying bilateral netting agreement may, if it is using the SA(CR) and the FC(CA), calculate E*, the SA(CR) exposure adjusted for eligible financial collateral, in accordance with Annex 6F, and substitute E* for E when calculating the credit risk-weighted exposure amount for that SA(CR) exposure under Sub-division 3 of Division 1 of this Part.

6.2.31 A Merchant Bank which has taken eligible financial collateral for an SFT that is covered by a qualifying bilateral netting agreement may, if it is using the SA(CR) and the FC(CA), calculate E*, the SA(CR) exposure adjusted for eligible financial collateral for all its SA(CR) exposures to any single counterparty covered by the qualifying bilateral netting agreement, in accordance with Annex 6F, and substitute E* for E when calculating the credit risk-weighted exposure amount for its SA(CR) exposures to that counterparty under Sub-division 3 of Division 1 of this Part.

Sub-division 8: Exceptions to the Measurement of E

6.2.32 Despite paragraphs 6.2.1 to 6.2.31, a Merchant Bank may attribute a value of zero to E for -

- (a) any pre-settlement counterparty exposure arising from any derivative transaction or SFT outstanding with a central counterparty and which has not been rejected by that central counterparty, provided that the exposure is fully collateralised on a daily basis;
- (b) any credit risk exposure arising from any derivative transaction, SFT or spot transaction which a Merchant Bank has outstanding¹⁰⁶ with a central counterparty for which the latter acts as a custodian on the Merchant Bank's behalf, provided that the exposure is fully collateralised on a daily basis;
- (c) any pre-settlement counterparty exposure arising from any credit derivative which a Merchant Bank may recognise as eligible credit protection for a banking book exposure or another CCR exposure; and
- (d) any pre-settlement counterparty exposure arising from any sold credit default swap in the banking book, where the credit default swap is treated as credit protection sold by the Merchant Bank, and subject to credit risk capital requirements set forth in this Notice for the full notional amount.

Sub-division 9: Measurement of E for Unsettled Transactions

6.2.33 A Merchant Bank must determine E for an unsettled DvP transaction as the difference between the transaction valued at the agreed settlement price and the transaction valued at current market price, or in the case where the difference is negative, a value of zero.

¹⁰⁶ For example, credit exposures arising from monies placed and from collateral posted, with the counterparty.

6.2.34 A Merchant Bank must determine E for an unsettled non-DvP transaction as equal to the outstanding receivables after the end of the first contractual payment or delivery date.

6.2.35 For the purposes of paragraph 6.2.34, if the dates when two payment legs are made are the same according to the time zones where each payment is made, they are deemed to have been settled on the same day.

Division 3: SA(CR)

Sub-division 1: Categorisation of SA(CR) Exposures

6.3.1 A Merchant Bank must categorise any SA(CR) exposure that is not past due for more than 90 days into one of the following asset classes under SA(CR):

- (a) cash items, which consist of –
 - (i) cash and cash equivalents, including cheques, drafts and other items drawn on other merchant banks or banking institutions that are either payable immediately upon presentation or that are in the process of collection;
 - (ii) gold bullion held in the vaults of the Merchant Bank or on an allocated basis in the vaults of another entity to the extent that it is backed by gold bullion liabilities; and
 - (iii) all receivable funds arising from transactions that are settled on a DvP basis, including transactions settled on a payment-versus-payment basis which are outstanding up to and including the 4th business day after the settlement date;
- (b) central government and central bank asset class, which consists of any exposure to a central government, a central bank, the Bank for International Settlements, the International Monetary Fund, the European Central Bank, the European Union, the European Stability Mechanism or the European Financial Stability Facility;
- (c) PSE asset class, which consists of any SA(CR) exposure to a PSE;
- (d) MDB asset class, which consists of any SA(CR) exposure to an MDB;
- (e) bank asset class, which consists of any SA(CR) exposure to a banking institution;
- (f) corporate asset class, which consists of any SA(CR) exposure to any corporation, partnership, limited liability partnership, sole proprietorship or trust or fund, but excludes exposures categorised in sub-paragraphs (a) to (e), (g) and (h), and exposures to individuals. To avoid doubt, a Merchant Bank must categorise an SA(CR) exposure to a securities firm or an insurance entity within the corporate asset class;
- (g) regulatory retail asset class, which consists of any SA(CR) exposure meeting all of the following conditions, but excludes any securities¹⁰⁷, whether listed or not, and any SA(CR) exposure that meets the conditions to be categorised within the residential mortgage asset class:

¹⁰⁷ For example, bonds and equities.

- (i) the exposure is to an individual, a group of individuals, or a small business;
 - (ii) the exposure takes the form of any of the following:
 - (A) revolving loan and lines of credit, including credit cards, charge cards and overdrafts;
 - (B) personal term loans and leases, including instalment loans, vehicle loans and leases, student and educational loans, and personal finance;
 - (C) small business credit facilities and commitments;
 - (iii) the Merchant Bank must demonstrate to the satisfaction of the Authority that, after excluding exposures that are past due for more than 90 days, the exposure is one of a sufficient number of exposures¹⁰⁸ with similar characteristics and that the portfolio is sufficiently diversified such that the risks associated with such lending are reduced;
 - (iv) the total exposure gross of any CRM to any obligor or group of obligors, regardless of whether the exposure is past due for more than 90 days, is not more than S\$2 million;
- (h) residential mortgage asset class, which consists of any SA(CR) exposure meeting all of the following conditions:
- (i) the exposure is to an individual or a group of individuals, or if the exposure is to an entity other than an individual, the Merchant Bank is able to demonstrate to the satisfaction of the Authority, that it has robust processes to ascertain that the exposure is structured to replicate the risk profile of an exposure to an individual or a group of individuals and that it is able to identify and manage the legal risks that arise in such structures;
 - (ii) the exposure is -
 - (a) secured against a first charge held by the Merchant Bank for a loan; or
 - (b) secured against a junior charge held by the Merchant Bank for a loan where all the senior charges are held by the Merchant Bank or CPF, as the case may be,
- in respect of –
- (A) a completed residential property;
 - (B) an uncompleted residential property in Singapore; or

¹⁰⁸ A Merchant Bank should consider whether the total exposure to any obligor or group of obligors is less than or equal to 0.2% of the total of the regulatory retail asset class.

- (C) an uncompleted residential property in a country or jurisdiction approved by the Authority on an exceptional basis;
- (iii) the exposure is not given a classified credit grade under paragraph 4.2 of MAS Notice 1005 on Credit Files, Grading and Provisioning;
- (iv) the exposure is not to a corporation, partnership, sole proprietorship, trust or fund where such corporation, partnership, sole proprietorship, trust or fund is engaged in residential building, development or management;
- (i) CRE asset class, which consists of any SA(CR) exposure meeting all of the following conditions:
 - (i) the exposure is to an individual or a group of individuals, a corporation, partnership, limited liability partnership, sole proprietorship, trust or fund;
 - (ii) the exposure is secured by CRE;
- (j) other exposures asset class, which consists of any SA(CR) exposure which does not fall within any of the categories in sub-paragraphs (a) to (i). This includes any exposures to the residual value of leased assets calculated in accordance with paragraph 6.2.5, and any exposure where the total exposure referred to in sub-paragraph (g)(iv) exceeds S\$2 million.

6.3.2 For the purposes of determining the total exposure to any obligor or group of obligors in paragraph 6.3.1(g)(iv), the Merchant Bank must ensure that the basis of aggregation, is the same basis on which the Merchant Bank treats an obligor in a group of obligors, for its risk management purposes, and must include exposures to related corporations of the obligor, and exposures to the sole proprietors or partners in any of the entities in the group of obligors. However, the Merchant Bank may disaggregate its exposures to an obligor in a group of obligors if it has assessed that the disaggregated obligor has sufficient financial resources to fully service the obligor's liabilities and does not need to depend on any other entity within the group of obligors for financial assistance in meeting the liabilities. A Merchant Bank must not disaggregate based on product type alone.

6.3.3 For the purposes of paragraph 6.3.1 –

- (a) where an exposure is secured by residential real estate and meets the conditions in paragraph 6.3.1(h)(i) and (iv), but not paragraph 6.3.1(h)(ii), the Merchant Bank must categorise the exposure under the other exposures asset class in paragraph 6.3.1(j);
- (b) where an exposure falls within both paragraph 6.3.1(f) and (i), or both paragraph 6.3.1(g) and (i), the Merchant Bank must categorise the exposure under paragraph 6.3.1(i).

Sub-division 2: Credit Quality Grade and External Credit Assessments

6.3.4 A Merchant Bank must assign an SA(CR) exposure to a credit quality grade based on the external credit assessment that is applicable to the SA(CR) exposure in accordance with Tables 6M-1 and 6M-2, as the case may be. The Merchant Bank may only use an external credit assessment which is accessible to the public free of charge. The Merchant Bank must not use a credit assessment that is made available only to the parties to a transaction.

6.3.5 A Merchant Bank must only use external credit assessments by recognised ECAIs. The Authority may impose conditions on the use of such external credit assessments.

6.3.6 A Merchant Bank must perform an appropriate level of due diligence prior to the use of any recognised ECAI for the purposes of calculating regulatory capital requirements.

6.3.7 A Merchant Bank must use its chosen recognised ECAIs and their external credit assessments consistently for each type of exposure, for both risk weighting and risk management purposes. A Merchant Bank must not cherry-pick the assessments provided by different recognised ECAIs or arbitrarily change its choice of recognised ECAIs for each type of exposure. For a particular SA(CR) exposure –

- (a) if there is only one external credit assessment by a recognised ECAI that has been chosen by the Merchant Bank, the Merchant Bank must use that assessment to determine the risk weight of the SA(CR) exposure;
- (b) if there are two external credit assessments by recognised ECAIs that have been chosen by the Merchant Bank, and the assessments map into different credit quality grades, the Merchant Bank must assign the SA(CR) exposure to the credit quality grade associated with the higher risk weight; or
- (c) if there are three or more external credit assessments by recognised ECAIs that have been chosen by the Merchant Bank, and the assessments map into different credit quality grades, the Merchant Bank must assign the SA(CR) exposure to the credit quality grade associated with the higher of two lowest risk weights.¹⁰⁹

6.3.8 A Merchant Bank must have methodologies that enable it to assess the credit risk involved in exposures to individual borrowers or counterparties as well as at a portfolio level. A Merchant Bank using SA(CR) must assess exposures, regardless of whether they are rated or unrated, and determine whether the risk weights applied to such exposures under the SA(CR) are appropriate for their inherent risk. In those instances where it determines that the inherent risk of such an exposure, particularly if it is unrated, is significantly higher than that implied by the risk weight to which it is assigned, the

¹⁰⁹ For illustration, if there are three external credit assessments mapping into credit quality grades with risk weights of 0%, 20% and 50%, then the applicable risk weight is 20%. If the external credit assessments map into credit quality grades with risk weights of 20%, 50% and 50%, then the applicable risk weight is 50%.

Merchant Bank must consider the higher degree of credit risk in the evaluation of its overall capital adequacy.

6.3.9 A Merchant Bank must not recognise the effects of CRM if such CRM is already reflected in the issue-specific external credit assessment of the SA(CR) exposure.

6.3.10 Where an SA(CR) exposure has an issue-specific external credit assessment by a recognised ECAI that has been chosen by the Merchant Bank, a Merchant Bank must use such assessment to determine the risk weight of the SA(CR) exposure. Where an SA(CR) exposure does not have an issue-specific external credit assessment by a recognised ECAI that has been chosen by the Merchant Bank, –

- (a) if there is an issue-specific external credit assessment by a recognised ECAI that has been chosen by the Merchant Bank for another exposure to the same obligor which maps to a risk weight that is lower than that applicable to an unrated exposure, a Merchant Bank may use that issue-specific assessment to risk-weight the SA(CR) exposure only if the SA(CR) exposure ranks *pari passu* with or is senior to the exposure with the issue-specific assessment in all respects;
- (b) if the obligor has an issuer external credit assessment by a recognised ECAI that has been chosen by the Merchant Bank which maps to a risk weight that is lower than that applicable to an unrated exposure –
 - (i) if the SA(CR) exposure is a senior claim, a Merchant Bank may use the issuer assessment of the obligor to risk-weight the SA(CR) exposure; and
 - (ii) if the SA(CR) exposure is not a senior claim, the Merchant Bank must apply the risk weight that is applicable to an unrated exposure;
- (c) if there is an issue-specific external credit assessment by a recognised ECAI that has been chosen by the Merchant Bank for another exposure to the same obligor which maps to a risk weight that is equal to or higher than that applicable to an unrated exposure, a Merchant Bank must use that issue-specific assessment to risk weight the SA(CR) exposure if the SA(CR) exposure ranks *pari passu* with or is subordinated to the exposure with the issue-specific assessment;
- (d) if the obligor has an issuer external credit assessment by a recognised ECAI that has been chosen by the Merchant Bank which maps to a risk weight that is equal to or higher than that applicable to an unrated exposure, a Merchant Bank must use the issuer assessment of the obligor to risk-weight the SA(CR) exposure if the SA(CR) exposure ranks *pari passu* with or is subordinated to the highest unsecured claim on the obligor;
- (e) if the obligor has an issuer external credit assessment by a recognised ECAI that has been chosen by the Merchant Bank which maps to a risk weight that is lower than that applicable to an unrated exposure, and which only applies to a limited class of liabilities, a Merchant Bank may use the issuer assessment of the obligor only if the exposure falls within that class; or

- (f) in all other cases, a Merchant Bank must apply the risk weight that is applicable to an unrated exposure.

6.3.11 A Merchant Bank must not use a short-term issue-specific external credit assessment to derive risk weights for other short-term claims to the same obligor, except where set out in paragraphs 6.3.32, 6.3.33, 6.3.34 and 6.3.37. In all cases, a Merchant Bank must not use short-term issue-specific external credit assessment to support a risk weight for an unrated long-term claim.

6.3.12 A Merchant Bank must not use external credit assessments for an obligor within a group to risk weight other obligors within the same group.

6.3.13 Where an SA(CR) exposure is risk-weighted in accordance with paragraph 6.3.10(a) to (d), a Merchant Bank must use a foreign currency external credit assessment for an SA(CR) exposure denominated in foreign currency. A Merchant Bank may use a domestic currency external credit assessment, if separate, only if –

- (a) the SA(CR) exposure is denominated in that domestic currency; or
- (b) the SA(CR) exposure arises through a Merchant Bank's participation in a loan that has been extended, or is guaranteed against convertibility and transfer risk by a qualifying MDB, in which case the domestic currency external credit assessment may be used instead of its foreign currency external credit assessment. Where the SA(CR) exposure is guaranteed against convertibility and transfer risk by a qualifying MDB, the domestic currency external credit assessment may be used only for the portion of the SA(CR) exposure that is covered by such a guarantee. For the portion of the SA(CR) exposure that is not covered by such a guarantee, the Merchant Bank must use a foreign currency external credit assessment.

6.3.14 A Merchant Bank may use an external credit assessment to risk weight an SA(CR) exposure only if the external credit assessment has taken into account and reflects the entire amount of credit risk exposure the Merchant Bank has with regard to all payments owed to it.¹¹⁰

6.3.15 A Merchant Bank must not use unsolicited external credit assessments to assign any SA(CR) exposure to a credit quality grade, unless –

- (a) it has assessed the quality of the unsolicited external credit assessments that it intends to use and is satisfied that these are comparable in performance with solicited external credit assessments and maintains relevant records and documents to be made available to the Authority upon request; and
- (b) it uses unsolicited external credit assessments consistently for each type of exposures, for both risk weighting and risk management purposes.

¹¹⁰ For example, if a Merchant Bank is owed both principal and interest, the assessment must fully take into account and reflect the credit risk associated with repayment of both principal and interest.

6.3.16 The Authority may exclude the use of unsolicited external credit assessments by a recognised ECAI for the purposes of calculating regulatory capital requirements if the Authority is not satisfied that the unsolicited assessments are not inferior in quality to the general quality of solicited assessments. In the event the Authority is of the view that an ECAI uses unsolicited external credit assessments to put pressure on entities to obtain solicited external credit assessments, the Authority may refuse to recognise such ECAIs as eligible for capital adequacy purposes.

Sub-division 3: Risk Weights

6.3.17 Subject to Sub-division 4 of this Division, a Merchant Bank using the SA(CR) must -

- (a) for an SA(CR) exposure, including an SA(CR) exposure to a lessee equivalent to the discounted lease payment as calculated in accordance with paragraph 6.2.5, that is not past due for more than 90 days, determine the applicable risk weight in accordance with paragraphs 6.3.18 to 6.3.44. However, a Merchant Bank may apply the appropriate treatment and risk weights set out in paragraphs 6.3.45 to 6.3.48 where an SA(CR) exposure which is not past due has a credit quality grade which corresponds to a risk weight of 150%;
- (b) for an SA(CR) exposure, including an SA(CR) exposure to a lessee equivalent to the discounted lease payment as calculated in accordance with paragraph 6.2.5, that is past due for more than 90 days, determine the applicable risk weight in accordance with paragraphs 6.3.45 to 6.3.48; and
- (c) for an SA(CR) exposure arising from an unsettled transaction, determine the applicable risk weight in accordance with paragraphs 6.3.49 to 6.3.53.

Cash Items

6.3.18 Subject to paragraph 6.3.19, a Merchant Bank must apply a 0% risk weight to any SA(CR) exposure categorised as a cash item.

6.3.19 A Merchant Bank must apply a 20% risk weight to cash equivalents, including cheques, drafts and other items drawn on other banking institutions that are either payable immediately upon presentation or that are in the process of collection.

Central Government and Central Bank Asset Class

6.3.20 Subject to paragraphs 6.3.21 and 6.3.22, a Merchant Bank must risk-weight any SA(CR) exposure in the central government and central bank asset class in accordance with Table 6-1.

Table 6-1: Risk Weights for the Central Government and Central Bank Asset Class

Credit Quality Grade	1	2	3	4	5	6	Unrated
Risk Weight	0%	20%	50%	100%	100%	150%	100%

6.3.21 A Merchant Bank must apply a 0% risk weight to any SA(CR) exposure to the Government or the Authority which is denominated in Singapore dollars and funded by liabilities denominated in Singapore dollars.

6.3.22 For any SA(CR) exposure to any other central government or central bank which is denominated and funded by liabilities denominated in the local currency of that country or jurisdiction, a Merchant Bank may apply such risk weights as may be specified by the bank regulatory agency of that country or jurisdiction.

6.3.23 A Merchant Bank must apply a 0% risk weight to any SA(CR) exposure to the Bank for International Settlements, the International Monetary Fund, the European Central Bank, the European Union, the European Stability Mechanism or the European Financial Stability Facility.

PSE Asset Class

6.3.24 Subject to paragraph 6.3.25, a Merchant Bank must risk-weight any SA(CR) exposure in the PSE asset class in accordance with Table 6-2.

Table 6-2: Risk Weights for the PSE Asset Class

Credit Quality Grade	1	2	3	4	5	6	Unrated
Risk Weight	20%	50%	50%	100%	100%	150%	50%

6.3.25 A Merchant Bank must risk weight any SA(CR) exposure in the PSE asset class in accordance with Table 6-3 if –

- (a) in the case of a PSE in Singapore, the exposure to the PSE is treated as an exposure to the Singapore Government, and the Singapore Government has a credit quality grade of "1" or "2" as set out in Table 6M-1 ; and
- (b) in the case of a PSE outside Singapore, the bank regulatory agency of the country or jurisdiction where the PSE is established has exercised the national discretion to treat the exposure to the PSE as an exposure to the central government and the central government of the country or jurisdiction of that PSE have a credit quality grade of "1" or "2" as set out in Table 6M-1.

Table 6-3: Risk Weights for Exposures to PSEs where the Central Government has a Credit Quality Grade of "1" or "2"

Credit Quality Grade	1	2	3	4	5	6	Unrated
Risk Weight where the Central Government has a Credit Quality grade of "1"	0%	0%	0%	100%	100%	150%	0%
Risk Weight where the Central Government has a Credit Quality grade of "2"	20%	20%	20%	100%	100%	150%	20%

6.3.26 For the purposes of paragraph 6.3.25(a), an exposure to a PSE in Singapore is treated as an exposure to the Singapore Government only if the exposure is an exposure to a statutory board in Singapore (other than the Authority).

MDB Asset Class

6.3.27 Subject to paragraphs 6.3.28, a Merchant Bank must risk-weight any SA(CR) exposure in the MDB asset class in accordance with Table 6-4.

Table 6-4: Risk Weights for the MDB Asset Class

Credit Quality Grade	1	2	3	4	5	6	Unrated
Risk Weight	20%	50%	50%	100%	100%	150%	50%

6.3.28 A Merchant Bank must apply a 0% risk weight to any SA(CR) exposure to a qualifying MDB.

Bank Asset Class

6.3.29 Subject to paragraphs 6.3.31, 6.3.33 and 6.3.34, a Merchant Bank must risk-weight any SA(CR) exposure in the bank asset class in accordance with Table 6-5.

Table 6-5: Risk Weights for the Bank Asset Class

Credit Quality Grade	1	2	3	4	5	6	Unrated
Risk Weight	20%	50%	50%	100%	100%	150%	50%
Risk Weight for Short-Term Exposures	20%	20%	20%	50%	50%	150%	20%

6.3.30 For the purposes of Table 6-5, short-term exposures refer to exposures with an original maturity of three months or less and that are not expected to be rolled over.

6.3.31 A Merchant Bank must risk-weight any short-term SA(CR) exposure¹¹¹ in the bank asset class with an issue-specific external credit assessment by a recognised ECAI in accordance with Table 6-6.

Table 6-6: Risk Weights for Short-Term SA(CR) Exposures in the Bank Asset Class with Issue-Specific External Credit Assessments

Short-Term Credit Quality Grade	I	II	III	IV
Risk Weight	20%	50%	100%	150%

6.3.32 If a short-term SA(CR) exposure in the bank asset class with an issue-specific external credit assessment attracts a risk weight that is higher than that applicable for a short-term exposure under Table 6-5, the Merchant Bank must apply the risk weight based on the issue-specific assessment to any unrated short-term SA(CR) exposure to the same banking institution.

¹¹¹ An example of a short term SA(CR) exposure is a particular issuance of commercial paper.

6.3.33 For any SA(CR) exposure in the bank asset class that does not have an external credit assessment by a recognised ECAI (excluding claims of the Merchant Bank on the issuing banking institution in the case of short-term self-liquidating letters of credit, where the Merchant Bank confirms such letters of credit), a Merchant Bank must apply the risk weight determined in accordance with Table 6-5 or the risk weight that is applicable to an SA(CR) exposure to the central government of the country or jurisdiction in which the banking institution is incorporated or established, whichever is higher.

6.3.34 If a short-term SA(CR) exposure in the bank asset class with an issue-specific external credit assessment -

- (a) attracts a risk weight of 50% or 100%, then the Merchant Bank must apply a risk weight of not lower than 100% to any unrated short-term SA(CR) exposure to the same banking institution; or
- (b) attracts a risk weight of 150%, then the Merchant Bank must apply a risk weight of 150% to any unrated SA(CR) exposure (whether long-term or short-term) to the same banking institution.

To avoid doubt, in the case of an exposure to which this paragraph and paragraph 6.3.32 both apply, the Merchant Bank must apply the higher of the two risk weights.

Corporate Asset Class

6.3.35 Subject to paragraphs 6.3.36 and 6.3.37, a Merchant Bank must risk-weight any SA(CR) exposure in the corporate asset class in accordance with Table 6-7.

Table 6-7: Risk Weights for the Corporate Asset Class

Credit Quality Grade	1	2	3	4	5	6	Unrated
Risk Weight	20%	50%	100%	100%	150%	150%	100%

6.3.36 A Merchant Bank must risk-weight any short-term SA(CR) exposure in the corporate asset class with an issue-specific external credit assessment by a recognised ECAI in accordance with Table 6-8.

Table 6-8: Risk Weights for Short-Term SA(CR) Exposures in the Corporate Asset Class with Issue-Specific External Credit Assessments

Short-Term Credit Quality Grade	I	II	III	IV
Risk Weight	20%	50%	100%	150%

6.3.37 For any SA(CR) exposure in the corporate asset class that does not have an external credit assessment by a recognised ECAI, a Merchant Bank must apply the risk weight determined in accordance with Table 6-7 or the risk weight that is applicable to an SA(CR) exposure to the central government of the country or jurisdiction in which the corporate is incorporated or established, whichever is higher, or such other higher risk weight specified by the Authority.¹¹² If a short-term SA(CR) exposure in the corporate asset class with an issue-specific external credit assessment -

¹¹² The Authority may from time to time specify a higher risk weight for a particular exposure or group of exposures, taking into account, among other things, the default experience of this type of exposures.

- (a) attracts a risk weight of 50% or 100%, then the Merchant Bank must apply a risk weight of not lower than 100% to any unrated short-term SA(CR) exposure to the same corporate entity; or
- (b) attracts a risk weight of 150%, then the Merchant Bank must apply a risk weight of 150% to any unrated SA(CR) exposure (whether long-term or short-term) to the same corporate entity.

Regulatory Retail Asset Class

6.3.38 A Merchant Bank must apply a 75%¹¹³ risk weight, or such other higher risk weight specified by the Authority, to any SA(CR) exposure in the regulatory retail asset class.

Residential Mortgage Asset Class

6.3.39 Subject to paragraph 6.3.41, a Merchant Bank must risk weight any SA(CR) exposure in the residential mortgage asset class in accordance with Table 6-9, or such other higher risk weight specified by the Authority.¹¹⁴

Table 6-9: Risk Weights for the Residential Mortgage Asset Class

Condition	Risk Weight
Where the LTV ratio calculated in accordance with MAS Notice 1106 is - (a) less than or equal to 80%; or (b) more than 80% but less than or equal to 90%, where there is mortgage insurance which complies with the requirements in Annex 6O ("qualifying mortgage insurance") covering at least the portion of each exposure in excess of 80%.	35%
Where the LTV ratio calculated in accordance with MAS Notice 1106 is more than 80% but less than or equal to 90%.	75%
Where the LTV ratio calculated in accordance with MAS Notice 1106 is more than 90%.	100%

6.3.40 For the purposes of calculating the LTV ratio referred to in Table 6-9, a Merchant Bank must calculate the LTV ratio as at the inception of the exposure and on an ongoing basis thereafter. In calculating the LTV ratio on an ongoing basis, a Merchant Bank must have in place policies addressing matters including the frequency of revaluation, the procedures for revaluation under various market circumstances, and the revaluation

¹¹³ The Authority may from time to time specify a higher risk weight for a particular exposure or group of exposures, taking into account, among other things, the default experience of this type of exposures.

¹¹⁴ The Authority may from time to time specify a higher risk weight for a particular exposure or group of exposures, taking into account, among other things, the default experience of this type of exposures.

methods and approaches to be used in each circumstance, which may include statistical methods¹¹⁵ or formal revaluation by an independent accredited valuer¹¹⁶. A Merchant Bank must obtain a formal revaluation by an independent accredited valuer on the valuation of the real estate if the Merchant Bank assesses that the value of the real estate may have declined materially relative to general market prices or when a credit event¹¹⁷ occurs.

6.3.41 Where the SA(CR) exposure is secured against a junior charge, a Merchant Bank must adjust the numerator of the LTV ratio referred to in Table 6-9 to include all senior charges ranking above the junior charge in question, including senior charges held by the CPF.

6.3.42 Subject to the approval of the Authority, a Merchant Bank may, instead of applying paragraph 6.3.41, apply a 100% risk weight to SA(CR) exposures in the residential mortgage asset class secured against a junior charge.

CRE Asset Class

6.3.43 A Merchant Bank must apply a 100% risk weight to any SA(CR) exposure in the CRE asset class. However, for an exposure which falls within both paragraph 6.3.1(f) and (i), the Merchant Bank must apply the higher of the risk weights applicable to that exposure under paragraph 6.3.35 and this paragraph.

Other Exposures Asset Class

6.3.44 A Merchant Bank must apply a 100%¹¹⁸ risk weight, or such other higher risk weight specified by the Authority, to any SA(CR) exposure in the other exposures asset class.

Past Due Exposures

6.3.45 Subject to paragraphs 6.3.46 and 6.3.48, a Merchant Bank must risk-weight the uncollateralised or unprotected portion of any SA(CR) exposure that is past due for more than 90 days in accordance with Table 6-10.

Table 6-10: Risk Weights for Past Due Exposures

Condition	Risk Weight
Where specific allowances are less than 20% of the outstanding amount of the exposure	150%
Where specific allowances are no less than 20% of the outstanding amount of the exposure	100%

¹¹⁵ Examples are reference to property indices, sampling etc.

¹¹⁶ A Merchant Bank should regularly backtest and benchmark the statistical methods, where possible, so that the results obtained are robust. In general, a Merchant Bank should undertake a formal revaluation regularly.

¹¹⁷ For example, default.

¹¹⁸ The Authority may from time to time specify a higher risk weight for a particular exposure or group of exposures, taking into account, among other things, the default experience of this type of exposures.

6.3.46 For the purposes of paragraph 6.3.45, a Merchant Bank must calculate the uncollateralised or unprotected portion of any SA(CR) exposure that is past due for more than 90 days as follows:

(a) for a Merchant Bank using the FC(SA),

$$\text{Uncollateralised or unprotected portion} = E - P - C_f$$

where -

(i) E = E calculated in accordance with Division 2 of this Part;

(ii) P = notional amount of eligible credit protection received; and

(iii) C_f = fair value of eligible financial collateral received; or

(b) for a Merchant Bank using the FC(CA),

$$\text{Uncollateralised or unprotected portion} = E^* - P$$

where -

(i) E^* = E^* calculated in accordance with Division 2 of this Part; and

(ii) P = notional amount of eligible credit protection received.

6.3.47 The Merchant Bank must risk weight the portion that is protected by eligible credit protection in accordance with Sub-division 4 of this Division. A Merchant Bank using the FC(SA) must risk weight the portion secured by eligible financial collateral in accordance with Sub-division 4 of this Division.

6.3.48 A Merchant Bank must apply a 100% risk weight to any SA(CR) exposure in the residential mortgage asset class that is past due for more than 90 days.

Unsettled Transactions

6.3.49 A Merchant Bank must comply with the requirements set out in paragraphs 6.3.50 to 6.3.52 to calculate the credit-risk weighted exposure amount for any unsettled transactions on securities, foreign exchange instruments and commodities (other than an SFT). For the purposes of this paragraph, unsettled transaction includes any transaction, through a settlement and clearing system recognised by the Authority that is subject to daily mark-to-market and payment of daily variation margins and that involves a mismatched trade.

6.3.50 A Merchant Bank must apply a risk weight to any SA(CR) exposure arising from receivables that remain unpaid or undelivered in respect of an unsettled DVP transaction in accordance with Table 6-11 and treat such exposures as a loan to the counterparty.

Table 6-11: Risk Weights for Unsettled DvP Transactions

Number of Business Days after Agreed Settlement Date	Risk Weight
From 0 to 4	0%
From 5 to 15	100%
From 16 to 30	625%
From 31 to 45	937.5%
46 or more	1,250%

6.3.51 A Merchant Bank which has fulfilled its obligations under the first contractual payment or delivery leg of a non-DvP transaction must regard as a loan exposure to its counterparty any outstanding receivables after the end of the first contractual payment or delivery date. If the dates when two payment legs are made are the same according to the time zones where each payment is made, they are deemed to have been settled on the same day. The Merchant Bank must risk weight any such SA(CR) exposure arising from receivables that remain unpaid or undelivered up to and including the fourth business day after the second contractual payment or delivery date in accordance with paragraphs 6.3.18 to 6.3.44. If such SA(CR) exposures are not material in aggregate, the Merchant Bank may apply a uniform risk weight of 100% to all of them.

6.3.52 If the receivables arising from the non-DvP transaction remain unpaid or undelivered on or after the fifth business day after the second contractual payment or delivery date, the Merchant Bank must include the SA(CR) exposure arising from such receivables and replacement cost, if any, as Deductions from Tier 1 Capital and Deductions from Tier 2 Capital, until the second payment or delivery leg is effectively completed.

6.3.53 In accordance with section 76A of the Act, the Authority may exempt the Merchant Bank from the applicable capital treatment in paragraphs 6.3.50 and 6.3.52 if there has been a system-wide failure of a settlement or clearing system that causes significant disruption to normal settlement and clearing processes. The Authority may grant such exemption subject to such conditions as the Authority may impose.

Sub-division 4: Treatment of Credit Protection and Recognition of Eligible Financial Collateral

Treatment of Eligible Credit Protection Bought

6.3.54 A Merchant Bank which has bought eligible credit protection for an SA(CR) exposure from an eligible protection provider may recognise the effects of CRM of the eligible credit protection, where the risk weight of the eligible protection provider is lower than that of the obligor, as follows:

- (a) break down the SA(CR) exposure into -
 - (i) a protected portion with E equal to the notional amount of the eligible credit protection. Where the protected portion has a currency or maturity mismatch, a Merchant Bank must calculate the protected portion of an SA(CR) exposure in accordance with Annex 6D; and

- (ii) an unprotected portion with E equal to the E of the SA(CR) exposure less the notional amount of the eligible credit protection adjusted for any currency mismatch or maturity mismatch in accordance with Annex 6D;
- (b) for the purposes of calculating the credit risk-weighted exposure amount pursuant to Sub-division 3 of Division 1 of this Part, use -
 - (i) for the protected portion, the risk weight that is applicable to the eligible protection provider; and
 - (ii) for the unprotected portion, the risk weight that is applicable to the obligor.

6.3.55 Despite paragraph 6.3.54(b), a Merchant Bank must include as Deductions from Tier 1 Capital and Deductions from Tier 2 Capital an SA(CR) exposure below a materiality threshold for which no payment will be made by the protection provider in the event of loss on the SA(CR) exposure as such an exposure is equivalent to a retained first loss position.

6.3.56 A Merchant Bank must apply the relevant provisions in Annex 6E for the purposes of determining the protected portion in cases of proportional cover, principal-only cover, partially eligible credit derivatives, tranching cover and basket credit derivatives.

Treatment of Credit Protection Sold

6.3.57 A Merchant Bank which has sold unfunded credit protection acquires exposure to the reference asset. If such exposure is an SA(CR) exposure, the Merchant Bank must calculate the credit risk-weighted exposure amount for the exposure using the risk weight that is applicable to the obligor of the reference asset.

6.3.58 If the unfunded credit protection has more than one reference asset, the Merchant Bank must calculate the credit risk-weighted exposure amount for the credit protection as the sum of the credit risk-weighted exposure amounts in respect of each reference asset calculated using the risk weights that are applicable to the obligors of the respective reference assets.

6.3.59 A Merchant Bank which has sold funded credit protection acquires exposure to both the reference asset and the protection buyer. If such exposures are SA(CR) exposures, the Merchant Bank must calculate the credit risk-weighted exposure amount for the credit protection as the sum of -

- (a) the credit risk-weighted exposure amount for the exposure to the reference asset calculated in accordance with paragraphs 6.3.57 and 6.3.58, as applicable; and
- (b) the credit risk-weighted exposure amount for the exposure to the protection buyer, using -
 - (i) E = the carrying amount of the collateral placed with the protection buyer; and

- (ii) the risk weight that is applicable to the protection buyer.

6.3.60 A Merchant Bank must ensure that the capital requirement for the credit protection calculated in accordance with paragraphs 6.3.58 and 6.3.59 does not exceed the notional amount of the credit protection i.e. the maximum possible payout under the credit protection.

6.3.61 Where a Merchant Bank has provided credit protection (whether funded or unfunded) through a structure where the maximum possible payout in respect of any particular reference asset is capped at a pre-determined proportion of the notional amount of the credit protection, the Merchant Bank must divide the exposure into individual sub-exposures equal to the proportionate amount of credit protection in respect of each reference asset for the purposes of calculating the credit risk-weighted exposure amount applicable to the credit protection sold.

6.3.62 Where a Merchant Bank has provided credit protection for a basket of reference exposures through a first-to-default credit derivative, the Merchant Bank must calculate the credit risk-weighted exposure amount applicable to the credit protection sold as follows

-

- (a) where the credit derivative has an external credit assessment by a recognised ECAI, apply the capital treatment as set out in paragraph 6.5.21 and 6.5.22;
- (b) where the credit derivative is unrated, apply the capital treatment as set out in paragraph 6.5.27.

6.3.63 Where a Merchant Bank has provided credit protection for a basket of reference exposures through a second-to-default credit derivative, the Merchant Bank must calculate the credit risk-weighted exposure amount applicable to the credit protection sold as follows

-

- (a) where the credit derivative has an external credit assessment by a recognised ECAI, apply the capital treatment as set out in paragraph 6.5.21 and 6.5.22;
- (b) where the credit derivative is unrated, apply the capital treatment as set out in paragraph 6.5.28.

Recognition of Eligible Financial Collateral under FC(SA)

6.3.64 Subject to paragraph 6.3.67, a Merchant Bank which has taken eligible financial collateral for an SA(CR) exposure and is using the FC(SA) may recognise the effects of CRM of the eligible financial collateral as follows:

- (a) break down the SA(CR) exposure into -
 - (i) a collateralised portion with E equal to the latest fair value of the eligible financial collateral; and

- (ii) an uncollateralised portion with E equal to the E of the SA(CR) exposure less the latest fair value of the eligible financial collateral; and
- (b) for the purposes of calculating the credit risk-weighted exposure amount pursuant to Sub-division 3 of Division 1 of this Part, use -
 - (i) for the collateralised portion, the risk weight that is applicable to the eligible financial collateral as though the Merchant Bank had a direct exposure to that collateral; and
 - (ii) for the uncollateralised portion, the risk weight that is applicable to the obligor.

6.3.65 For the purposes of paragraph 6.3.64, a Merchant Bank which has taken eligible financial collateral must ensure that the eligible financial collateral is pledged for at least the life of the exposure, and must mark-to-market and revalue the collateral at least on a six monthly basis or more frequently if specified by the Authority, to recognise the effects of CRM of the eligible financial collateral under the FC(SA). A Merchant Bank using the FC(SA) must not recognise the effects of CRM of any collateral with a maturity mismatch.

6.3.66 For the purposes of paragraph 6.3.64(b)(i), when cash on deposit, certificates of deposit or other similar instruments issued by the Merchant Bank -

- (a) are held in a non-custodial arrangement as collateral at a third-party banking institution or third-party merchant bank; and
- (b) are unconditionally and irrevocably pledged or assigned to the Merchant Bank as the lender,

the Merchant Bank must apply the risk weight of the third-party banking institution or third-party merchant bank (as the case may be) to the collateralised portion of the exposure covered by such collateral.

6.3.67 If the risk weight determined in accordance with paragraph 6.3.64(b)(i) is less than 20%, a Merchant Bank must apply a risk weight of 20% to the collateralised portion of the SA(CR) exposure, except in the following cases:

- (a) a qualifying repo-style transaction where the counterparty in the transaction is a core market participant, in which case the Merchant Bank may apply a risk weight of 0%;
- (b) a qualifying repo-style transaction where the counterparty in the transaction is not a core market participant, in which case the Merchant Bank may apply a risk weight of 10%;
- (c) an OTC derivative transaction subject to daily mark-to-market that is collateralised by cash, and where there is no currency mismatch, in which case the Merchant Bank may apply a risk weight of 0%;

- (d) an OTC derivative transaction subject to daily mark-to-market that is collateralised by exposures to central governments, central banks or PSE or a combination thereof qualifying for a 0% risk weight under the SA(CR), and where there is no currency mismatch, in which case the Merchant Bank may apply a risk weight of 10%; and
- (e) a transaction where there is no currency mismatch and the collateral comprises -
 - (i) cash on deposit as set out in paragraph 2.2(a) of Annex 6D; or
 - (ii) exposures in the central government and central bank asset class or in the PSE asset class or a combination thereof qualifying for a 0% risk weight under the SA(CR), and the latest fair value of such collateral has been discounted by 20% for the purposes of determining the value of the collateralised portion of the SA(CR) exposure in accordance with paragraph 6.3.64(a)(i),

in which case the Merchant Bank may apply a risk weight of 0%.

Treatment of Pools of CRM

6.3.68 A Merchant Bank which is using multiple CRM to cover a single SA(CR) exposure¹¹⁹ must sub-divide the exposure into portions covered by each type of CRM¹²⁰ and calculate the credit risk-weighted exposure amount of each portion separately by applying paragraphs 6.3.54, 6.3.55, 6.3.56, 6.3.64 and 6.3.67, whichever is applicable. A Merchant Bank must apply the same approach when recognising eligible credit protection by a single protection provider with differing maturities.

¹¹⁹ For example, the Merchant Bank has both eligible financial collateral and eligible credit protection partially covering the exposure.

¹²⁰ For example, a portion covered by eligible financial collateral and a portion covered by eligible credit protection

Division 4: Equity Exposures

Sub-division 1: Definition of Equity Exposures

6.4.1 A Merchant Bank must categorise an instrument as an equity exposure if -

- (a) the instrument is irredeemable and the return of invested funds can be achieved only by the sale of the investment or sale of the rights to the investment or by the liquidation of the issuer of the instrument;
- (b) the instrument does not in substance amount to an obligation on the part of the issuer of the instrument; and
- (c) the instrument conveys a residual claim on the assets or income of the issuer of the instrument.

A Merchant Bank must include as an equity exposure, any ownership interests, whether voting or non-voting, in the assets or income of a banking institution, corporation, partnership, limited liability partnership, sole proprietorship, trust, fund or any type of business vehicle and any derivative instruments tied to ownership interests.

6.4.2 For the purposes of paragraph 6.4.1, “ownership interests” includes indirect equity interests such as holdings in banking institutions, corporations, partnerships, limited liability partnerships, sole proprietorships, trust, fund or other types of business vehicles that issue ownership interests and are engaged principally in the business of investing in equity instruments.

6.4.3 A Merchant Bank must treat any instrument¹²¹ structured with the intent of conveying the economic substance of an equity exposure as defined in paragraph 6.4.1 as an equity exposure. For the purposes of this paragraph, a Merchant Bank must categorise the following as an equity exposure:

- (a) any perpetual instrument which is irredeemable or redeemable at the issuer’s option¹²²;
- (b) any debt instrument which is convertible into equity at the option of the issuer or automatically by the terms of the instruments;
- (c) any short position in an equity security.

6.4.4 Subject to paragraphs 6.4.5 to 6.4.10, a Merchant Bank must not treat any instrument structured with the intent of conveying the economic substance of a debt holding or securitisation exposure as an equity exposure.¹²³

6.4.5 Despite paragraphs 6.4.1 to 6.4.4, a Merchant Bank must categorise the following instruments as equity exposures:

¹²¹ This includes any debt, security, partnership, derivative or vehicle.

¹²² Examples are irredeemable perpetual preference shares and perpetual preference shares redeemable at the issuer’s option.

¹²³ For example, perpetual preference shares redeemable at holder’s option and non-convertible term preference shares would be treated as debt exposures.

- (a) any instrument with the same structure as one approved for inclusion as Tier 1 Capital under Part V or equivalent regulatory requirements of a bank regulatory agency other than the Authority;
- (b) any instrument that in substance amounts to an obligation on the part of the issuer of the instrument and where one or more of the following conditions are satisfied:
 - (i) the issuer may defer the settlement of the obligation indefinitely;
 - (ii) the obligation requires or permits, at the discretion of the issuer, settlement by issuance of a fixed number of the equity shares of the issuer;
 - (iii) the obligation requires or permits, at the discretion of the issuer, settlement by issuance of a variable number of the equity shares of the issuer and ceteris paribus any change in the value of the obligation is attributable to, comparable to, and in the same direction as, the change in the value of a fixed number of the equity shares of the issuer¹²⁴; or
 - (iv) the instrument is an instrument where the holder has the option to require that the obligation be settled in equity shares, but does not include any of the following instruments:
 - (A) a traded instrument where the Merchant Bank is able to demonstrate to the satisfaction of the Authority that the instrument is traded more like the debt of the issuer than its equity;
 - (B) a non-traded instrument where the Merchant Bank is able to demonstrate to the satisfaction of the Authority that the instrument should be treated as a debt exposure.

6.4.6 For the purposes of paragraph 6.4.5(b)(iv)(A) and (B), subject to approval by the Authority, a Merchant Bank may break down the risks associated with the instrument into an equity exposure and a debt exposure for the purposes of calculating regulatory capital requirements under the Notice. The Merchant Bank must, if required by the Authority, be able to demonstrate how it breaks down the risks into an equity exposure and a debt exposure.

6.4.7 A Merchant Bank must categorise any equity exposure arising from a debt to equity swap made as part of the orderly realisation or restructuring of the debt as an

¹²⁴ For certain obligations that require or permit settlement by issuance of a variable number of the issuer's equity shares, the change in the monetary value of the obligation is equal to the change in the fair value of a fixed number of equity shares multiplied by a specified factor. Those obligations meet the conditions of paragraph 6.4.5(b)(iii) if both the factor and the referenced number of shares are fixed. For example, an issuer may be required to settle an obligation by issuing shares with a value equal to three times the appreciation in the fair value of 1,000 equity shares. That obligation is considered to be the same as an obligation that requires settlement by issuance of shares equal to the appreciation in the fair value of 3,000 equity shares.

equity exposure. A Merchant Bank must not allow such instruments to attract a lower regulatory capital requirement than would apply if they had remained in the debt portfolio.

6.4.8 A Merchant Bank must categorise any instrument with a return linked to that of equities as an equity exposure. However, such an instrument need not be included as an equity exposure if it is directly hedged by another equity exposure and the net position does not involve material risk. A Merchant Bank must, if required by the Authority, be able to demonstrate that the net position of hedged equity exposures does not involve material risk.

6.4.9 The Authority may, on a case-by-case basis, require a Merchant Bank to re-characterise a debt holding as an equity exposure for the purposes of calculating regulatory capital requirements.

Sub-division 2: Overview of Calculation of Credit RWA for Equity Exposures

6.4.10 A Merchant Bank must not include the following in its calculation of SA(EQ) RWA:

- (a) any equity exposure held in the trading book;
- (b) any equity exposure that is not consolidated in the consolidated financial statements of the Merchant Bank in accordance with Part III;
- (c) any equity exposure that is required to be included as Deductions from Tier 1 Capital and Deductions from Tier 2 Capital pursuant to Part V.

Sub-division 3: Calculation of Credit Risk-Weighted Exposure Amount for Equity Exposures Using SA(EQ)

6.4.11 A Merchant Bank using the SA(EQ) to calculate the credit risk-weighted exposure amount for its equity exposures must apply a risk weight of 100% to E, being the value of the equity exposure measured in accordance with Division 2 of this Part, or such other higher risk weight specified by the Authority.¹²⁵

6.4.12 A Merchant Bank must treat short positions as if they are long positions, and apply a risk weight of 100% to the value of each position as measured in accordance with Division 2 of this Part.

Treatment of Credit Protection Bought

6.4.13 A Merchant Bank which has bought eligible credit protection for an SA(EQ) exposure from an eligible protection provider may recognise the effects of CRM of the eligible credit protection, where the risk weight of the eligible protection provider is lower than that of the obligor, as follows:

¹²⁵ The Authority may from time to time specify a higher risk weight for a particular exposure or group of exposures, taking into account, among other things, the risks of this type of exposures.

- (a) break down the SA(EQ) exposure into -
 - (i) a protected portion with E equal to the notional amount of the eligible credit protection. Where the protected portion has a currency or maturity mismatch, a Merchant Bank must calculate the protected portion of an SA(EQ) exposure in accordance with Annex 6D; and
 - (ii) an unprotected portion with E equal to the E of the SA(EQ) exposure less the notional amount of the eligible credit protection adjusted for any currency mismatch or maturity mismatch in accordance with Annex 6D; and
- (b) for the purposes of calculating the credit risk-weighted exposure amount pursuant to Sub-division 4 of Division 1 of this Part, use -
 - (i) for the protected portion, the risk weight that is applicable to the eligible protection provider; and
 - (ii) for the unprotected portion, a risk weight of 100%.

6.4.14 Despite paragraph 6.4.13(b), a Merchant Bank must include as Deductions from Tier 1 Capital and Deductions from Tier 2 Capital an SA(EQ) exposure below a materiality threshold for which no payment will be made by the protection provider in the event of loss on an SA(EQ) exposure as such threshold is equivalent to a retained first loss position.

6.4.15 A Merchant Bank must apply the relevant provisions in Annex 6E for the purposes of determining the protected portion in cases of proportional cover, principal-only cover, partially eligible credit derivatives, tranching cover and basket credit derivatives.

Treatment of Credit Protection Sold

6.4.16 A Merchant Bank which has sold unfunded credit protection acquires exposure to the reference asset. If such exposure is an SA(EQ) exposure, the Merchant Bank must calculate the credit risk-weighted exposure amount for the exposure using a risk weight of 100%.

6.4.17 If the unfunded credit protection has more than one reference asset, the Merchant Bank must calculate the credit risk-weighted exposure amount for the credit protection as the sum of the credit risk-weighted exposure amounts in respect of each reference asset calculated using the risk weights that are applicable to the obligors of the respective reference assets. A Merchant Bank must apply a risk weight of 100% to a reference asset that is an SA(EQ) exposure.

6.4.18 A Merchant Bank which has sold funded credit protection acquires exposure to both the reference asset and the protection buyer. Where the exposure to the reference asset is an SA(EQ) exposure, the Merchant Bank must calculate the credit risk-weighted exposure amount for the credit protection as the sum of -

- (a) the credit risk-weighted exposure amount for the exposure to the reference asset calculated in accordance with paragraph 6.4.11; and

- (b) the credit risk-weighted exposure amount for the exposure to the protection buyer, using -
 - (i) E = the carrying amount of the collateral placed with the protection buyer; and
 - (ii) the risk weight that is applicable to the protection buyer.

6.4.19 A Merchant Bank must ensure that the capital requirement for the credit protection calculated in accordance with paragraphs 6.4.17 and 6.4.18 must not exceed the notional amount of the credit protection, i.e. the maximum possible payout under the credit protection.

6.4.20 Where a Merchant Bank has provided credit protection (whether funded or unfunded) through a structure where the maximum possible payout in respect of any particular reference asset is capped at a pre-determined proportion of the notional amount of the credit protection, the Merchant Bank must divide the exposure into individual sub-exposures equal to the proportionate amount of credit protection in respect of each reference asset for the purposes of calculating the credit risk-weighted exposure amount applicable to the credit protection sold.

Division 5: Securitisation

Sub-division 1: Introduction

6.5.1 A Merchant Bank must apply the provisions of this Division for determining regulatory capital requirements on exposures arising from traditional and synthetic securitisation or similar structures that contain features common to both. As securitisation may be structured in many different ways, the Merchant Bank must determine the capital treatment of a securitisation on the basis of its economic substance rather than its legal form.

6.5.2 A Merchant Bank must consult the Authority if it is uncertain whether a given transaction should be considered a securitisation, and whether a given exposure should be considered a securitisation exposure or a resecuritisation exposure.

Sub-division 2: Requirements for the Recognition of Risk Transference

6.5.3 This Sub-division is applicable only to securitised exposures held in the banking book.

6.5.4 Where the Authority is not satisfied that the credit risk transfer arising from a securitisation is sufficient or existent, or that the risks arising from the securitisation are adequately addressed, the Authority may require a Merchant Bank to maintain additional capital.

Requirements for Traditional Securitisation

6.5.5 A Merchant Bank which is an ABCP programme sponsor or originator in a traditional securitisation may exclude securitised exposures from the calculation of credit RWA only if all of the requirements in Section 1 of Annex 6P have been complied with. A Merchant Bank meeting these requirements must still hold regulatory capital against any securitisation exposures it retains.

Requirements for Synthetic Securitisation

6.5.6 Subject to paragraphs 6.5.8 and 6.5.9, a Merchant Bank which is an ABCP programme sponsor or originator of a synthetic securitisation may recognise the effects of CRM of the synthetic securitisation in its calculation of credit RWA only if -

- (a) all of the requirements in Section 2 of Annex 6P have been complied with; and
- (b) the effects of CRM are obtained through eligible credit protection, eligible financial collateral or both in accordance with Annex 6D.

6.5.7 A Merchant Bank meeting the conditions in paragraph 6.5.6 must still hold regulatory capital against any securitisation exposures it retains.

6.5.8 A Merchant Bank may recognise the effects of CRM of eligible financial collateral pledged by any SPE, but it must not recognise any SPE as an eligible protection provider.

6.5.9 A Merchant Bank must treat a currency mismatch or a maturity mismatch¹²⁶ between the underlying exposure being hedged and the CRM obtained through the synthetic securitisation in accordance with Annex 6D. In the case where the exposure in the underlying pool has different maturities, the Merchant Bank must use the longest maturity as the maturity of the pool.

6.5.10 Despite paragraph 6.5.9, a Merchant Bank which is an ABCP programme sponsor or originator in a synthetic securitisation must not take into account maturity mismatches for securitisation exposures it retains if the securitisation exposures are included as Deductions from Tier 1 Capital and Deductions from Tier 2 Capital.

Sub-division 3: Treatment of Securitisation Exposures

6.5.11 A Merchant Bank must include in its calculation of credit RWA all of its securitisation exposures held in the banking book, except for those securitisation exposures which the Merchant Bank is required to include as Deductions from Tier 1 Capital and Deductions from Tier 2 Capital.

6.5.12 A Merchant Bank may apply the provisions of this Division where the Merchant Bank –

- (a) has, on an on-going basis, a comprehensive understanding of the risk characteristics of its individual securitisation exposures, whether on- or off-balance sheet, as well as the risk characteristics of the pools underlying its securitisation exposures;
- (b) is able to access performance information¹²⁷ on the underlying pools on an on-going basis in a timely manner. For resecuritisations, the Merchant Bank must have information on the underlying securitisation tranches, including the issuers' names and credit quality, and the characteristics and performance of the pools underlying the securitisation tranches; and
- (c) has a thorough understanding of all structural features of a securitisation transaction that would materially impact the performance of the transaction, including the contractual waterfall and waterfall-related triggers, credit enhancements, liquidity enhancements, market value triggers, and deal-specific definitions of default.

A Merchant Bank must include as Deductions from Tier 1 Capital and Deductions from Tier 2 Capital any securitisation exposure where the requirements in sub-paragraphs (a) to (c) are not met.

¹²⁶ For example, maturity mismatches may arise when a Merchant Bank uses credit derivatives to transfer part or all of the credit risk of a specific pool of assets to third parties. When the credit derivatives unwind, the transaction terminates. This implies that the effective maturity of the tranches of the synthetic securitisation may differ from that of the underlying exposures.

¹²⁷ Such information may include exposure type, percentage of loans 30, 60 and 90 days past due, default rates, prepayment rates, loans in foreclosure, property type, occupancy, average credit score or other measures of creditworthiness, average loan-to-value ratio, and industry and geographic diversification.

6.5.13 Where a Merchant Bank provides implicit support to a securitisation, it must include all the underlying exposures of the securitisation in its calculation of credit RWA as if those exposures were on the balance sheet of the Merchant Bank.

6.5.14 Where a Merchant Bank provides two or more facilities (whether they are liquidity facilities or credit enhancements) in relation to a securitisation that can be drawn under various conditions with different triggers, it may be that the Merchant Bank provides duplicate coverage to the underlying exposures, i.e. the facilities provided by the Merchant Bank may overlap since a draw on one facility may preclude (in part) a draw on the other facility. In such cases, the Merchant Bank may calculate the capital requirement for the overlapping part of the facilities only once, if it is able to clearly identify the overlapping part of the facilities.

6.5.15 For the purposes of paragraph 6.5.14, where the overlapping facilities are subject to different CCFs, the Merchant Bank must attribute the overlapping part to the facility with the highest CCF.¹²⁸ The Merchant Bank may also recognise such overlap between specific risk capital charges for exposures in the trading book and capital charges for exposures in the banking book, provided that the Merchant Bank is able to calculate and compare the capital charges for the relevant exposures. However, if overlapping facilities are provided by different parties, each Merchant Bank must hold regulatory capital for the maximum amount of its facility.

Deductions from Tier 1 Capital and Deductions from Tier 2 Capital

6.5.16 Subject to paragraph 6.5.17, if a securitisation exposure is included as Deductions from Tier 1 Capital and Deductions from Tier 2 Capital, the Merchant Bank must deduct 50% of the securitisation exposure from Tier 1 Capital and 50% of the securitisation exposure from Tier 2 Capital. A Merchant Bank must deduct 50% of the credit-enhancing interest only strips, net of any amount that must be included as Deductions from Tier 1 Capital pursuant to paragraph 6.5.17, from Tier 1 Capital and the other 50% from Tier 2 Capital. A Merchant Bank may calculate deductions from capital net of any specific allowances taken against the relevant securitisation exposures.

6.5.17 A Merchant Bank must include as Deductions from Tier 1 Capital any increase in equity resulting from a securitisation, including that associated with expected future margin income resulting in a gain-on-sale that is recognised in equity.

Use of ECAI Credit Assessments

6.5.18 A Merchant Bank must assign an SA(SE) exposure to a credit quality grade based on the external credit assessment (where available) that is applicable to the SA(SE)

¹²⁸ For example, where a Merchant Bank provides a liquidity facility that supports 100% of the ABCP issued by an ABCP programme and purchases 20% of the outstanding ABCP of that programme, the Merchant Bank may recognise an overlap of 20% (100% liquidity facility + 20% commercial paper held – 100% commercial paper issued = 20%). Where a Merchant Bank provides a liquidity facility that supports 90% of the outstanding ABCP and purchased 20% of the ABCP, the Merchant Bank must treat the two exposures as if 10% of the two exposures overlapped. However, where a Merchant Bank provides a liquidity facility that covers 50% of the outstanding ABCP and purchased 20% of the ABCP, the Merchant Bank must treat the two exposures as if there were no overlap.

exposure in accordance with Tables 6M-3 and 6M-4. A Merchant Bank may use the external credit assessments of a recognised ECAI under the SA(SE) only if paragraphs 6.3.5 to 6.3.9 and 6.3.14, read with reference to an SA(SE) exposure, are met. A Merchant Bank must ensure that a recognised ECAI has demonstrated expertise in assessing securitisations, which may be evidenced by strong market acceptance. A Merchant Bank must not use the external credit assessments issued by one recognised ECAI for one or more tranches and those of another recognised ECAI for other securitisation exposures (whether retained or purchased) within the same securitisation structure that may or may not be rated by the first recognised ECAI.

6.5.19 Despite paragraph 6.5.18, a Merchant Bank must treat as unrated any securitisation exposure where -

- (a) the external credit assessment incorporates the credit protection provided directly to the SPE by a protection provider which is not an eligible protection provider;
- (b) the external credit assessment is at least partly based on unfunded support provided by the Merchant Bank itself¹²⁹. A Merchant Bank must ensure that its capital treatment for such an exposure held in the trading book is no less than the amount required under the banking book treatment; or
- (c) the credit risk mitigant is not obtained by the SPE but is separately obtained and applied to a specific securitisation exposure¹³⁰. A Merchant Bank may recognise the effect of the credit risk mitigant based on the CRM treatment for SA(CR).

6.5.20 For the purposes of paragraph 6.5.18, a Merchant Bank may only use an external credit assessment which is accessible to the public free of charge. The Merchant Bank must not use a credit assessment that is made available only to the parties to a transaction.¹³¹

Sub-division 4: SA(SE)

Capital Treatment

6.5.21 A Merchant Bank must risk-weight any securitisation exposure for which it is using the SA(SE) to calculate the credit risk-weighted exposure amount in accordance with Tables 6-12 and 6-13:

¹²⁹ For example, if a Merchant Bank buys ABCP where it provides an unfunded securitisation exposure extended to the ABCP programme, such as a liquidity facility or credit enhancement, and that exposure plays a role in determining the credit assessment on the ABCP, the Merchant Bank must treat the ABCP as if it were not rated and continue to hold capital against the other securitisation exposures it provides.

¹³⁰ An example is a particular tranche.

¹³¹ Where the eligible credit assessment is not provided free of charge, the ECAI should provide an adequate justification, within their own publicly available Code of Conduct, in accordance with the "comply or explain" nature of the IOSCO Code of Conduct Fundamentals for Credit Rating Agencies.

Table 6-12: Risk Weights for Long-Term SA(SE) Exposures

Credit Quality Grade		1 to 2	3 to 5	6 to 8	9 to 11
Risk Weight	Securitisation Exposures (excluding Resecuritisation Exposures)	20%	50%	100%	350% (where the Merchant Bank is not the ABCP programme sponsor or the originator)
	Resecuritisation Exposures	40%	100%	225%	650% (where the Merchant Bank is not the ABCP programme sponsor or the originator)

Table 6-13: Risk Weights for Short-Term SA(SE) Exposures

Credit Quality Grade		I	II	III
Risk Weight	Securitisation Exposures (excluding Resecuritisation Exposures)	20%	50%	100%
	Resecuritisation Exposures	40%	100%	225%

6.5.22 Unless otherwise specified in paragraphs 6.5.23 to 6.5.26, a Merchant Bank must include as Deductions from Tier 1 Capital and Deductions from Tier 2 Capital an amount equal to the value of the securitisation exposure measured in accordance with Division 2 of this Part if -

- (a) in the case of a short-term securitisation exposure, it is unrated or has a credit quality grade of "IV" as set out in Table 6M-4; or
- (b) in the case of any other securitisation exposure -
 - (i) where the Merchant Bank is the ABCP programme sponsor or originator, it is unrated or has a credit quality grade of "9" or worse as set out in Table 6M-3; or
 - (ii) where the Merchant Bank is not the ABCP programme sponsor or the originator, it is unrated or has a credit quality grade of "12" as set out in Table 6M-3.

Exceptions to General Treatment of Unrated Securitisation Exposures

6.5.23 A Merchant Bank which holds or guarantees an unrated securitisation exposure from the most senior tranche in a securitisation may determine the risk weight to be applied to the securitisation exposure by applying the “look-through” treatment set out in paragraph 6.5.24, provided the composition of the underlying exposures is known at all times and it is able to determine the risk weights assigned to the underlying exposures. The Merchant Bank need not consider interest rate or currency swaps when determining whether a securitisation exposure belongs to the most senior tranche in a securitisation for the purposes of applying the “look-through” approach.

6.5.24 Under the “look-through” approach, a Merchant Bank must apply to the securitisation exposure the average risk weight of the underlying exposures determined in accordance with Sub-division 3 of Division 3 of this Part.

6.5.25 A Merchant Bank which is an ABCP programme sponsor may apply a 100% risk weight or the highest risk weight assigned to any of the underlying exposures in the ABCP programme, whichever is higher, to an unrated securitisation exposure arising from the ABCP programme, if all of the following requirements are complied with:

- (a) the securitisation exposure is economically in a second loss position or better and the first loss position provides significant credit protection to the second loss position;
- (b) the associated credit risk of the securitisation exposure is the equivalent of a credit quality grade of “III” or better as set out in Table 6M-4;
- (c) the Merchant Bank does not retain or provide the first loss position.

6.5.26 A Merchant Bank which provides an eligible liquidity facility which is unrated may apply to the resulting securitisation exposure the highest risk weight which would be assigned to any of the underlying exposures covered by the facility and the applicable CCF determined in accordance with Annex 6B.

6.5.27 A Merchant Bank which provides credit protection for a basket of reference exposures through an unrated first-to-default credit derivative must apply to the securitisation exposure the aggregate of the risk weights that would be assigned to the reference exposures, provided that the resulting capital requirement does not exceed the notional amount of the credit protection.

6.5.28 A Merchant Bank which provides credit protection for a basket of reference exposures through an unrated second-to-default credit derivative must apply the treatment referred to in paragraph 6.5.27, except that in aggregating the risk weights, the reference exposure with the lowest risk-weighted amount may be excluded.

Treatment of Credit Protection Bought

6.5.29 A Merchant Bank must not recognise any SPE which is an issuer of securitisation exposures as an eligible protection provider.

6.5.30 A Merchant Bank which has bought eligible credit protection for an SA(SE) exposure from an eligible protection provider may recognise the effects of CRM of the eligible credit protection as follows:

- (a) break down the SA(SE) exposure into -
 - (i) a protected portion with E equal to the notional amount of the eligible credit protection; and
 - (ii) an unprotected portion with E equal to the value of the SA(SE) exposure measured in accordance with Division 2 of this Part less the notional amount of the eligible credit protection; and
- (b) apply the risk weight that is applicable to the eligible protection provider to the protected portion calculated in accordance with sub-paragraph (a)(i) to calculate the credit risk-weighted exposure amount of the protected portion;
- (c) either -
 - (i) apply the risk weight that is applicable to the securitisation exposure to the unprotected portion calculated in accordance with sub-paragraph (a)(ii) to calculate the credit risk-weighted exposure amount of the unprotected portion; or
 - (ii) include the unprotected portion as Deductions from Tier 1 Capital and Deductions from Tier 2 Capital,

whichever is applicable.

6.5.31 For the purposes of paragraph 6.5.30, a Merchant Bank must treat the protected portion of an SA(SE) exposure which has a currency mismatch or a maturity mismatch in accordance with Annex 6D. In the case where the underlying exposure in the protected portion of an SA(SE) exposure has different maturities, the Merchant Bank must use the longest maturity as the maturity of the protected portion.

6.5.32 Despite paragraph 6.5.30(a)(i), a Merchant Bank must calculate the protected portion of an SA(SE) exposure in accordance with Annex 6E in cases of principal-only cover, partially eligible credit derivatives, tranching cover and basket credit derivatives.

Treatment of Credit Protection Sold

6.5.33 Where a Merchant Bank which is not the originator or the ABCP programme sponsor provides unfunded credit protection to a securitisation exposure, the Merchant Bank must calculate the credit risk-weighted exposure amount for the covered securitisation exposure as if it were directly holding that exposure. Where a Merchant Bank provides credit protection to an unrated credit enhancement, the Merchant Bank must calculate the credit risk-weighted exposure amount for the credit protection provided as if it were directly holding the unrated credit enhancement.

6.5.34 Where a Merchant Bank provides funded credit protection to a securitisation exposure, the Merchant Bank must calculate the credit risk-weighted exposure amount for the credit protection as the sum of -

- (a) the credit risk-weighted exposure amount for the covered securitisation exposure calculated in accordance with paragraph 6.5.33; and
- (b) the credit risk-weighted exposure amount for the exposure to the protection buyer using the risk weight which is applicable to the protection buyer,

subject to the condition that the minimum capital requirements for the sum of the credit protection calculated in sub-paragraphs (a) and (b) must not exceed the notional amount of the credit protection, which is the maximum possible payout under the credit protection.

Recognition of Eligible Financial Collateral under FC(SA)

6.5.35 A Merchant Bank which has taken eligible financial collateral for an SA(SE) exposure and is using the FC(SA) may recognise the effect of the eligible financial collateral as follows:

- (a) break down the SA(SE) exposure into -
 - (i) a collateralised portion with E equal to the latest fair market value of the eligible financial collateral; and
 - (ii) an uncollateralised portion with E equal to the E of the SA(SE) exposure less the latest fair market value of the eligible financial collateral; and
- (b) apply the risk weight that is applicable to the eligible financial collateral to the collateralised portion calculated in accordance with sub-paragraph (a)(i) to calculate the credit risk-weighted exposure amount of the collateralised portion as though the Merchant Bank had a direct exposure to the eligible financial collateral; and
- (c) either -
 - (i) apply the risk weight that is applicable to the securitisation exposure to the uncollateralised portion calculated in accordance with sub-paragraph (a)(ii) to calculate the credit risk-weighted exposure amount of the uncollateralised portion; or
 - (ii) include the uncollateralised portion as Deductions from Tier 1 Capital and Deductions from Tier 2 Capital,

whichever is applicable.

For the purposes of this paragraph, "collateral" refers to assets used to hedge the credit risk of a securitisation exposure, rather than the underlying exposures of the securitisation, and includes collateral pledged by an SPE.

Sub-division 5: Early Amortisation Provisions

6.5.36 A Merchant Bank which is an originator or an ABCP programme sponsor must hold regulatory capital for early amortisation exposures against all or a portion of the investors' interest when -

- (a) it sells exposures into a structure that contains an early amortisation feature; and
- (b) the exposures sold are of a revolving nature. These are exposures where the borrower is permitted to vary the drawn amount and repayments within an agreed limit under a line of credit¹³².

6.5.37 In the case of a securitisation involving an underlying pool of revolving and term exposures, a Merchant Bank must hold regulatory capital for early amortisation exposures only for that portion of the underlying pool containing revolving exposures.

6.5.38 In a Merchant Bank's calculation of credit RWA for securitisation exposures which are subject to the early amortisation treatment, the Merchant Bank must ensure that the aggregate credit risk-weighted exposure amount for all of the securitisation exposures of the Merchant Bank to a securitisation does not exceed the greater of -

- (a) the aggregate credit risk-weighted exposure amount corresponding to the retained or repurchased securitisation exposure; and
- (b) the aggregate credit risk-weighted exposure amount corresponding to the underlying exposures of the securitisation had they been on the balance sheet of the Merchant Bank and included in the calculation of the credit RWA of the Merchant Bank.

To avoid doubt, the aggregate credit risk-weighted exposure amount does not include any deduction for a gain-on-sale or a credit-enhancing interest only strip arising from the securitisation.

Exemption from Early Amortisation Treatment

6.5.39 Despite paragraph 6.5.36, a Merchant Bank need not hold regulatory capital for early amortisations in any of the following situations:

- (a) replenishment structures where the underlying exposures do not revolve and the early amortisation terminates the ability of the Merchant Bank to add new exposures;
- (b) transactions of revolving assets containing early amortisation features that mimic term structures (i.e. where the risk on the underlying facilities does not return to the Merchant Bank);

¹³² For example, credit card receivables and corporate loan commitments.

- (c) structures where the Merchant Bank securitises one or more credit lines and where investors remain fully exposed to future draws by borrowers even after an early amortisation event has occurred;
- (d) the early amortisation clause is triggered solely by events not related to the performance of the securitised assets or the Merchant Bank, such as material changes in tax laws or regulations.

CCFs FOR OFF-BALANCE SHEET ITEMS UNDER THE SA(CR)

1.1 Table 6A-1 sets out the CCFs for off-balance sheet items under the SA(CR).

Table 6A-1 – CCFs for off-balance sheet items under the SA(CR)

	Description of Off-balance Sheet Item¹³³	CCF
(a)	Direct credit substitutes ¹³⁴	100%
(b)	Certain transaction-related contingent items ¹³⁵	50%
(c)	Short-term self-liquidating trade-related contingent items ¹³⁶ , and commitments with an original maturity of one year or less to underwrite debt and equity securities. This paragraph is applicable where the Merchant Bank is issuing or confirming such commitments.	20%
(d)	Note issuance facilities and revolving underwriting facilities	50%
(e)	Transactions, other than SFTs, involving the posting of securities held by the Merchant Bank as collateral	100%
(f)	Sale and repurchase agreements and asset sales with recourse, where the credit risk remains with the Merchant Bank ¹³⁷	100%
(g)	Other commitments with certain drawdown, including forward purchases, forward deposits and partly paid securities	100%
(h)	Other commitments ¹³⁸	
	(i) with an original maturity of more than one year	50%
	(ii) with an original maturity of one year or less	20%
	(iii) which are unconditionally cancellable at any time by the Merchant Bank without prior notice, or that effectively provide for automatic cancellation due to deterioration in an obligor's creditworthiness	0%

1.2 Where there is an undertaking to provide a commitment on another off-balance sheet item, a Merchant Bank using the SA(CR) must apply the lower of the applicable CCFs.

1.3 For any item referred to in item (f) of Table 6A-1, the Merchant Bank must risk-weight the item according to the type of asset and not according to the type of counterparty with whom the transaction has been entered into.

¹³³ A Merchant Bank should recognise a commitment and record the commitment as an exposure for regulatory capital purposes on the date at which the loan contract or agreement is entered into by the Merchant Bank.

¹³⁴ For example, general guarantees of indebtedness, standby letters of credit serving as financial guarantees for loans and securities, and acceptances (including endorsements with the character of acceptances).

¹³⁵ For example, performance bonds, bid bonds, warranties and standby letters of credit related to particular transactions.

¹³⁶ For example, documentary credits collateralised by the underlying shipments.

¹³⁷ The terms of the agreement are such that there is no substantial transfer of all risks and rewards of ownership to the counterparty.

¹³⁸ For example, formal standby facilities and credit lines.

1.4 Where the item referred to in item (g) of Table 6A-1 is a forward purchase, forward deposit or partly paid security, the Merchant Bank must risk-weight the item according to the type of asset and not according to the type of counterparty with whom the transaction has been entered into.

1.5 Where the Merchant Bank makes a commitment to provide a loan that is to be drawn down in a number of tranches, the Merchant Bank must classify the commitment under item (h)(i) of Table 6A-1 and apply a CCF of 50% to the full undisbursed portion of the loan.

1.6 For any commitment referred to in item (h)(iii) of Table 6A-1, the Merchant Bank must be able to demonstrate to the satisfaction of the Authority that it actively monitors the financial condition of the obligor, and that its internal control systems are such that it is able to cancel the facility upon evidence of a deterioration in the credit quality of the obligor.

CCFs FOR OFF-BALANCE SHEET ITEMS UNDER THE SA(SE)

1.1 Table 6B-1 sets out the CCFs for off-balance sheet items under the SA(SE).

Table 6B-1 – CCFs for off-balance sheet items under the SA(SE)

	Description of Off-balance Sheet Item	CCF
(a)	Unrated eligible liquidity facilities	50%
(b)	Eligible servicer cash advance facilities	0%
(c)	Others	100%

1.2 For the purposes of item (b) of Table 6B-1, “eligible servicer cash advance facilities” refers to undrawn servicer cash advances or facilities that are contractually provided for and unconditionally cancellable without prior notice, so long as the servicer is entitled to full reimbursement and this right is senior to other claims on cash flows from the underlying exposures.

1.3 A Merchant Bank must notify the Authority if it intends to provide any eligible servicer cash advance facilities and when there is a drawdown.

CCFs FOR EARLY AMORTISATION EXPOSURES

Uncommitted Retail Exposures

1.1 To determine the CCF to be applied for uncommitted retail exposures, a Merchant Bank must compute the ESR.

1.2 In cases where a transaction does not require excess spread to be trapped, a Merchant Bank must deem the trapping point to be 4.5%.

1.3 For the purposes of this Annex, a credit line is considered an uncommitted retail exposure if it is unconditionally cancellable without prior notice.¹³⁹

	Securitisation subject to a controlled early amortisation provision	Securitisation subject to a non-controlled early amortisation provision
	CCF	CCF
$ESR \geq 133.33\%$	0%	0%
$100\% \leq ESR < 133.33\%$	1%	5%
$75\% \leq ESR < 100\%$	2%	15%
$50\% \leq ESR < 75\%$	10%	50%
$25\% \leq ESR < 50\%$	20%	100%
$ESR < 25\%$	40%	100%

Other Exposures

	Securitisation subject to a controlled early amortisation provision	Securitisation subject to a non-controlled early amortisation provision
CCF	90%	100%

1.4 For the purposes of this Annex, "other exposures" refer to committed retail credit lines and all non-retail exposures.

¹³⁹ An example is credit card receivables.

CRM**Section 1: General Requirements**

- 1.1 A Merchant Bank may recognise the effects of CRM only if –
- (a) all documentation relating to that CRM is binding on all relevant parties and legally enforceable in all relevant countries or jurisdictions;
 - (b) the Merchant Bank conducts sufficient legal review to verify all the matters mentioned in sub-paragraph (a), including obtaining a written independent legal opinion, to confirm the matters mentioned in sub-paragraph (a) and to ensure that the documentation mentioned in sub-paragraph (a) does not cease to be enforceable¹⁴⁰; and
 - (c) the Merchant Bank complies with the requirements and meets the guidelines set out in Sections 2 to 7 of this Annex, as applicable.
- 1.2 A Merchant Bank must keep, for five years, and make available at the request of the Authority, a record of the review mentioned in paragraph 1.1(b) of this Annex.
- 1.3 Where a Merchant Bank uses multiple CRM for a single exposure, the Merchant Bank must sub-divide the exposure into portions covered by each CRM¹⁴¹ and must calculate the credit risk-weighted exposure amount of each portion separately. A Merchant Bank must apply the same approach when recognising eligible credit protection by a single protection provider where the eligible credit protection has differing maturities.
- 1.4 If the Authority is not satisfied –
- (a) that paragraph 1.1 of this Annex has been complied with;
 - (b) with the robustness, suitability or application of a Merchant Bank's CRM management policies and procedures; or
 - (c) that residual risks are not adequately controlled,

¹⁴⁰ A Merchant Bank should ensure that –

- (a) the review covers relevant countries or jurisdictions such as the country or jurisdiction whose law governs the credit protection or collateral agreement and the country or jurisdiction whose law governs the transaction subject to the credit protection or collateral agreement; and
- (b) there is sufficient written documentary evidence to adequately support the conclusion drawn and rebut any legal challenge.

While a Merchant Bank may use either an in-house or external legal counsel, it should consider whether or not an in-house counsel opinion is appropriate. A Merchant Bank should ensure that an officer of the Merchant Bank who is legally qualified and independent of the parties originating the transaction reviews the legal opinion and confirms that he is satisfied that an adequate review has been completed and that he agrees with the conclusions drawn.

¹⁴¹ For example, for an exposure covered by both collateral and a guarantee, the exposure is divided into a portion covered by collateral, and a portion covered by a guarantee.

the Authority may take certain actions, including any or all of the following:

- (i) requiring the Merchant Bank to make adjustments to the assumptions on holding periods or supervisory haircuts under Annex 6G;
- (ii) prohibiting the Merchant Bank from fully recognising the effects of CRM, either on the entire credit portfolio or by specific asset classes or product lines;
- (iii) requiring the Merchant Bank to maintain additional capital.

1.5 A Merchant Bank must not -

- (a) double count the effects of CRM;
- (b) recognise the effects of CRM if such CRM is already reflected in the issue-specific external credit assessment of the exposure; or
- (c) use a principal-only external credit assessment, which is an external credit assessment that does not reflect the entire amount of credit risk exposure that the Merchant Bank has with regard to all payments owed to it, for the recognition of the effects of CRM.

Section 2: Recognition of Collateral

Types of Collateral

2.1 A Merchant Bank must ensure that the relevant requirements in paragraph 2.8 of this Annex are complied with before it recognises the effects of CRM of the types of collateral set out in paragraphs 2.2 to 2.7 of this Annex.

2.2 For a Merchant Bank using the FC(SA), eligible financial collateral comprises –

- (a) cash, and certificates of deposit or other instruments similar to certificates of deposit issued by the Merchant Bank, including cash-funded credit-linked notes issued by a Merchant Bank against exposures in the banking book which fulfil the criteria for eligible credit derivatives, but excluding any structured deposit as defined in Regulation 2 of the Financial Advisers (Structured Deposits – Prescribed Investment Product and Exemption) Regulations 2005;
- (b) gold;
- (c) any debt security, which includes any structured note –
 - (i) with an original maturity of one year or less that has a credit quality grade of “III” or better as set out in Table 6M-2 where the credit quality grade is determined based on an issue-specific external credit assessment of the debt security and in accordance with paragraph 6.3.7;

- (ii) with an original maturity of more than one year that has a credit quality grade of "4" or better as set out in Table 6M-1 if it is issued by a central government or central bank, where the credit quality grade is determined based on an issue-specific external credit assessment of the debt security and in accordance with paragraph 6.3.7; or
 - (iii) with an original maturity of more than one year that has a credit quality grade of "3" or better as set out in Table 6M-1 if it is issued by any entity other than a central government or central bank, where the credit quality grade is determined based on an issue-specific external credit assessment of the debt security and in accordance with paragraph 6.3.7. To avoid doubt, a debt security issued by a PSE which is risk-weighted at 0% or 20% under the SA(CR) pursuant to paragraph 6.3.25 and Table 6-3 is an eligible financial collateral pursuant to this sub-paragraph, if such debt security has a credit quality grade of "3" or better;
- (d) any equity security (including convertible bonds) that is included in a main index; and
- (e) any unit in a collective investment scheme where –
 - (i) a price for the units is publicly quoted daily; and
 - (ii) the collective investment scheme is limited to investing in the instruments listed in this paragraph. The use or potential use by a collective investment scheme of derivative instruments solely to hedge investments listed in this paragraph does not prevent units in that collective investment scheme from being recognised as eligible financial collateral.

2.3 For the purposes of paragraph 2.2 of this Annex, a Merchant Bank using the FC(SA) must exclude Tier 1 capital instruments or Tier 2 capital instruments it has issued that are held as collateral, as eligible financial collateral.

2.4 Resecuritisations, irrespective of any credit ratings, are not eligible financial collateral.

2.5 For the purposes of paragraph 2.2(c)(ii) of this Annex, when determining the credit quality grade of a debt security issued by a central government or central bank, the Merchant Bank may rely on the issuer external credit assessment to determine the credit quality grade of the debt security where no issue-specific external credit assessment is available.

2.6 For a Merchant Bank using the FC(CA), eligible financial collateral comprises –

- (a) any instrument listed in paragraph 2.2 of this Annex;
- (b) any equity security (including convertible bonds) that is listed on any approved exchange or overseas exchange; and

- (c) any unit in a collective investment scheme where a price for the units is publicly quoted daily and the collective investment scheme is limited to investing in instruments listed in paragraph 2.2 of this Annex and in this paragraph. The use or potential use by a collective investment scheme of derivative instruments solely to hedge investments listed in this paragraph does not prevent units in that collective investment scheme from being recognised as eligible financial collateral.

2.7 Despite paragraphs 2.2 and 2.6 of this Annex, in the case of any pre-settlement counterparty exposures arising from a repo-style transaction which is included in the trading book, eligible financial collateral includes all instruments which a Merchant Bank may include in the trading book (except resecuritisation exposures).

Requirements for Recognition of Collateral

2.8 A Merchant Bank must ensure that all of the following requirements are complied with, before it recognises the effects of CRM of any collateral and on an ongoing basis, to recognise the effects of CRM of any collateral:

- (a) the legal mechanism by which collateral is pledged, assigned or transferred must confer on the Merchant Bank the right to liquidate or take legal possession of the collateral, in a timely manner, in the event of the default, insolvency or bankruptcy (or one or more otherwise-defined credit events set out in the transaction documentation) of the counterparty (and, where applicable, of the custodian holding the collateral);
- (b) the Merchant Bank has taken all steps necessary to fulfil those requirements under the law applicable to the Merchant Bank's interest in the collateral for obtaining and maintaining an enforceable security interest¹⁴² or for exercising a right to net or set off in relation to title transfer collateral;
- (c) the credit quality of the counterparty and the value of the collateral do not have a material positive correlation¹⁴³;
- (d) the Merchant Bank has implemented clear and robust procedures for the timely liquidation of collateral to ensure that any legal conditions required for declaring default of counterparty and liquidating the collateral are observed, and that the collateral can be liquidated promptly;
- (e) where the collateral is held by a custodian, the Merchant Bank has taken reasonable steps to ensure that the custodian segregates the collateral from its own assets.

¹⁴² For example, by registering it with a registrar.

¹⁴³ For example, securities issued by the counterparty or a related group entity would be ineligible.

Section 3: Recognition of Guarantees

3.1 A Merchant Bank must ensure that all of the following requirements are complied with, before it recognises the effects of CRM of a guarantee and on an ongoing basis, to recognise the effects of CRM of a guarantee:

- (a) the guarantee is an explicitly documented obligation assumed by the guarantor;
- (b) the guarantee represents a direct claim on the guarantor;
- (c) the guarantee is explicitly referenced to a specific exposure or pool of exposures so that the extent of the credit protection cover is clearly defined and incontrovertible;
- (d) other than in the event of non-payment by the Merchant Bank of money due in respect of the guarantee if applicable, there is an irrevocable obligation on the part of the guarantor to pay out a pre-determined amount upon the occurrence of a credit event, as defined under the guarantee;
- (e) the guarantee does not contain any clause that -
 - (i) would allow the guarantor to unilaterally cancel the guarantee. This does not include any guarantee with a cancellation clause where it is provided that any obligation incurred or transaction entered into prior to any cancellation, unilateral or otherwise, continues to be guaranteed by the guarantor;
 - (ii) would increase the effective cost of the guarantee as a result of deteriorating credit quality of the underlying exposure;
 - (iii) depends on factors outside the direct control of the Merchant Bank for its fulfilment, which could prevent the guarantor from being obliged to pay out in a timely manner in the event that the underlying obligor fails to make any payment due; or
 - (iv) could allow the maturity of the guarantee agreed ex-ante to be reduced ex-post by the guarantor;
- (f) the Merchant Bank is able in a timely manner to pursue the guarantor for any monies outstanding under the documentation governing the transaction on the default of, or non-payment by, the underlying obligor¹⁴⁴, and has the right to receive such payments from the guarantor without first having to take legal actions to pursue the obligor for payment;

¹⁴⁴ The guarantee payments may be in the form of the guarantor making a lump sum payment of all monies to the Merchant Bank or the guarantor assuming the future payment obligations of the counterparty covered by the guarantee, as specified in the relevant documentation governing the guarantee.

- (g) the guarantee covers all types of payments that the underlying obligor is expected to make under the documentation governing the transaction¹⁴⁵. Where a guarantee covers payment of principal only, a Merchant Bank must treat interests and other uncovered payments as an unsecured amount in accordance with paragraph 1.2 of Annex 6E.

3.2 Where a Merchant Bank has an exposure that is protected by a guarantee which is counter-guaranteed by a central government or central bank, a Merchant Bank may treat the exposure as being protected by a direct guarantee from the central government or central bank in question, provided the following requirements are complied with:

- (a) the counter-guarantee covers all credit risk elements of the exposure;
- (b) both the original guarantee and the counter-guarantee comply with all the requirements for guarantees set out in this Annex, except that the counter-guarantee need not be direct and explicit with respect to the original exposure;
- (c) the Merchant Bank demonstrates to the satisfaction of the Authority that the cover is robust and that there is no evidence to suggest that the coverage of the counter-guarantee is less than equivalent in effect to that of a direct guarantee from the central government or central bank in question.

Section 4: Recognition of Credit Derivatives

Types of Credit Derivatives

4.1 A Merchant Bank may recognise the effects of CRM of only the following types of credit derivatives that provide credit protection equivalent to guarantees:

- (a) credit default swaps;
- (b) total return swaps; and
- (c) instruments that are composed of, or are similar in economic substance, to one or more of the credit derivatives in sub-paragraphs (a) and (b).

4.2 For the purposes of paragraph 4.1(b) of this Annex, a Merchant Bank must not recognise the effects of CRM of a total return swap if it purchases credit protection through a total return swap and records the net payments received on the swap as net income, but does not record offsetting deterioration in the value of the underlying asset that is protected (either through reductions in its marked-to-market value or by an addition to reserves).

¹⁴⁵ For example, notional amounts or margin payments.

Requirements for Recognition of Credit Derivatives

4.3 A Merchant Bank must ensure that all of the following requirements are complied with, before it recognises the effects of CRM of any credit derivative and on an ongoing basis, to recognise the effects of CRM of any credit derivative:

- (a) the terms and conditions of any credit protection obtained via a credit derivative are set out in writing by both the Merchant Bank and the provider of credit protection;
- (b) the credit derivative represents a direct claim on the provider of credit protection;
- (c) the credit derivative is explicitly referenced to a specific exposure or pool of exposures so that the extent of the credit protection cover is clearly defined and incontrovertible;
- (d) other than in the event of non-payment by the Merchant Bank of money due in respect of the credit derivative, there is an irrevocable obligation on the part of the provider of the credit protection to pay out a pre-determined amount upon the occurrence of a credit event, as defined under the credit derivative contract;
- (e) the credit derivative contract does not contain any clause that -
 - (i) would allow the provider of credit protection to unilaterally cancel the credit protection cover;
 - (ii) would increase the effective cost of the credit protection cover as a result of deteriorating credit quality of the underlying exposure;
 - (iii) depends on factors outside the direct control of the Merchant Bank for its fulfilment, which could prevent the provider of credit protection from being obliged to pay out in a timely manner in the event that the underlying obligor fails to make any payment due¹⁴⁶; or
 - (iv) could allow the maturity of the credit protection agreed ex-ante to be reduced ex-post by the provider of credit protection;
- (f) the credit events specified by the contracting parties must at a minimum cover -
 - (i) failure to pay the amounts due under terms of the underlying exposure that are in effect at the time of such failure (with a grace period, if any, that is closely in line with the grace period in the underlying exposure);

¹⁴⁶ This does not preclude an obligation by the buyer of credit protection to satisfy requirements relating to providing a Notice of Publicly Available Information, as is the case for the triggering of credit protection under standard credit default swap contracts.

- (ii) bankruptcy, insolvency or inability of the underlying obligor to pay its debts, or its failure or admission in writing of its inability generally to pay its debts as they become due, and analogous events; and
 - (iii) restructuring of the underlying exposure involving forgiveness or postponement of principal, interest or fees that results in a credit loss event, which is a charge-off, specific allowance or other similar debit to the profit and loss account;
- (g) the credit derivative does not terminate prior to the expiration of any grace period required for a default on the underlying exposure to occur as a result of a failure to pay, or the maturity of the underlying exposure subject to Section 6 of this Annex;
- (h) a robust valuation process is in place in order to estimate loss reliably for any credit derivative that allows for cash settlement, with a clearly specified period for obtaining post-credit event valuations of the underlying obligation¹⁴⁷;
- (i) where the right or ability of the Merchant Bank to transfer the underlying exposure to the credit protection provider is required for settlement, the terms of the underlying exposure provide that any required consent to such transfer may not be unreasonably withheld;
- (j) the identities of the parties responsible for determining whether a credit event has occurred are clearly defined and the determination is not the sole responsibility of the credit protection provider. The Merchant Bank has the right or ability to inform the credit protection provider of the occurrence of a credit event¹⁴⁸;
- (k) the underlying obligation and the reference obligation specified in the credit derivative contract for the purposes of determining the cash settlement value or the deliverable obligation or for the purposes of determining whether a credit event has occurred may be different only if -
 - (i) the reference obligation ranks *pari passu* with or is junior to the underlying obligation; and
 - (ii) 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;

¹⁴⁷ The Authority would generally consider the cash settlement methodology provided in the ISDA Credit Derivatives Definitions as satisfying this requirement.

¹⁴⁸ A Merchant Bank that has bought credit protection through a credit derivative covered by the 2009 ISDA Credit Derivatives Determinations Committees and Auction Settlement CDS Protocol (Big Bang Protocol) may recognise the effects of CRM of such a credit derivative, as the Merchant Bank has the right to request a ruling from parties responsible for determining whether a credit event has occurred ("Determinations Committee") and the Determinations Committee is independent from the CRM provider. In this case, the requirements in paragraph 4.3(j) of this Annex are fulfilled as the roles and identities of the parties responsible for determining the occurrence of a credit event is clearly identified and the determination of a credit event is not the sole responsibility of the credit protection provider.

- (l) the credit derivative must not expose the Merchant Bank to specific wrong-way risk.

Section 5: Currency Mismatches

5.1 In the case where there is a currency mismatch between the credit protection and the underlying exposure, a Merchant Bank must reduce the amount of the exposure deemed to be protected by applying a haircut, where -

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

where -

- (a) G = notional amount of the credit protection; and
- (b) H_{FX} = haircut appropriate for currency mismatch between the credit protection and underlying obligation exposure, which is set at 8%, based on a ten-business day holding period, if the credit protection is marked-to-market daily.

5.2 For the purposes of calculating the protected portion G_A as set out in paragraph 5.1 of this Annex, if the credit protection is not marked-to-market daily, a Merchant Bank must scale H_{FX} in accordance with paragraph 3.1 of Annex 6G.

Section 6: Maturity Mismatches

6.1 A Merchant Bank may recognise the effects of CRM for an exposure where there is a maturity mismatch only if the credit risk mitigant has an original maturity of at least one year and a residual maturity of more than three months. For the purposes of calculating credit RWA, a maturity mismatch occurs when the residual maturity of the credit risk mitigant is less than that of the underlying exposure.

6.2 A Merchant Bank must determine the maturity of the underlying exposure and the maturity of the credit risk mitigant conservatively. A Merchant Bank must calculate the residual maturity of the underlying exposure as the longest possible remaining time before the counterparty is scheduled to fulfil its obligation, taking into account any applicable grace period. For the credit risk mitigant, a Merchant Bank must take into account options, including embedded options, which may reduce the term of the credit protection so that the shortest possible residual maturity is used¹⁴⁹.

6.3 A Merchant Bank must calculate the value of the CRM adjusted for any maturity mismatch, P_A , using the following formula:

$$P_A = [P \times (t - 0.25)] / (T - 0.25)$$

¹⁴⁹ For example, in the case of a credit derivative, where the protection seller has a call option, the residual maturity is the remaining time to the first call date. Likewise, if the protection buyer owns the call option and has a strong incentive to exercise the call option at the first call date, for example because of a step-up in cost from this date on, the residual maturity is the remaining time to the first call date.

where -

- (a) P = value of the credit risk mitigant¹⁵⁰ adjusted for any haircuts;
- (b) t = min (T , residual maturity of the credit risk mitigant) expressed in years; and
- (c) T = min (5, residual maturity of the exposure) expressed in years.

6.4 For the purposes of calculating T as set out in paragraph 6.3(c) of this Annex, if there is a basket of exposures with different maturities, a Merchant Bank must use the longest maturity of any of the exposures as the maturity of all the exposures being hedged.

Section 7: Residual Risk

7.1 While a Merchant Bank may reduce or transfer credit risk by using CRM, the use of such techniques may simultaneously increase other risks (residual risks). Residual risks include legal, operational, liquidity and market risks. Therefore, a Merchant Bank must employ robust methods to control these risks, including -

- (a) strategy;¹⁵¹
- (b) consideration of the underlying credit;¹⁵²
- (c) valuation;¹⁵³
- (d) policies and procedures;¹⁵⁴

¹⁵⁰ For example, collateral amount, guarantee amount.

¹⁵¹ The Merchant Bank should ensure that a clearly articulated strategy for the use of CRM forms an intrinsic part of the general credit strategy of a Merchant Bank.

¹⁵² Where an exposure is collateralised, the Merchant Bank should ensure that credit managers should continue to assess the exposure on the basis of the obligor's creditworthiness. The Merchant Bank should ensure that credit managers should obtain and analyse sufficient financial information to determine the obligor's risk profile and its management and operational capabilities.

¹⁵³ The Merchant Bank should ensure that collateral should be revalued frequently, and the unsecured exposure should also be monitored frequently. Frequent revaluation is prudent, and the Merchant Bank should ensure that revaluation of marketable securities should occur on at least a daily basis. Furthermore, measures of the potential unsecured exposure under collateralised transactions should be calculated under stressed and normal conditions. One such measure would take account of the time and cost involved if the obligor or counterparty were to default and the collateral had to be liquidated. Furthermore, the Merchant Bank should ensure that the setting of limits for collateralised counterparties take account of the potential unsecured exposure. The Merchant Bank should ensure that the stress tests and scenario analysis are conducted to enable the Merchant Bank to understand the behaviour of its portfolio of collateral arrangements under unusual market conditions. The Merchant Bank should ensure that the unusual or disproportionate risk identified should be managed and controlled.

¹⁵⁴ The Merchant Bank should ensure that clear policies and procedures should be established in respect of collateral management, including - (a) the terms of collateral agreements; (b) the types of collateral and enforcement of collateral terms (e.g. waivers of posting deadlines); (c) the management of legal risks; (d) the administration of agreement (e.g. detailed plans for determining default and liquidating collateral); and (e) the prompt resolution of disputes, such as valuation of collateral or positions, acceptability of collateral, fulfilment of legal obligations and the interpretation of contract terms.

- (e) systems;¹⁵⁵
- (f) control of roll-off risks;¹⁵⁶ and
- (g) management of concentration risk arising from the use of CRM and the interaction of such concentration risk with the overall credit risk profile of the Merchant Bank¹⁵⁷.

¹⁵⁵ The Merchant Bank should ensure that its policies and procedures referred to under paragraph 7.1(d) of this Annex are supported by collateral management systems capable of tracking the location and status of posted collateral (including re-hypothecated collateral), outstanding collateral calls and settlement problems.

¹⁵⁶ Where a Merchant Bank obtains credit protection that differs in maturity from the underlying credit exposure, the Merchant Bank should monitor and control its roll-off risks, i.e. the fact that the Merchant Bank will be fully exposed when the protection expires, and the risk that it will be unable to purchase credit protection or ensure its capital adequacy when the credit protection expires.

¹⁵⁷ Taking as collateral large quantities of instruments issued by one obligor creates concentration risk. A Merchant Bank should have a clearly defined policy with respect to the amount of concentration risk it is prepared to run. Such a policy might, for example, include a cap on the amount of collateral it would be prepared to take from a particular issuer or market. The Merchant Bank should also take collateral and purchased credit protection into account when assessing the potential concentrations in its overall credit profile.

TREATMENT FOR SPECIFIC TYPES OF CREDIT PROTECTION BOUGHT

Proportional Cover

1.1 Where a Merchant Bank and the eligible credit protection provider share losses on a *pari passu* and pro rata basis, a Merchant Bank must recognise the eligible credit protection on a proportional basis by applying to the protected portion of the exposure the treatment applicable to eligible credit protection, and by treating the remainder of the exposure as unprotected.

Principal-only Cover

1.2 Where the amount guaranteed, or against which an eligible credit protection is held, offers principal-only cover, a Merchant Bank must treat the principal amount as the protected portion and interest and other uncovered payments as the unprotected portion.

Partially Eligible Credit Derivatives

1.3 Where a Merchant Bank recognises credit protection through a credit derivative which meets all the requirements in Annex 6D other than paragraph 4.3(f)(iii) of that Annex, it must treat as the protected portion –

- (a) 60% of the amount of the credit derivative; or
- (b) 60% of the amount of the underlying exposure,

whichever is lower.

Tranched cover

1.4 Where a Merchant Bank transfers a portion of the risk of an exposure or a pool of exposures in one or more tranches to a protection seller or sellers and the risk transferred and the risk retained are of different seniority, the Merchant Bank may recognise credit protection for the portion that has been transferred, regardless of whether this is a senior tranche¹⁵⁸ or a junior tranche¹⁵⁹, in accordance with Sub-division 2 of Division 5 of Part VI.

Basket Credit Derivatives

1.5 Where a Merchant Bank recognises credit protection through an eligible first-to-default credit derivative, it must treat as the protected portion –

¹⁵⁸ For example, the second loss portion of the securitisation.

¹⁵⁹ For example, the first loss portion of the securitisation.

- (a) the notional amount of the asset in the basket of reference credits with the lowest risk-weighted exposure amount; or
- (b) the notional amount of the credit protection,

whichever is lower.

1.6 Where a Merchant Bank recognises credit protection through an eligible second-to-default credit derivative and –

- (a) it also has first-to-default credit protection, it must treat as the protected portion –
 - (i) the notional amount of the asset in the basket of reference credits with the second lowest risk weighted exposure amount; or
 - (ii) the notional amount of the credit protection,whichever is lower; or
- (b) one of the reference credits has already defaulted, it must treat as the protected portion –
 - (i) the notional amount of the asset in the basket of reference credits remaining with the lowest risk-weighted exposure amount; or
 - (ii) the notional amount of the credit protection,whichever is lower.

CALCULATION OF E* FOR COLLATERALISED TRANSACTIONS OTHER THAN OTC DERIVATIVE TRANSACTIONS AND LONG SETTLEMENT TRANSACTIONS

1.1 A Merchant Bank using the FC(CA) to calculate E* must adjust both the amount of the exposure to the counterparty¹⁶⁰ and the value of any collateral received in support of that counterparty to take into account possible future fluctuations in the value of either due to market movements, by using the methods and haircuts set out in Annex 6G.

1.2 A Merchant Bank must calculate the appropriate haircuts to be applied using standard supervisory haircuts.

¹⁶⁰ The amount of the exposure may vary where, for example, securities are being lent.

METHODS AND HAIRCUTS FOR RECOGNISING COLLATERAL

Section 1: Calculation of E*

1.1 A Merchant Bank using standard supervisory haircuts under the FC(CA) must calculate E*, the exposure amount adjusted for eligible financial collateral, for any collateralised transaction not covered by a qualifying bilateral netting agreement other than OTC derivative transactions or long settlement transactions, using the following formula:

$$E^* = \max \{0, [E (1 + H_E) - C(1 - H_C - H_{FX})]\}$$

where -

- (a) E* = exposure value after risk mitigation;
- (b) E = fair value of the exposure calculated in accordance with Division 2 of Part VI;
- (c) H_E = haircut appropriate to the exposure;
- (d) C = fair value of the eligible financial collateral received;
- (e) H_C = haircut appropriate to the collateral, or if the collateral is a basket of assets, the weighted sum of the haircuts appropriate to the assets in the basket where each weight is the proportion of the asset in the basket in units of currency; and
- (f) H_{FX} = haircut appropriate for currency mismatch between the collateral and exposure.

1.2 Where there is a maturity mismatch between the eligible financial collateral received by a Merchant Bank and the underlying exposure, the Merchant Bank must substitute P_A calculated in accordance with paragraph 6.3 of Annex 6D for C(1 - H_C - H_{FX}).

1.3 A Merchant Bank using standard supervisory haircuts under the FC(CA) must calculate E* for any collateralised transaction covered by a qualifying bilateral netting agreement other than OTC derivative transactions or long settlement transactions, using the following formula:

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

where -

- (a) E* = exposure value after risk mitigation;
- (b) E = fair value of the exposure calculated in accordance with Division 2 of Part VI;

- (c) C = fair value of the eligible financial collateral received; and
- (d) add-on = the add-on amount to reflect the market price volatility and foreign exchange volatility, calculated in accordance with paragraph 1.4 of this Annex.

1.4 A Merchant Bank must calculate the add-on as follows:

$$\text{add on} = \sum ((E_S)(H_S)) + \sum ((E_{FX})(H_{FX}))$$

where –

- (a) E_S = absolute value of the net position in a given security;
- (b) H_S = haircut appropriate to E_S ;
- (c) E_{FX} = absolute value of the net position in a currency different from the settlement currency; and
- (d) H_{FX} = haircut appropriate for currency mismatch between the collateral and exposure.

1.5 Subject to paragraphs 1.6 and 1.7 of this Annex, a Merchant Bank must determine H_E , H_C , H_S and H_{FX} referred to in paragraphs 1.1 to 1.4 of this Annex, in accordance with the standard supervisory haircuts in Section 2 of this Annex.

1.6 A Merchant Bank may apply a value of zero to H_E , H_C and H_S in the case of a qualifying repo-style transaction with a core market participant.

1.7 A Merchant Bank may apply a value of zero to H_E , H_C and H_S in the case of an SFT where both the exposure and collateral are securities issued by the Singapore Government, or by other central governments where a value of zero has been prescribed by the bank regulatory agency of that country or jurisdiction and exposures to the central government of that country or jurisdiction have a credit quality grade of “1” as set out Table 6M-1.

Section 2: Standard Supervisory Haircuts

2.1 The standard supervisory haircuts, H_E , H_C and H_S (assuming daily remargining and daily revaluation (i.e. mark-to-market) and a ten-business day holding period), are as follows:

Table 6G-1 - Standard Supervisory Haircuts

Eligible Financial Collateral		Standard Supervisory Haircuts	
Issue Rating for Debt Securities	Residual Maturity	Sovereign Issuers	Other Issuers
Any debt security with a credit quality grade of "1" or short-term credit quality grade of "I"	≤ 1 year	0.005	0.01
	> 1 year, ≤ 5 years	0.02	0.04
	> 5 years	0.04	0.08
Any debt security with a credit quality grade of "2" and "3" or short-term credit quality grade of "II" and "III"	≤ 1 year	0.01	0.02
	> 1 year, ≤ 5 years	0.03	0.06
	> 5 years	0.06	0.12
Any debt security with a credit quality grade of "4"	All	0.15	NA
Gold		0.15	
Any equity (including a convertible bond) in a main index		0.15	
Any other equity (including a convertible bond) listed on an approved exchange or an overseas exchange		0.25	
Any unit in a collective investment scheme		0.25 or highest haircut applicable to any security in which the fund can invest	
Cash (i.e. items in paragraph 2.2(a) of Annex 6D) in the same currency as the underlying exposure		0	
Instruments in the trading book other than those listed above (for pre-settlement counterparty exposures arising from repo-style transactions included in the trading book)		0.25	

2.2 For the purposes of Table 6G-1 –

- (a) in the case of a debt security issued by a central government or a central bank, a Merchant Bank must ensure that the credit quality grade is determined based on an issue-specific external credit assessment of the debt security and in accordance with paragraph 6.3.7. Where no issue-specific external credit assessment is available, the Merchant Bank may rely on the issuer external credit assessment to determine the credit quality grade of such a debt security;
- (b) "sovereign issuer" means any of the following:
 - (i) any central government;
 - (ii) any central bank;
 - (iii) any qualifying MDB;
 - (iv) any PSE, the exposure to which would qualify for a 0% or 20% risk weight under the SA(CR) pursuant to paragraph 6.3.25 and Table 6-3.

2.3 Despite paragraph 2.1 of this Annex, the standard supervisory haircut, H_E , for transactions in which a Merchant Bank lends, or post as collateral, instruments that do not qualify as eligible financial collateral¹⁶¹ is 0.25. For collateralised transactions in which the Merchant Bank borrows, or receives as collateral, instruments that do not qualify as eligible financial collateral, the Merchant Bank must not recognise the effect of CRM of the collateral.

2.4 The standard supervisory haircut, H_{FX} , for currency mismatch where exposure and collateral are denominated in different currencies based on a ten-business day holding period and daily revaluation is 0.08.

2.5 Where the minimum holding period is shorter or longer than 10 business days, or where the frequency of remargining or revaluation assumptions set out in paragraph 2.1 of this Annex differ from those of the Merchant Bank, the Merchant Bank must adjust H_E , H_C , H_{FX} and H_S using the formulae in Section 3 of this Annex.

Section 3: Minimum Holding Periods, Remargining or Revaluation Conditions

3.1 Where the assumed remargining or revaluation conditions are not fulfilled, a Merchant Bank must calculate the applicable haircut using the following formula¹⁶²:

$$H = H_M \sqrt{\{[N_R + (T_M - 1)] / T_M\}}$$

where -

- (a) "H" refers to the haircut;
- (b) " H_M " refers to the haircut under the minimum holding period;
- (c) " T_M " refers to the minimum holding period set out in paragraph 2.1 of this Annex; and
- (d) " N_R " refers to the actual number of business days between remargining or revaluation, as the case may be.

¹⁶¹ An example is corporate debt securities with a credit quality of "4" or worse.

¹⁶² For example, a Merchant Bank must scale the standard supervisory haircuts provided in paragraph 2.1 of this Annex based on a ten-business day holding period up or down depending on the frequency of remargining or revaluation using the formula:

$$H = H_{10} \sqrt{\{[N_R + (T_M - 1)] / 10\}}$$

where -

- (a) "H" refers to the haircut;
- (b) " H_{10} " refers to ten-business day standard supervisory haircut for the eligible financial collateral;
- (c) " T_M " refers to the minimum holding period; and
- (d) " N_R " refers to the actual number of business days between remargining or revaluation, as the case may be.

QUALIFYING REPO-STYLE TRANSACTIONS

1.1 A qualifying repo-style transaction must comply with the following requirements:

- (a) both the exposure and the collateral are cash, or a security issued by an entity which would fall within the central government and central bank asset class in paragraph 6.3.1(b) or the PSE asset class in paragraph 6.3.1(c), and qualify for a 0% risk weight under the SA(CR) pursuant to paragraphs 6.3.20 to 6.3.26;
- (b) both the exposure and the collateral are denominated in the same currency;
- (c) either the transaction is overnight or both the exposure and the collateral are marked-to-market daily and are subject to daily remargining;
- (d) 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 time that the collateral may be liquidated is no more than four business days. To avoid doubt, a Merchant Bank is not required to liquidate collateral to comply with this sub-paragraph, but must have the capability to do so within the given time frame;
- (e) the transaction is settled across a recognised settlement system for that type of transaction;
- (f) the documentation covering the agreement is standard market documentation for repo-style transactions in the securities concerned;
- (g) the transaction is governed by documentation specifying that if the counterparty fails to satisfy an obligation to deliver cash or securities or to deliver margin, or otherwise defaults, then the transaction may be terminated immediately;
- (h) upon any event of default, regardless of whether the counterparty is insolvent or bankrupt, the Merchant Bank has the unfettered, legally enforceable right to immediately seize and liquidate the collateral for the benefit of the Merchant Bank.

1.2 For the purposes of paragraph 1.1(a) of this Annex, a domestic-currency claim complies with the sub-paragraph if a bank regulatory agency designates domestic-currency claims on its central government or central bank to be eligible for a 0% risk weight under the SA(CR).

CORE MARKET PARTICIPANTS

“Core market participant” means any of the following:

- (a) an entity which would fall within the central government and central bank asset class in paragraph 6.3.1(b);
- (b) an entity that would fall within the PSE asset class in paragraph 6.3.1(c);
- (c) a qualifying MDB;
- (d) a banking institution;
- (e) a financial institution eligible for a 20% risk weight under the SA(CR);
- (f) a central counterparty.

QUALIFYING BILATERAL NETTING AGREEMENTS

Section 1: Introduction

1.1 A qualifying bilateral netting agreement is a bilateral netting agreement in respect of which the requirements set out in Sections 3 to 5 of this Annex are complied with.

Section 2: Scope of Application

2.1 A qualifying bilateral netting agreement involves a group of transactions between a Merchant Bank and a counterparty containing transactions in only one of the following product categories (collectively "Transactions"):

- (a) OTC derivative transaction;
- (b) repo, reverse repo, securities or commodities lending transaction and securities or commodities borrowing transaction;
- (c) margin lending transaction.

Section 3: Requirements for Netting Agreements

3.1 Subject to this Section and Sections 4 and 5 of this Annex, a Merchant Bank must –

- (a) obtain a written independent legal opinion¹⁶³ confirming that the netting agreement is valid, effective and enforceable for each of the following countries or jurisdictions:
 - (i) the country or jurisdiction in which the counterparty is incorporated or established;
 - (ii) if a foreign branch of the Merchant Bank or the counterparty has entered or will be entering into the Transaction, the country or jurisdiction in which the branch of the Merchant Bank or the counterparty, as the case may be, is located;
 - (iii) the country or jurisdiction whose law governs the netting agreement;
 - (iv) the country or jurisdiction whose law governs any Transaction in relation to the netting agreement if different from sub-paragraph (iii),

¹⁶³ While a Merchant Bank may use either an in-house or external legal counsel for the purposes of obtaining a written independent legal opinion, it should consider whether or not an in-house counsel opinion is appropriate. In the case of an in-house legal counsel, a Merchant Bank should ensure that the in-house legal counsel is independent of the parties originating transactions covered by the netting agreement.

(referred to as “relevant countries or jurisdictions” in this Annex) which satisfies the requirements set out in Section 4 of this Annex;

(b) in relation to a netting agreement containing Transactions in paragraph 2.1(b) and (c) of this Annex, ensure that -

(i) the netting agreement -

(A) provides the non-defaulting party the right to terminate and close out in a timely manner all Transactions upon the occurrence of a termination event as defined in the netting agreement, including the default or insolvency of the defaulting party; and

(B) allows for the prompt liquidation or set-off of collateral upon the event of default; and

(ii) where the netting agreement covers Transactions in both the banking book and trading book, -

(A) the Transactions are marked-to-market daily; and

(B) the collateral in the Transactions are recognised as eligible financial collateral in the banking book in accordance with Annex 6D; and

(c) provide to the Authority the information and documents set out in paragraphs 3.2 and 3.3 of this Annex.

3.2 A Merchant Bank must provide to the Authority a summary listing¹⁶⁴ of the source and date of each legal opinion obtained for the purposes of paragraph 3.1(a) of this Annex, stating in each case, whether such legal opinion was commissioned specifically by the Merchant Bank, by the Merchant Bank collectively with any other party, or by some other third party. The Merchant Bank must provide to the Authority the summary listing no later than 15 months from the previous submission¹⁶⁵.

3.3 The Authority may, where it considers it necessary, require a Merchant Bank to provide copies of, or access to, the netting agreement and the legal opinions obtained for the purposes of paragraph 3.1(a) of this Annex.

Section 4: Legal Opinions obtained for purposes of paragraph 3.1(a) of this Annex

4.1 The Merchant Bank must ensure that the legal opinion —

¹⁶⁴ This can be prepared by either the external or internal legal adviser of the Merchant Bank.

¹⁶⁵ A Merchant Bank should provide to the Authority the summary listing at least once every 12 months.

- (a) is in the form of a memorandum of law and addressed directly to the Merchant Bank or the sponsors of a particular netting agreement or form of netting agreement¹⁶⁶; or
- (b) is the product of a number of parties (including the Merchant Bank) pooling together to seek a collective opinion on a particular netting agreement.

4.2 The Merchant Bank must ensure that each legal opinion confirms that in an event of default as defined under the netting agreement, including liquidation, bankruptcy or other similar circumstance of either the counterparty or the Merchant Bank, the courts and administrative authorities¹⁶⁷ of the relevant country or jurisdiction will find that the claims and obligations of the Merchant Bank pursuant to the relevant Transactions would be limited to a net sum calculated in accordance with the netting agreement under the law of the relevant country or jurisdiction.

4.3 For the purposes of paragraphs 4.1 and 4.2 of this Annex, the Merchant Bank must ensure that each legal opinion must, at a minimum¹⁶⁸ -

- (a) highlight the material clauses in the netting agreement that provide for the netting of Transactions ("material netting clauses");
- (b) confirm that the unenforceability or illegality of any clause (other than a material netting clause) in the netting agreement is unlikely to undermine the material netting clauses referred to in sub-paragraph (a);
- (c) state the circumstances under which the netting agreement may be relied upon, including -
 - (i) the legal form of, or activities conducted by, the counterparty; and
 - (ii) whether certain counterparties¹⁶⁹ may be subject to special rules relating to insolvency as a result of the legal form of, or activities conducted by, the counterparties;
- (d) state whether the netting or other default provisions in the netting agreement are enforceable or enforceable differently (and if so, the extent of the difference) in a non-liquidation event, such as administration, judicial management, receivership, voluntary arrangement and a scheme of arrangement;
- (e) state to what extent, if at all, the netting needs to be reflected in the records of the counterparties in order for it to be valid, effective and enforceable;

¹⁶⁶ The Authority would normally consider independent legal opinions commissioned and collated by ISDA as complying with the requirements set out in paragraphs 4.1 to 4.6 of this Annex.

¹⁶⁷ This includes a court-appointed administrator and an administrator appointed by a regulatory authority.

¹⁶⁸ This is not intended to be an exhaustive list of all the matters that should be covered in a legal opinion obtained for the purposes of paragraph 3.1(a) of this Annex.

¹⁶⁹ These include banking institutions, insurance companies and local authorities.

- (f) state whether a court or administrative authority in the country or jurisdiction covered by the legal opinion would uphold the rate chosen for the conversion of foreign currency obligations for the purposes of calculating the close-out amount and whether there are any statutory or other applicable rules that may affect this aspect of the netting agreement;
- (g) state whether, under the law of the country or jurisdiction covered by the legal opinion, it is necessary for the enforceability of the netting that all Transactions be regarded as part of a single agreement, and if so, whether there is anything in the close-out methodology which may be held to be inconsistent with the treatment of all Transactions as part of a single agreement and the effect it may have on the netting;
- (h) state whether there is any reason to believe that the netting agreement would be unenforceable because of the law of another country or jurisdiction;
- (i) state whether there is any preference specified in the netting agreement for automatic rather than optional close-out, and if so, whether such preference would affect the enforceability of the netting agreement;
- (j) state whether there are legal problems in exercising any discretion or flexibility provided for in the netting agreement, and if so, whether such problems affect the enforceability of the netting agreement; and
- (k) if other clauses are added to a standard form agreement, confirm that such additional clauses do not throw any reasonable doubt or affect the overall validity, effectiveness or enforceability of the netting agreement.

4.4 The Authority is aware that it may not be possible for a Merchant Bank to obtain a legal opinion that provides a definitive view on the validity, effectiveness and enforceability of the netting agreement without certain assumptions or qualifications. The presence *per se* of assumptions and qualifications within the legal opinion will not render the legal opinion unsatisfactory for the purposes of this Notice. However, the Merchant Bank must ensure that assumptions underlying the legal opinion are not unduly restrictive and are specific, of a factual nature and adequately explained within the legal opinion. Where qualifications are made, the Merchant Bank must ensure that such qualifications are specific and their effect is adequately explained within the legal opinion. A Merchant Bank must examine and assess the assumptions and qualifications in the legal opinion.

4.5 If the Merchant Bank determines that —

- (a) the absence of any of the information listed in paragraph 4.3 of this Annex;
or
- (b) any of the assumptions or qualifications in the legal opinion,

gives rise to reasonable doubt as to the validity, effectiveness or enforceability of the netting agreement, the Merchant Bank must not treat the netting agreement as a qualifying bilateral netting agreement.

4.6 In this regard, where there is more than one relevant country or jurisdiction in relation to a netting agreement, the Merchant Bank must not treat the netting agreement as a qualifying bilateral netting agreement, if the Merchant Bank has any reasonable doubt, based on its own evaluation of the legal opinions, as to whether the netting agreement is valid, effective and enforceable in any relevant country or jurisdiction considering the potential for conflicts of laws and whether action may be taken by insolvency officials in other countries or jurisdictions.

4.7 The Merchant Bank must review each legal opinion and obtain updates thereto, either in the form of a fresh legal opinion or a letter from an external firm of lawyers confirming that the opinion on the validity, effectiveness and enforceability of the netting agreement remains unchanged. The Merchant Bank must review each legal opinion no later than 15 months from the previous review¹⁷⁰. The Merchant Bank must also document the sources of the legal opinions, and the expertise of the persons giving the legal opinions.

4.8 Despite paragraph 3.1(a) of this Annex, where any relevant country or jurisdiction does not recognise netting or recognises netting only in a limited form, the Merchant Bank must report Transactions for which that country or jurisdiction is a relevant jurisdiction on a gross basis. The Merchant Bank may report all other Transactions under the same netting agreement on a net basis.

4.9 The Merchant Bank must alert the Authority immediately when it becomes aware of any relevant country or jurisdiction that does not recognise netting or recognises netting only in a limited form (whether as to certain products, or with counterparties of certain legal forms or counterparties performing certain activities).

4.10 Where a Merchant Bank is aware that a supervisory authority of the counterparty of the Merchant Bank (whether the supervisory authority is the home or host supervisor) is not satisfied that a netting agreement is legally valid, effective or enforceable under the law of the country or jurisdiction of that supervisory authority, the Merchant Bank must not treat the netting agreement as a qualifying bilateral netting agreement, despite any legal opinion obtained by the Merchant Bank.

Section 5: Policies, Systems and Controls

5.1 A Merchant Bank must have in place a netting policy that sets out, at a minimum, all of the following:

- (a) the person responsible for setting and reviewing the policy on netting;
- (b) the frequency of review of the netting policy;
- (c) the person responsible for approving the application of a netting agreement to any Transaction (including determining whether the netting agreement is covered by an existing legal opinion or whether separate legal opinions are required);
- (d) how the Merchant Bank monitors legal developments affecting its netting agreements and the need to obtain additional legal opinions;

¹⁷⁰ A Merchant Bank should review each legal opinion at least once every 12 months.

- (e) what the Merchant Bank is to include in its netting agreements to ensure that its interests, rights and obligations are duly reflected;
- (f) the processes for determining and reporting net exposures to individual counterparties.

5.2 The Merchant Bank must also have in place adequate systems and controls to monitor the Transactions, including systems and controls to ensure that -

- (a) only Transactions entered into by the Merchant Bank with a counterparty that are covered by a netting agreement are netted;
- (b) net exposures arising from such Transactions, including net exposures of each branch of the Merchant Bank against each branch of the counterparty, where applicable, are accurately determined and reported;
- (c) documentary evidence of the Transactions subject to netting are maintained and appropriately safeguarded and the Merchant Bank is able to produce such documentary evidence, if required by the Authority;
- (d) the legal opinions are not superceded by subsequent changes in the laws of the relevant countries or jurisdictions and that all of the following are duly documented and must be updated no later than 15 months from the previous update¹⁷¹:
 - (i) the types of counterparties and Transactions covered by each netting agreement;
 - (ii) the relevant countries or jurisdictions for each netting agreement to which the Merchant Bank is a party. The Merchant Bank must note any country or jurisdiction for which any doubt may exist as to the legal validity, effectiveness or enforceability of netting and what action the Merchant Bank has taken as a result;
- (e) counterparty limits are monitored in terms of such net exposures; and
- (f) potential roll-off exposures, which occur upon maturity of short-dated obligations that are netted against longer dated claims, are monitored.

5.3 A Merchant Bank must maintain all documentation referred to in Sections 3 and 4 of this Annex at all times.

¹⁷¹ A Merchant Bank should update the documentation referred to in paragraph 5.2(d)(i) and (ii) of this Annex at least once every 12 months.

CURRENT EXPOSURE METHOD

1.1 A Merchant Bank using the current exposure method must calculate E for the pre-settlement counterparty exposure arising from an OTC derivative transaction that is not covered by a qualifying bilateral netting agreement by adding -

- (a) the replacement cost (obtained by marking-to-market) of the OTC derivative transaction or in the case of a transaction with negative replacement cost, a value of zero¹⁷²; and
- (b) the amount for potential future exposure obtained by applying the appropriate add-on factor set out in Table 6K-1 to the notional amount of the OTC derivative transaction unless the stated notional amount is leveraged or enhanced by the structure of the transaction. In the event that the stated notional amount is leveraged or enhanced by the structure of the transaction, the Merchant Bank must use the effective notional amount when determining the potential future exposure.

Table 6K-1 – Add-on Factors to Reflect Potential Future Exposure

	OTC Derivative Transaction	One year or less	Over one year to five years	Over five years
(a)	Foreign Exchange Rate and Gold	1.0 %	5.0%	7.5%
(b)	Interest Rates	0.0 %	0.5%	1.5%
(c)	Equity	6.0 %	8.0%	10.0%
(d)	Precious metals (except gold)	7.0 %	7.0%	8.0%
(e)	Other commodities	10.0 %	12.0%	15.0%
(f)	Credit derivatives	Protection buyer		Protection seller
	<u>Total Return Swap</u>			
	Qualifying reference obligation	5%	5%	
	Non-qualifying reference obligation	10%	10%	
	<u>Credit Default Swap</u>			
	Qualifying reference obligation	5%	5%	
	Non-qualifying reference obligation	10%	10%	

1.2 For the purposes of Table 6K-1, -

- (a) for a transaction with multiple exchanges of principal, a Merchant Bank must multiply the add-on factors by the number of remaining payments in the contract;
- (b) for a transaction that is structured to settle outstanding exposures following specified payment dates and where the terms are reset such that

¹⁷² A Merchant Bank should allocate any foreign exchange transaction or translation gains or losses from a foreign currency-denominated OTC derivative transaction to the exposure to which it accrues.

the market value of the contract is zero on these specified dates, the residual maturity is equal to the time until the next reset date. In the case of an interest rate contract with a remaining maturity of more than one year which meets the above criteria, the add-on factor is subject to a minimum of 0.5%;

- (c) for any transaction referred to in item (b), a Merchant Bank must not calculate any potential future exposure for single currency floating/floating interest rate swaps. The Merchant Bank must evaluate the exposure on these contracts solely on the basis of their fair value;
- (d) item (e) includes any forward, swap, purchased option and other similar derivative contracts which are not classified in items (a) to (d);
- (e) "qualifying reference obligation" means any security that is issued by any MDB, any security (including one issued by a PSE) that has a credit quality grade of "3" or better as set out in Table 6M-1 based on the external credit assessment of at least one recognised ECAI, and any unrated security issued by a PSE which belongs to a country with a credit quality grade of "1" as set out in Table 6M-1. Where a security has more than one external credit assessment and these map into different credit quality grades, paragraph 6.3.7 applies;
- (f) where the credit derivative is a first-to-default transaction, the add-on factor is determined by the lowest quality underlying reference obligation in the basket.¹⁷³ For a second-to-default transaction, the add-on is determined by the second lowest quality underlying reference obligation in the basket. For a nth-to-default transaction, the add-on is determined by the nth-lowest quality underlying reference obligation in the basket;
- (g) the protection seller of a credit default swap is only subject to the add-on factor where it is subject to closeout upon the insolvency of the protection buyer while the underlying reference obligation is still solvent¹⁷⁴.

1.3 A Merchant Bank may calculate the pre-settlement counterparty exposure arising from a long settlement transaction using the current exposure method as set out in this Annex. In such a case, this Annex is read with reference to a long settlement transaction.

1.4 For an OTC derivative transaction or a long settlement transaction to a single counterparty that is covered by a qualifying bilateral netting agreement, a Merchant Bank using the current exposure method must calculate E for the pre-settlement counterparty exposure arising from that netting set by adding -

- (a) the net replacement cost (obtained by marking-to-market) of all OTC derivative transactions with that counterparty or in the case where the net replacement cost is negative, a value of zero; and

¹⁷³ For example, if there is any non-qualifying reference obligation in the basket, the Merchant Bank must use the non-qualifying reference obligation.

¹⁷⁴ The potential future exposure should be capped to the amount of unpaid premiums.

(b) an add-on, A_{NET} for potential future exposure which is calculated as follows:

$$A_{NET} = 0.4 \times A_{GROSS} + 0.6 \times NGR \times A_{GROSS}$$

where -

- (i) " A_{GROSS} " refers to the sum of individual add-on amounts (calculated by multiplying the notional amount of each OTC derivative transaction by the appropriate add-on factor set out in Table 6K-1) of all OTC derivative transactions with that counterparty; and
- (ii) " NGR " refers to the ratio of the net current replacement cost calculated in accordance with sub-paragraph (a) to the gross current replacement cost for all OTC derivative transactions subject to qualifying bilateral netting agreements with that counterparty.

A Merchant Bank must calculate the NGR separately for each counterparty. Any Merchant Bank which proposes to use an aggregate NGR must consult the Authority. To avoid doubt, the value of the NGR must be non-negative.

1.5 For the purposes of paragraph 1.4(b)(i) of this Annex, the notional amount for a forward exchange contract and any other similar contract in which the notional amount is equivalent to cash flows is defined as the net receipts due on each value date in each currency.

1.6 A Merchant Bank using the SA(CR) may use either the FC(SA) or the FC(CA) to recognise the effect of eligible financial collateral for any OTC derivative transaction in the banking book. The Merchant Bank must apply the chosen approach to the entire banking book and must not use a combination of both approaches. For any pre-settlement counterparty exposure arising from an OTC derivative transaction in the trading book, a Merchant Bank using the SA(CR) must use only the FC(CA) to recognise the effect of eligible financial collateral.

1.7 A Merchant Bank using the SA(CR) and FC(SA) may recognise the effect of eligible financial collateral for any OTC derivative transaction in accordance with Sub-division 4 of Division 3 of Part VI.

1.8 A Merchant Bank which has taken eligible financial collateral for any OTC derivative transaction or long settlement transaction may, if it is using the SA(CR) and the FC(CA), calculate E^* , the SA(CR) exposure adjusted for eligible financial collateral, in accordance with paragraph 1.9 of this Annex and substitute E^* for E when calculating the credit risk-weighted exposure amount for an SA(CR) exposure or for all its SA(CR) exposures to a counterparty covered by a qualifying bilateral netting agreement under Sub-division 3 of Division 1 of Part VI.

1.9 A Merchant Bank using the FC(CA) must calculate E^* , the exposure amount adjusted for eligible financial collateral, for any collateralised OTC derivative transaction using the following formula:

$$E^* = E - C(1 - H_C - H_{FX})$$

where -

- (a) "E*" refers to the exposure value after risk mitigation;
- (b) "E" refers to the exposure value calculated in accordance with paragraph 1.1 or 1.4 of this Annex, whichever is applicable;
- (c) "C" refers to the fair value of the eligible financial collateral received;
- (d) "H_C" refers to the haircut appropriate to the collateral, or if the collateral is a basket of assets, the weighted sum of the haircuts appropriate to the assets in the basket where each weight is the proportion of the asset in the basket in units of currency determined in accordance with Annex 6G; and
- (e) "H_{FX}" refers to the haircut appropriate for the currency mismatch between the collateral and exposure determined in accordance with Annex 6G.

1.10 Where there is a maturity mismatch between the eligible financial collateral received by a Merchant Bank and the underlying exposure, a Merchant Bank must substitute P_A calculated in accordance with paragraph 6.3 of Annex 6D for $C(1 - H_C - H_{FX})$.

1.11 For the purposes of paragraph 1.9 of this Annex, in calculating E*, the Merchant Bank must apply H_{FX} if there is a mismatch between the collateral currency and the settlement currency. This applies even in the case where there are more than two currencies involved in the exposure, collateral and settlement currency.

CCR STANDARDISED METHOD

Section 1: Exposure Measurement

1.1 A Merchant Bank using the CCR standardised method must calculate E, for the pre-settlement counterparty exposure arising from a netting set as follows:

$$E = \beta \times \max\{CMV - CMC; \sum_j | \sum_i RPT_{ij} - \sum_l RPC_{lj} | \times CCF_j\}$$

where -

- (a) "CMV" refers to the fair value of the portfolio of transactions within the netting set with a counterparty gross of collateral, i.e. $CMV = \sum_i CMV_i$, where CMV_i is the fair value of transaction i;
- (b) "CMC" refers to the fair value of the collateral assigned to the netting set¹⁷⁵, i.e. $CMC = \sum_l CMC_l$, where CMC_l is the fair value of collateral l;
- (c) "i" is the index designating transaction;
- (d) "l" is the index designating collateral;
- (e) "j" is the index designating a hedging set category. These hedging sets correspond to risk factors for which risk positions of opposite sign can be offset to yield a net risk position on which the calculation of E is then based;
- (f) "RPT_{ij}" refers to the risk position arising from transaction i with respect to hedging set j¹⁷⁶;
- (g) "RPC_{lj}" refers to the risk position arising from collateral l with respect to hedging set j;
- (h) "CCF_j" refers to the CCF applicable to the hedging set j as set out in Table 6L-3; and
- (i) "β" is 1.4.

1.2 A Merchant Bank which has taken eligible financial collateral under paragraph 2.6 of Annex 6D for any OTC derivative transaction may recognise the effect of such collateral in accordance with paragraph 1.1 of this Annex.

¹⁷⁵ Collateral received from a counterparty has a positive sign, while collateral posted with a counterparty has a negative sign.

¹⁷⁶ For example, a Merchant Bank must map a short-term foreign exchange forward with one leg denominated in the domestic currency of the Merchant Bank into three risk positions: a foreign exchange risk position, a foreign currency interest rate position, and a domestic currency risk position.

1.3 If the Authority is not satisfied that the use of the CCR standardised method by a Merchant Bank captures the risk inherent in the Merchant Bank's transactions (as could be the case with structured and more complex OTC derivatives), the Authority may require the Merchant Bank to apply the current exposure method or the CCR standardised method on a transaction-by-transaction basis where there is no recognition of netting.

1.4 A Merchant Bank may calculate the pre-settlement counterparty exposure arising from a long settlement transaction using the CCR standardised method. In such a case, this Annex is read with reference to a long settlement transaction.

Section 2: Definition of Payment Legs

2.1 An OTC derivative transaction with a linear risk profile¹⁷⁷ that stipulates the exchange of a financial instrument¹⁷⁸ for a payment consists of one payment leg and the payment part of the transaction is the payment leg.

2.2 An OTC derivative transaction that stipulates the exchange of payment against payment¹⁷⁹ consists of two payment legs.

2.3 A Merchant Bank may treat an OTC derivative transaction that consists of two payment legs that are denominated in the same currency¹⁸⁰ as a single aggregate transaction. The treatment for payment legs then applies to the aggregate transaction.

2.4 For the purposes of calculating E, each payment leg consists of the contractually agreed gross payments, including the notional amount of the transaction.

2.5 A Merchant Bank may disregard the interest rate risk arising from payment legs with a remaining maturity of less than one year for the purposes of the calculation of E.

Section 3: Mapping of OTC Derivative Transactions into Risk Positions

3.1 A Merchant Bank must map an OTC derivative transaction with a linear risk profile in which the underlying instrument is an equity (including equity indices), commodity (including gold and other precious metals) or any other non-debt instrument to the following risk positions:

- (a) a risk position in the respective hedging set (equity (or equity index), commodity (including gold and other precious metals) or non-debt instrument)) for the underlying instrument;
- (b) an interest rate risk position for the payment leg within the appropriate interest rate hedging set;
- (c) a foreign exchange risk position in the respective currency, if the payment leg is denominated in a foreign currency.

¹⁷⁷ Examples are a forward, a futures contract and a swap agreement.

¹⁷⁸ Examples are a debt instrument, an equity and a commodity.

¹⁷⁹ Examples are an interest rate swap and a foreign exchange forward.

¹⁸⁰ An example is interest rates swaps.

3.2 A Merchant Bank must map an OTC derivative transaction with a linear risk profile in which the underlying instrument is a debt instrument¹⁸¹ to the following risk positions:

- (a) an interest rate risk position for the underlying debt instrument within the appropriate interest rate hedging set;
- (b) an interest rate risk position for the payment leg within the appropriate interest rate hedging set;
- (c) a foreign exchange risk position in the respective currency, if the underlying debt instrument is denominated in a foreign currency;
- (d) a foreign exchange risk position in the respective currency, if the payment leg is denominated in a foreign currency.

3.3 A Merchant Bank must map an OTC derivative transaction with a linear risk profile that stipulates the exchange of payment against payment (including foreign exchange forwards) to the following risk positions:

- (a) an interest rate risk position for each of the payment legs within the appropriate interest rate hedging set;
- (b) a foreign exchange risk position for each payment leg that is denominated in a foreign currency, if applicable.

3.4 A Merchant Bank must assign a value of zero to the E of a foreign exchange basis swap transaction.

Section 4: Determining the Size of Risk Positions

4.1 A Merchant Bank must calculate the size of its risk positions arising from its OTC derivative transactions in accordance with Table 6L-1.

Table 6L-1 - Computation of Risk Positions Arising from OTC Derivative Transactions

Risk Positions arising from OTC Derivative Transactions	Size of Risk Positions
(a) Any risk position arising from the underlying instruments of an OTC derivative transaction with linear risk profile where the underlying instruments are equities (including equity indices), commodities (including gold and other precious metals) or any other non-debt instruments	The effective notional value (market price multiplied by quantity) of the underlying instrument (including equity, commodity, or any other non-debt instrument) converted to the domestic currency of the Merchant Bank

¹⁸¹ For example, a bond or a loan.

Risk Positions arising from OTC Derivative Transactions	Size of Risk Positions
(b) Any risk position arising from the underlying instruments of an OTC derivative transaction with linear risk profile where the underlying instruments are debt instruments or any risk position arising from the payment legs of an OTC derivative transaction with linear risk profile	The effective notional value of the outstanding gross payments (including the notional amount) converted to the domestic currency of the Merchant Bank, multiplied by the modified duration of the debt instrument or the payment leg
(c) Any risk position arising from a credit default swap	The notional value of the reference debt instrument multiplied by the remaining maturity of the credit default swap
(d) Subject to paragraph 7.1(a) of this Annex, any risk position arising from the underlying instruments of an OTC derivative transaction with non-linear risk profile (including options and swaptions) where the underlying instruments are equities (including equity indices), commodities (including gold and other precious metals) or any other non-debt instruments	The delta equivalent effective notional value of the underlying instrument (including equity, commodity or any other non-debt instrument)
(e) Subject to paragraph 7.1(a) of this Annex, any risk position arising from the underlying instruments of an OTC derivative transaction with non-linear risk profile (including options and swaptions) where the underlying instruments are debt instruments or any risk position arising from the payment legs of all OTC derivative transactions with non-linear risk profile	The delta equivalent effective notional value of the underlying debt instrument or payment leg multiplied by the modified duration of the debt instrument or payment leg

4.2 A Merchant Bank may use the following formulae to determine the size and sign of a risk position:

- (a) risk positions arising from all underlying instruments except debt instruments = $P_{ref} \times \frac{\partial V}{\partial P}$

where -

- (i) "P_{ref}" refers to the price of the underlying instrument, expressed in the reference currency;
- (ii) "V" refers to the value of the financial instrument (in the case of an option, the option price; in the case of a transaction with a linear risk profile, the value of the underlying instrument itself); and

- (iii) "P" refers to the price of the underlying instrument, expressed in the same currency as V;
 - (b) risk positions arising from debt instruments and the payment legs of all OTC derivative transactions = Effective notional value (or delta equivalent notional value) $\times \frac{\partial V}{\partial r}$
- where -
- (i) " $\frac{\partial V}{\partial r}$ " is modified duration;
 - (ii) "V" refers to the value of the financial instrument (in the case of an option, the option price; in the case of a transaction with a linear risk profile, the value of the underlying instrument itself or of the payment leg, respectively); and
 - (iii) "r" refers to the interest level; and
- (c) where V is denominated in a currency other than the reference currency, then V must be converted into the reference currency by multiplying with the relevant exchange rate.

Section 5: Determining Hedging Sets

5.1 A Merchant Bank must group its risk positions into hedging sets pursuant to paragraphs 5.2 to 5.7 of this Annex. A Merchant Bank must have internal procedures to verify that, prior to including a transaction in a hedging set, the transaction is covered by a qualifying bilateral netting agreement.

5.2 For each hedging set, the Merchant Bank must compute the absolute value amount of the sum of the resulting risk positions ("net risk position") as follows:

$$\text{Net Risk Position} = \left| \sum_i \text{RPT}_{ij} - \sum_l \text{RPC}_{lj} \right|$$

5.3 A Merchant Bank must map interest rate positions arising from the following into one of six hedging sets as set out in Table 6L-2 below for each currency:

- (a) interest rate positions arising from debt instruments of low specific risk. For the purposes of this paragraph, a debt instrument is considered to be of low specific risk when it is subject to a 1.6% or lower specific risk charge according to Table 7C-1;
- (b) interest rate positions arising from payment legs;
- (c) interest rate positions arising from money deposits received from a counterparty as collateral.

Table 6L-2 - Mapping of Interest Rate Positions into Hedging Sets

Hedging Sets	Sovereign referenced interest rates	Non-sovereign referenced interest rates
Residual maturity or rate-adjustment frequency	One year or less	One year or less
	Over one year to five years	Over one year to five years
	Over five years	Over five years

5.4 For the purposes of Table 6L-2, any interest rate position arising from an underlying debt instrument¹⁸² or a payment leg¹⁸³ for which the interest rate is linked to a reference interest rate that represents a general market interest rate¹⁸⁴, the residual maturity is the rate-adjustment frequency which is the length of the time interval up to the next re-adjustment of the reference interest rate. Otherwise, the residual maturity is the remaining life of the underlying debt instrument, or in the case of a payment leg, the remaining life of the transaction.

5.5 A Merchant Bank must map interest rate positions arising from the following into a single hedging set for each issuer:

- (a) a reference debt instrument that underlies a credit default swap;
- (b) a debt instrument of high specific risk;
- (c) any deposits that are posted with a counterparty as collateral when that counterparty does not have debt obligations of low specific risk;
- (d) a payment leg that emulates a debt instrument of high specific risk (e.g. in the case of a total return swap with one leg that emulates a bond).

5.6 To avoid doubt, a Merchant Bank may assign risk positions that arise from debt instruments of a certain issuer or from reference debt instruments of the same issuer that are emulated by payment legs or that underlie a credit default swap to the same hedging set.

5.7 For the purposes of paragraph 5.5 of this Annex, a debt instrument is considered to be of high specific risk when it is subject to a specific risk charge of above 1.6% according to Table 7C-1.

5.8 A Merchant Bank must assign underlying instruments other than debt instruments to the same hedging set only if they are identical or similar instruments. In all other cases, they must be assigned to separate hedging sets.

5.9 For purposes of paragraph 5.8 of this Annex, the similarity of instruments is established as follows:

- (a) for equities, similar instruments are those of the same issuer. An equity index is treated as a separate issuer;

¹⁸² An example is floating rate notes.

¹⁸³ An example is floating rate legs of interest rate swaps.

¹⁸⁴ Examples are government bond yield, money market rate and swap rate.

- (b) for precious metals, similar instruments are those of the same metal. A precious metal index is treated as a separate precious metal;
- (c) for commodities, similar instruments are those of the same commodity. A commodity index is treated as a separate commodity;
- (d) for electric power, similar instruments are those with delivery rights and obligations that refer to the same peak or off-peak load time interval within any 24 hour interval.

Section 6: CCF to be applied

6.1 The applicable CCFs for the purposes of paragraph 1.1 of this Annex are set out as follows:

Table 6L-3 - CCFs

Hedging Sets	CCF
(a) Interest rates for any risk position from a reference debt instrument that underlies a credit default swap and that is of low specific risk	0.3%
(b) Interest rates for any risk position from a debt instrument or reference debt instrument of high specific risk	0.6%
(c) Interest rates for any other interest rate risk position	0.2%
(d) Exchange rates	2.5%
(e) Gold	5.0%
(f) Equity	7.0%
(g) Precious metals (except gold)	8.5%
(h) Electric power	4.0%
(i) Other commodities (excluding precious metals and electric power)	10.0%
(j) Any underlying instrument of an OTC derivative transaction that is not in any of the above categories. To avoid doubt, a Merchant Bank must assign such underlying instruments to separate individual hedging sets for each category of underlying instrument.	10.0%

Section 7: Exceptions to the use of the CCR Standardised Method

7.1 A Merchant Bank must use the current exposure method to determine E in the following cases:

- (a) any transaction with a non-linear risk profile for which the Merchant Bank cannot determine the delta with a model that the Authority has approved

for the purposes of determining the minimum capital requirements for market risk; and

- (b) any payment leg and any transaction with an underlying debt instrument for which the Merchant Bank cannot determine the modified duration with a model that the Authority has approved for the purposes of determining the minimum capital requirements for market risk.

7.2 A Merchant Bank must not recognise netting when applying the current exposure method to an exposure under paragraph 7.1 of this Annex.

Section 8: Worked Example

8.1 A USD-based firm has five transactions with a counterparty that can be treated on a net basis under the CCR standardised method. The five transactions are as follows:

- (a) two USD interest rate swaps;
- (b) a foreign currency exchange swap;
- (c) a cross-currency swap; and
- (d) a total return swap on the DAX.

8.2 In Table 6L-4, the five transactions are mapped into separate receiver and payment legs and the risk positions arising from each leg are then calculated within the relevant hedging sets. The risk positions within a hedging set are summed and the applicable CCFs are applied on the absolute values. These values are then summed again to arrive at an amount equivalent to an “at-the-money” expected positive exposure value. The E for this netting set is the current market value or this calculated “at-the-money” expected positive exposure, whichever is higher, multiplied by the β of 1.4.

Table 6L-4 - Worked Example

i	Transaction type			Effective notional	Modified duration	CMV	Hedging sets							
							Interest rate risk					Foreign exchange risk		Equity risk
				USD million	% price change/ 1% yield change	USD Mln	USD non-gov M ≤ 1	USD non-gov M > 5	EUR non-gov M ≤ 1	EUR non-gov M > 5	JPY non-gov M > 5	EUR /USD	JPY /USD	DAX
							Effective notional x modified duration	Effective notional x modified duration	Effective notional x modified duration	Effective notional x modified duration	Effective notional x modified duration	Effective notional (+ = long, - = short)	Effective notional (+ = long, - = short)	Effective notional (+ = long, - = short)
1	USD	Interest rate swap	Receiver leg	80	8	-6		640						
1	USD	Interest rate swap	Payer leg	80	-0.25		-20							
2	USD	Interest rate swap	Receiver leg	300	0.125		37.5							
2	USD	Interest rate swap	Payer leg	300	-6	2		-1800						
3	EUR	Foreign currency swap	Receiver leg	100	15	0				1500		100		
3	USD	Foreign currency swap	Payer leg	100	-0.125		-12.5							
4	EUR	Cross currency swap	Receiver leg	60	7	1				420		60		
4	JPY	Cross currency swap	Payer leg	60	-7						-420		-60	
5	DAX	Total return	Receiver leg	150	0.125	4			18.75			150		

		swap in EUR												
5	DAX	Total return swap in EUR	Payer leg	150	Not applica- ble									-150
Sum of risk positions RPT_{ij} by hedging set j							5	-1160	18.75	1920	-420	310	-60	-150
Absolute amount I sum of RPT_{ij} I of risk positions by hedging set j							5	1160	18.75	1920	420	310	60	150
CCF _j by hedging set j							0.20%	0.20%	0.20%	0.20%	0.20%	2.50%	2.50%	7.00%
CCF _j x I sum of RPT_{ij} I : CCF-weighted absolute amounts of risk positions by hedging set							0.0100	2.3200	0.0375	3.8400	0.8400	7.7500	1.5000	10.5000

Sum of (CCF _j x I sum of RPT_{ij} I)	26.7975
CMV: sum of current market values CMV_i of the transactions	1.000
Max (CMV, sum of (CCF _j x I sum of RPT_{ij} I))	26.7975
β	1.4000
E	37.5165

CREDIT QUALITY GRADES AND RECOGNISED ECAIs**Table 6M-1 - Credit Quality Grades and Recognised ECAIs for SA(CR) Exposures**

Credit Quality Grade	1	2	3	4	5	6
Fitch Ratings	AAA AA+ AA AA-	A+ A A-	BBB+ BBB BBB-	BB+ BB BB-	B+ B B-	CCC+ CCC CCC- CC C D
Moody's Investors Services	Aaa Aa1 Aa2 Aa3	A1 A2 A3	Baa1 Baa2 Baa3	Ba1 Ba2 Ba3	B1 B2 B3	Caa1 Caa2 Caa3 Ca C
Standard & Poor's Ratings Services	AAA AA+ AA AA-	A+ A A-	BBB+ BBB BBB-	BB+ BB BB-	B+ B B-	CCC+ CCC CCC- CC C D

Table 6M-2 - For Credit Quality Grades and Recognised ECAIs for Short-term SA(CR) Exposures

Short-term Credit Quality Grade	I	II	III	IV
Fitch Ratings	F-1	F-2	F-3	Others
Moody's Investors Services	P-1	P-2	P-3	Others
Standard & Poor's Ratings Services	A-1	A-2	A-3	Others

For the purposes of Table 6M-2 –

- (a) the A-1 rating of Standard & Poor's Ratings Services includes both A-1+ and A-1–; and

(b) "Others" includes all non-prime and B or C ratings.

Table 6M-3 - Credit Quality Grades and Recognised ECAIs for SA(SE) Exposures

Credit Quality Grade	1	2	3	4	5	6	7	8	9	10	11	12
Fitch Ratings	AAA	AA+ AA AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+ B B- CCC+ CCC CCC- CC C D
Moody's Investors Services	Aaa	Aa1 Aa2 Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1 B2 B3 Caa1 Caa2 Caa3 Ca C
Standard & Poor's Ratings Services	AAA	AA+ AA AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+ B B- CCC+ CCC CCC- CC C D

Table 6M-4 - Credit Quality Grades and Recognised ECAIs for Short-term SA(SE) Exposures

Short-term Credit Quality Grade	I	II	III	IV
Fitch Ratings	F-1	F-2	F-3	Others
Moody's Investors Services	P-1	P-2	P-3	Others
Standard & Poor's Ratings Services	A-1	A-2	A-3	Others

QUALIFYING MDBs

“Qualifying MDBs” means:

- (a) the African Development Bank;
- (b) the Asian Development Bank;
- (c) the Asian Infrastructure Investment Bank;
- (d) the Caribbean Development Bank;
- (e) the Council of Europe Development Bank;
- (f) the European Bank for Reconstruction and Development;
- (g) the European Investment Bank;
- (h) the European Investment Fund;
- (i) the Inter-American Development Bank;
- (j) the Islamic Development Bank;
- (k) the Nordic Investment Bank;
- (l) the International Finance Facility for Immunisation; or
- (m) the World Bank Group, including the International Bank for Reconstruction and Development, the International Development Association, the International Finance Corporation and the Multilateral Investment Guarantee Agency.

QUALIFYING MORTGAGE INSURANCE

A “qualifying mortgage insurance” means a mortgage insurance in respect of which all of the following requirements are complied with:

- (a) the coverage must be provided by an insurer which is registered under the Insurance Act (Cap. 142) to carry on mortgage insurance business in Singapore (“mortgage insurer”) and which is not a related corporation of the Merchant Bank;
- (b) the mortgage insurer must have a credit quality grade of “2” or better as set out in Table 6M-1 at the inception of the mortgage insurance coverage and a credit quality grade of “3” or better as set out in Table 6M-1 on an ongoing basis;
- (c) the Merchant Bank must employ procedures and processes to control the Merchant Bank’s residual risks¹⁸⁵;
- (d) the Merchant Bank must ensure, and conduct legal review, including obtaining a written legal opinion, to verify, that all documentation of the mortgage insurance (“mortgage insurance contract”) is binding on all parties and legally enforceable in the relevant countries or jurisdictions. The Merchant Bank must undertake such future review as necessary to ensure that the mortgage insurance contract continues to be binding and enforceable;
- (e) the Merchant Bank must ensure that the mortgage insurance coverage complies with all of the following:
 - (i) it represents a direct claim on the mortgage insurer and is explicitly referenced to specific exposures, so that the extent of cover is clearly defined and incontrovertible;
 - (ii) it is irrevocable¹⁸⁶, and there is no clause in the mortgage insurance contract that would allow the mortgage insurer to unilaterally cancel the coverage or that would increase the effective cost of coverage as a result of deteriorating credit quality of the loan;
 - (iii) there is no clause in the mortgage insurance contract outside the direct control of the Merchant Bank that could prevent the mortgage insurer from being obliged to pay out in a timely manner in the event that the borrower fails to make the payments due;

¹⁸⁵ These include risks such as legal, operational, liquidity and market risk.

¹⁸⁶ Exclusions relating to the non-payment by the Merchant Bank of money due in respect of the mortgage insurance contract, and clearly defined non-credit related events (e.g. exclusions relating to any negligence and fraud of the Merchant Bank, title defects, physical damage to the collateral, acts of war and rebellion, and claims contrary to law) are not normally regarded by the Authority as a failure to meet this condition.

- (iv) the definition of a qualifying default or non-payment of the borrower in the mortgage insurance contract must be aligned with that used by the Merchant Bank;
- (v) the mortgage insurance contract transaction allows the Merchant Bank to seek repayment from the mortgage insurer for any money outstanding on the qualifying default or non-payment of the borrower in a timely manner. The Merchant Bank must have the right to receive such payments without first having to take legal action against the borrower for repayment of the mortgage loan. Where a mortgage insurer is expected to pay claims only after the enforcement of collateral has taken place, the Merchant Bank must have the right to receive such payments immediately if the mortgage insurer does not enforce the collateral and establish the loss within 24 months. In such a case, the payment is to be based on the estimated value of the collateral and a final settlement will occur upon realising the collateral¹⁸⁷;
- (vi) it is an explicitly documented obligation assumed by the mortgage insurer;
- (vii) it covers all types of payments that the borrower is expected to make under the documentation governing the loan.

¹⁸⁷ Where a mortgage insurer is expected to pay claims only after the enforcement of collateral has taken place, the mortgage insurer should pay claims promptly once the collateral has been realised and the loss has been established.

REQUIREMENTS FOR EXCLUSION OF SECURITISED EXPOSURES FROM THE CALCULATION OF CREDIT RWA

Section 1: Traditional Securitisation

1.1 In the case of a traditional securitisation, a Merchant Bank may exclude securitised exposures from its calculation of credit RWA only if all of the following requirements have been complied with:

- (a) except as provided for in sub-paragraph (g)(i), significant credit risk associated with the underlying exposures has been transferred to external parties. For the purposes of the assessment of whether significant credit risk has been transferred, the Merchant Bank must treat material costs of credit protection purchased that have not yet been recognised in earnings as a retained position of the Merchant Bank¹⁸⁸;
- (b) the Merchant Bank does not have any effective control over the underlying exposures;
- (c) the Merchant Bank obtains a written independent legal opinion¹⁸⁹ confirming that the underlying exposures are legally isolated from the Merchant Bank such that they are beyond the reach of the Merchant Bank and its creditors, even in an insolvency situation or receivership;
- (d) the securities issued pursuant to the securitisation are not obligations of the Merchant Bank and any investor who purchases the securities only has a claim to the underlying exposures;
- (e) the securities are issued pursuant to the securitisation by an SPE and the holders of the securities have the right to pledge, transfer or sell their

¹⁸⁸ In determining whether the costs of credit protection are material, a Merchant Bank should consider factors such as –

- (a) a comparison of the present value of the premiums and other costs not yet recognised in profit and loss relative to expected losses of the protected exposures over a variety of stress scenarios; and
- (b) the pricing of the credit protection relative to market prices.

The Merchant Bank should consider costs of credit protection to be material when –

- (a) the cost of credit protection over the life of the protection contract equals, or exceeds, the amount of the exposures for which the protection is being purchased; or
- (b) the credit protection has rebate mechanisms, where the protection provider agrees to refund parts of the cost of credit protection to the Merchant Bank according to the performance of the protected exposure, as such mechanisms are indications of excessive premium.

For the purposes of the analysis of whether the costs of credit protection are material, the Merchant Bank should quantify the costs of credit protection that have yet to be recognised in profit and loss through an appropriately conservative present value calculation.

¹⁸⁹ While a Merchant Bank may use either an in-house or external legal counsel for the purposes of obtaining a written independent legal opinion, it should consider whether or not an in-house counsel opinion is appropriate. In the case of an in-house legal counsel, a Merchant Bank should ensure that the in-house legal counsel is independent of the parties involved in the origination and transfer of assets underlying the securitisation transaction.

interests without restriction, unless such restriction is imposed by a risk retention requirement under the legislation governing the securitisation;

- (f) where a securitisation includes a clean up call, the call complies with the requirements set out in Section 3 of this Annex;
- (g) the documentation of the securitisation does not contain any clauses that
 -
 - (i) other than clean-up calls, obliges the Merchant Bank to repurchase any of the underlying exposures, at any time, except where that obligation arises from the exercise of a representation or warranty given by the Merchant Bank. The Merchant Bank may give a representation or warranty solely in respect of the nature or existing state of facts of any underlying exposure, that is capable of being verified, at the time of its transfer, subject to the Merchant Bank undertaking due diligence prior to giving any such representation or warranty;
 - (ii) requires the Merchant Bank to alter systematically the underlying exposures such that the weighted average credit quality of the pool is improved unless this is achieved by selling exposures to independent third parties which are not related corporations or affiliates of the Merchant Bank, at market prices. To avoid doubt, this requirement does not preclude the substitution of non-defaulted assets which have been fully amortised;
 - (iii) allows for increases in a retained first loss position or credit enhancement provided by the Merchant Bank after the inception of the securitisation; or
 - (iv) other than step-up features incorporated in relation to the underlying exposures of the securitisation, increases the yield payable to parties other than the Merchant Bank, such as investors and external providers of credit enhancements, in response to a deterioration in the credit quality of the underlying exposures;
- (h) the transfer of the underlying exposures or the transfer of risk through sub-participation does not contravene the terms and conditions of any underlying agreement in respect of the underlying exposures and where applicable, all the necessary consents for the transfer or sub-participation have been obtained;
- (i) the documentation of the securitisation specifies that, if cash flows relating to the underlying exposures are rescheduled or renegotiated, the SPE and not the Merchant Bank, would be subject to the rescheduled or renegotiated terms;
- (j) the Merchant Bank receives a fixed amount of consideration for the underlying exposures. To avoid doubt, the amount of consideration received in the form of a fixed amount of securities in the SPE would be regarded as meeting this requirement if the transaction is conducted at

arm's length and on market terms and conditions. Also, this requirement does not preclude excess cash from being channeled to the Merchant Bank after all claims connected with the securities issued by the SPE have been paid out;

- (k) subject to paragraph 1.3 of this Annex, the Merchant Bank conducts all transactions with the SPE at arm's length and on market terms and conditions;
- (l) the RWA of the Merchant Bank's exposures to the securitisation is at all times not more than 20% of the sum of the RWA of all the securitisation exposures of the securitisation.

1.2 For the purposes of paragraph 1.1(b) of this Annex, a Merchant Bank is deemed to have effective control over the transferred exposures if -

- (a) it is able to repurchase from the transferee the previously transferred exposures in order to realise their benefits; or
- (b) it is obligated to retain the risk of the transferred exposures.

In this regard, a Merchant Bank acting as a servicer in respect of the transferred exposures will not necessarily be deemed to have effective control over the transfer.

1.3 Paragraph 1.1(k) of this Annex does not apply where a Merchant Bank acquires securities in the SPE pursuant to an underwriting arrangement and complies with the 20% limit no later than 8 weeks after the date on which the securities were acquired. The Merchant Bank must calculate its credit RWA or market RWA for the securities acquired pursuant to the underwriting arrangement in accordance with Sub-division 5 of Division 1 of Part VI or Sub-division 2 of Division 1 of Part VII respectively.

1.4 Despite paragraph 1.1(l) of this Annex, a Merchant Bank that holds more than 20% of the sum of the RWA of all securitisation exposures of a securitisation must seek the Authority's prior written approval if it intends to exclude the securitised exposures from its calculation of credit RWA. The Authority will not grant such approval unless the Merchant Bank is able to demonstrate to the Authority's satisfaction that a significant portion of the credit risk associated with the underlying exposures has been transferred to external parties, and the requirements in paragraph 1.1(a) to (k) of this Annex have been complied with.

Section 2: Synthetic Securitisation

2.1 In the case of a synthetic securitisation, a Merchant Bank may recognise the credit protection obtained through the synthetic securitisation in its calculation of credit RWA only if all of the following requirements have been complied with:

- (a) the Merchant Bank transfers all significant credit risk associated with the underlying exposures to external parties. For the purposes of the assessment of whether significant credit risk has been transferred, the Merchant Bank must treat material costs of credit protection purchased

that have not yet been recognised in earnings as a retained position of the Merchant Bank¹⁹⁰;

- (b) the instrument used to transfer credit risk does not contain terms or conditions that limit the amount of credit risk transferred, such as clauses that –
 - (i) materially limits the credit protection or credit risk transference¹⁹¹;
 - (ii) requires the Merchant Bank to alter the underlying exposures to improve the weighted average credit quality of the pool. To avoid doubt, this requirement does not preclude the substitution of non-defaulted assets which have been fully amortised;
 - (iii) increase the cost of credit protection to the Merchant Bank in response to deterioration in the credit quality of the underlying exposures;
 - (iv) increase the yield payable to parties other than the Merchant Bank, such as investors and third-party providers of credit enhancements, in response to a deterioration in the credit quality of the underlying exposures; or
 - (v) allows for increases in a retained first loss position or credit enhancement provided by the Merchant Bank after the inception of the securitisation;
- (c) the Merchant Bank obtains a written legal opinion from its legal advisors that confirms the enforceability of the contracts in all relevant countries or jurisdictions;
- (d) where a securitisation includes a clean up call, the call complies with the requirements set out in Section 3 of this Annex;

¹⁹⁰ In determining whether the costs of credit protection are material, a Merchant Bank should consider factors such as –

- (a) a comparison of the present value of the premiums and other costs not yet recognised in profit and loss relative to expected losses of the protected exposures over a variety of stress scenarios; and
- (b) the pricing of the credit protection relative to market prices.

The Merchant Bank should consider costs of credit protection to be material when –

- (a) the cost of credit protection over the life of the protection contract equals, or exceeds, the amount of the exposures for which the protection is being purchased; or
- (b) the credit protection has rebate mechanisms, where the protection provider agrees to refund parts of the cost of credit protection to the Merchant Bank according to the performance of the protected exposure, as such mechanisms are indications of excessive premium.

For the purposes of the analysis of whether the costs of credit protection are material, the Merchant Bank should quantify the costs of credit protection that have yet to be recognised in profit and through an appropriately conservative present value calculation.

¹⁹¹ For instance, by way of an early amortisation provision in a securitisation of revolving credit facilities that effectively subordinates the Merchant Bank's interest, significant materiality thresholds below which credit protection is deemed not to be triggered even if a credit event occurs, or clauses that allow for the termination of the credit protection due to deterioration in the credit quality of the underlying exposures.

- (e) in the case where the risks associated with the underlying exposures are transferred to an SPE -
 - (i) the securities issued by the SPE are not obligations of the Merchant Bank;
 - (ii) the holders of the beneficial interests in that SPE have the right to pledge or exchange their interests without restriction; and
 - (iii) subject to paragraph 2.2 of this Annex, the Merchant Bank conducts all transactions with the SPE at arm's length and on market terms and conditions;
- (f) the RWA of the Merchant Bank's exposures to the securitisation is at all times not more than 20% of the sum of the RWA of all the securitisation exposures of the securitisation.

2.2 Paragraph 2.1(e)(iii) of this Annex does not apply where a Merchant Bank acquires securities in the SPE pursuant to an underwriting arrangement and complies with the 20% limit no later than 8 weeks after the date on which the securities were acquired. The Merchant Bank must calculate its credit RWA or market RWA for the securities acquired pursuant to the underwriting arrangement in accordance with Sub-division 5 of Division 1 of Part VI or Sub-division 2 of Division 1 of Part VII respectively.

2.3 Despite paragraph 2.1(f) of this Annex, a Merchant Bank that holds more than 20% of the sum of the RWA of all the securitisation exposures of a securitisation must seek the Authority's prior written approval if it intends to recognise the credit protection obtained through the synthetic securitisation in its calculation of credit RWA. The Authority will not grant such approval unless the Merchant Bank is able to demonstrate to the Authority's satisfaction that a significant portion of the credit risk associated with the underlying exposures has been transferred to external parties, and the requirements in paragraph 2.1.(a) to (e) of this Annex have been complied with.

Section 3: Securitisation Containing Clean-Up Calls

3.1 If a securitisation includes a clean-up call, the Merchant Bank which has the ability to exercise the clean-up call must ensure that –

- (a) the exercise of the clean-up call is at its discretion;
- (b) the clean-up call is not structured to avoid allocating losses to credit enhancements or positions held by investors or in any way structured to provide credit enhancement; and
- (c) the clean-up call is exercisable by the Merchant Bank only when 10% or less of the original underlying exposures or securities issued remain or, for synthetic securitisation, when 10% or less of the original reference portfolio value remains.

3.2 Where a clean-up call, when exercised, is found to serve as a credit enhancement, the Merchant Bank must consider the exercise of the clean-up call as a form of implicit support and treat it in accordance to paragraph 6.5.13.

3.3 Where a securitisation includes a clean-up call which does not meet all of the criteria in paragraph 3.1 of this Annex, a Merchant Bank which is an ABCP programme sponsor or originator in the securitisation must –

- (a) in the case of a traditional securitisation, treat the underlying exposures as if they were not securitised. Additionally, the Merchant Bank must not recognise as equity any gain-on-sale in accordance with paragraph 6.5.17; and
- (b) in the case of a synthetic securitisation, hold capital against the entire amount of the securitised exposure as if the Merchant Bank did not benefit from any credit protection.

3.4 Where a synthetic securitisation incorporates a call (other than a clean-up call) that effectively terminates the transaction and the purchased credit protection on a specific date, the Merchant Bank which is an ABCP programme sponsor or originator in the synthetic securitisation must treat the transaction in accordance with paragraphs 6.5.9 and 6.5.10, and Section 6 of Annex 6D.

PART VII: MARKET RISK

Division 1: Overview of Market RWA Calculation

Sub-division 1: Introduction

7.1.1 Market risk is the risk of losses in on and off-balance sheet positions arising from movements in market prices. When calculating market RWA, a Merchant Bank must include –

- (a) any risk pertaining to any interest rate-related instrument in the trading book;
- (b) any risk pertaining to any equity position in the trading book;
- (c) any foreign exchange risk, whether arising from positions in the trading book or otherwise, subject to Sub-division 5 of this Division; and
- (d) any commodity risk, whether arising from positions in the trading book or otherwise.

To avoid doubt, a Merchant Bank must include all pre-settlement counterparty exposures arising from OTC derivative transactions, long settlement transactions, repo-style transactions and other transactions, booked in the trading book, in its calculation of credit RWA under Part VI.

7.1.2 A Merchant Bank must include every transaction which falls within paragraph 7.1.1, including any forward sale and forward purchase transaction, in its calculation of market RWA from the date on which the transaction is entered into. The Merchant Bank must ensure that it maintains an adequate level of capital to meet its market risk capital requirements at all times, including at the close of each business day³⁰¹, and must take immediate measures to rectify the situation if it fails to meet the market risk capital requirements at any time. A Merchant Bank must also maintain risk management systems to ensure that intra-day exposures are not excessive.

7.1.3 A Merchant Bank with a consolidated trading book across the banking group may, in calculating its market RWA, include short and long positions in exactly the same instrument on a net basis regardless of where they are booked, and apply the offsetting rules in this Part on a consolidated basis.

7.1.4 Despite paragraph 7.1.3, where there are legal or operational impediments to the quick repatriation of profits from a foreign subsidiary of the Merchant Bank or timely management of risks on a consolidated basis, the Merchant Bank must capture the individual positions arising from the entities that face such legal or operational impediments in the Merchant Bank's market risk measurement system without any offsetting against positions arising from other banking group entities. The Authority retains the right to impose market risk capital requirements on a non-consolidated basis.

³⁰¹ A Merchant Bank should not window-dress to show significantly lower market risk positions on reporting dates.

A Merchant Bank must not conceal transactions in such a way as to avoid such transactions from being included in the Merchant Bank's market risk measurement system on reporting dates.

Sub-division 2: Methods of Measuring Market Risks

7.1.5 A Merchant Bank must use the SA(MR) as described in Division 2 of this Part to calculate its market RWA.

7.1.6 A Merchant Bank must calculate its market risk capital requirement as the sum of the capital requirements calculated based on Sub-divisions 1 to 5 of Division 2 of this Part.

7.1.7 A Merchant Bank must calculate its market RWA as the market risk capital requirement calculated in accordance with Division 2 of this Part multiplied by 12.5.

Sub-division 3: Determination of the Trading Book

7.1.8 A Merchant Bank must allocate all its positions to its trading book or banking book. To avoid doubt, all positions not allocated to the trading book are deemed to be part of the banking book.

7.1.9 A Merchant Bank must allocate to the trading book, any position in an instrument which is held with trading intent or to hedge other positions held in the trading book and is free of any restrictive covenants on its tradability or is able to be hedged completely. The Merchant Bank must accurately value every trading book position at least on a daily basis and manage the portfolio actively.

7.1.10 A Merchant Bank must consider a position as held with trading intent if –

- (a) it is held by the Merchant Bank for short-term resale;
- (b) it is held by the Merchant Bank with the intention of profiting in the short term from actual or expected differences between its buying and selling price, or from other price or interest rate variations; or
- (c) it is held by the Merchant Bank to lock in arbitrage profits.

7.1.11 A Merchant Bank must determine which positions are to be allocated to its trading book in accordance with the policies and procedures in its trading book policy statement, to ensure compliance with the requirements in paragraphs 7.1.9, 7.1.10 and 7.1.12 to 7.1.16.

7.1.12 A Merchant Bank must include the following in its trading book –

- (a) a proprietary position in an instrument satisfying the criteria specified in paragraphs 7.1.9 and 7.1.10;

- (b) any position arising from client servicing³⁰² and market making, that satisfies the criteria specified in paragraphs 7.1.9 and 7.1.10;
- (c) any position that satisfies the criteria which the Merchant Bank applies in its determination of the composition of its trading book on a consistent basis.

7.1.13 A Merchant Bank must exclude the following positions from the trading book:

- (a) an equity position in a hedge fund;
- (b) an exposure relating to direct holdings of immovable property;
- (c) a position in a securitisation warehouse;
- (d) a private equity investment.

owing to significant constraints on the ability of Merchant Banks to liquidate these positions and value them reliably on a daily basis.

7.1.14 A Merchant Bank may exclude an equity or debt position that arises from an underwriting mandate and include such positions in the banking book.

7.1.15 A Merchant Bank may include an internal hedge³⁰³ in the trading book if the position satisfies the criteria specified in paragraphs 7.1.9 and 7.1.10 and all of the following criteria:

- (a) the internal hedge is not intended to avoid or reduce regulatory capital which the Merchant Bank would otherwise be required to maintain;
- (b) the internal hedge is properly documented and subject to internal approval and audit procedures;
- (c) the internal hedge is dealt with at market conditions;
- (d) the market risk which is generated by the internal hedge is managed in the trading book within agreed limits set by management;
- (e) the internal hedge is carefully monitored.

7.1.16 Despite paragraph 7.1.15, where a Merchant Bank hedges a banking book exposure using a credit derivative booked in the trading book, the banking book exposure is not deemed to be hedged for the purposes of calculating its regulatory capital requirement, unless the Merchant Bank purchases from an eligible protection provider a credit derivative which complies with the requirements set out in Annex 6D. Where eligible credit protection is purchased and is recognised as a hedge of the banking book exposure for the purposes of calculating its regulatory capital requirement, the Merchant Bank must

³⁰² An example is matched principal broking.

³⁰³ An internal hedge is a position which materially or completely offsets the component risks of a position in the banking book.

exclude both the internal and external credit derivative hedge from the trading book for the purposes of calculating its regulatory capital requirement for the period of the hedge.

Sub-division 4: Trading Book Policy Statement

7.1.17 A Merchant Bank must have a trading book policy statement which covers, at a minimum, the policies and procedures, including the methodologies, by which the Merchant Bank –

- (a) defines its trading book and identifies positions to be included in its trading book;
- (b) allocates positions between the banking book and the trading book;
- (c) actively manages and values its positions in the trading book;
- (d) measures its trading book risks; and
- (e) controls the transfer of positions between the banking book and the trading book.

7.1.18 A Merchant Bank must obtain the approval of its Board on its trading book policy statement. The Merchant Bank must review and where necessary update the policy statement, at least once annually. The Merchant Bank must obtain the approval of the Board for all significant changes.

7.1.19 The Merchant Bank must, at a minimum, address the following in its trading book policy statement:

- (a) the definition of trading book and trading strategy, including –
 - (i) the activities that the Merchant Bank considers to be trading and the types of positions that are to be allocated to the trading book for the purposes of calculating its regulatory capital requirements;
 - (ii) the types of positions that are excluded from the trading book; and
 - (iii) the procedures to ensure that the criteria by which positions are allocated to the trading book are adhered to on a consistent basis, including details on –
 - (A) the unit or department within the Merchant Bank responsible for monitoring adherence to the trading book policy statement;
 - (B) how often this monitoring is conducted;
 - (C) how this monitoring is done; and
 - (D) how the continuing appropriateness of allocations is confirmed;
- (b) the extent of active management and valuation, including –

- (i) the extent to which a position can be marked-to-market daily by reference to an active and liquid two-way market;
- (ii) for positions which are marked-to-model, the extent to which the Merchant Bank can –
 - (A) identify the material risks of the position;
 - (B) hedge the material risks of the position and, where the material risks of the position are hedged, the extent to which hedging instruments would have an active and liquid two-way market; and
 - (C) derive reliable external estimates for the key assumptions and parameters used in the model;
- (iii) the extent to which the Merchant Bank can, and is required to, generate valuations for the positions which can be validated externally by its auditors or the Authority in a consistent manner;
- (iv) the extent to which the Merchant Bank can, and is required to, maintain documents to support valuations of its trading book positions;
- (v) the basis for determining and maintaining valuation adjustments for the purposes of calculating regulatory capital requirements;
- (vi) the extent to which legal restrictions or other operational requirements would impede the ability of the Merchant Bank to effect an immediate liquidation of the position; and
- (vii) the extent to which the Merchant Bank can, and is required to, actively risk manage a position within its trading operations;
- (c) transfers between banking and trading books, including –
 - (i) the extent to which a Merchant Bank may transfer positions between the banking book and the trading book and the criteria for such transfers;
 - (ii) the procedures to effect such transfers; and
 - (iii) the controls in place to prevent inappropriate transfers of positions between the banking book and the trading book; and
- (d) the following additional considerations:
 - (i) whether there are any subsidiaries or offshore branches of the Merchant Bank undertaking transactions to be included in the trading book. If so, the Merchant Bank must include a list of such subsidiaries

or offshore branches, along with a description of the trading activities carried out by such entities;

- (ii) the treatment of inter-desk deals;
- (iii) the identification and management of structural foreign exchange positions.

7.1.20 A Merchant Bank must meet the standards for prudent valuation set out in Annex 7N.

7.1.21 A Merchant Bank must meet the following requirements for each position to be included in the trading book:

- (a) a clearly documented trading strategy for the position or portfolio which is approved by senior management, which must include the expected holding horizon for the underlying position or portfolio;
- (b) clearly defined policies and procedures for the active management of the position covering the following:
 - (i) the position is managed on a trading desk;
 - (ii) position limits are set and monitored for appropriateness;
 - (iii) every dealer has the autonomy to enter into or manage the position within agreed limits and according to the agreed strategy;
 - (iv) the position is marked-to-market at least daily or, where the position is marked-to-model, the parameters are assessed on a daily basis;
 - (v) positions and exceptions are reported to senior management as an integral part of the risk management process of the Merchant Bank;
 - (vi) the position is actively monitored with reference to market information sources³⁰⁴. This would include assessing the quality and availability of market inputs to the valuation process, level of market turnover and sizes of positions traded in the market;
- (c) clearly defined policies and procedures to monitor the position against the trading strategy of the Merchant Bank, including the monitoring of turnover and stale positions in its trading book.

7.1.22 A Merchant Bank must prepare its trading book policy statement on a consolidated basis where the banking group either manages its trading risk centrally or employs the same risk management techniques across all the entities in the banking group. Where a trading book policy statement is prepared on a consolidated basis, a Merchant Bank must ensure that its application to the Merchant Bank and each of the other entities

³⁰⁴ A Merchant Bank should make an assessment of market liquidity, ability to hedge the positions and the portfolio risk profiles.

in the banking group is made clear and approved by the Board of the Merchant Bank and the Board of each of those entities.

Sub-division 5: Treatment of Structural Foreign Exchange Positions

7.1.23 A Merchant Bank which has deliberately taken a position in order to partially or totally hedge against the adverse effect of the exchange rate on its capital adequacy ratios in respect of an asset or any other item may exclude such a position from the calculation of its net open foreign exchange positions if -

- (a) the position is of a non-dealing nature;
- (b) the position does no more than protect the capital adequacy ratios of the Merchant Bank; and
- (c) any exclusion of the position is applied consistently, with the treatment of the hedge remaining the same for the life of the asset or other item.

A Merchant Bank may, with the Authority's approval, exclude such a position from the calculation of the Merchant Bank's net open foreign exchange positions, subject to such conditions or restrictions which the Authority may specify.

7.1.24 A Merchant Bank, in calculating its net open foreign exchange positions, may also exclude any foreign exchange position related to -

- (a) items which are included as Deductions from Tier 1 Capital or Deductions from Tier 2 Capital, such as certain investments in unconsolidated major stake companies; and
- (b) associated companies and joint ventures denominated in foreign currencies which are reported in the published accounts of the Merchant Bank at historic cost.

Sub-division 6: Risk Management Standards

7.1.25 A Merchant Bank must have systems in place to -

- (a) assign positions correctly between its banking book and its trading book, at both the Solo and Group levels; and
- (b) control the transfer of positions from one book to the other, both at the inception of a deal and, if the intent changes, during the life of the deal or position.

7.1.26 A Merchant Bank must ensure that a unit independent of the market risk-taking units of the Merchant Bank conducts a periodic review of its compliance with the policies and procedures set out in the trading book policy statement. A Merchant Bank must maintain relevant documents and proper audit trails to facilitate such reviews.

Division 2: SA(MR)

7.2.1 A Merchant Bank must calculate its market risk capital requirement in accordance with the requirements set out in this Division.

Sub-division 1: Interest Rate Risk

7.2.2 A Merchant Bank must calculate its market risk capital requirement for interest rate risk by –

- (a) identifying the positions in its trading book which have interest rate risk;
- (b) allocating the positions into individual currency portfolios;
- (c) for each currency portfolio –
 - (i) calculating the net positions in accordance with paragraphs 7.2.9 to 7.2.11;
 - (ii) including these net positions in the calculation of its specific risk capital requirement after applying any offsets allowed under paragraph 7.2.12; and
 - (iii) including these net positions in the calculation of its general market risk capital requirement; and
- (d) summing all specific risk and general market risk capital requirements for each currency portfolio.

Scope

7.2.3 In calculating its market risk capital requirement for interest rate risk, a Merchant Bank must include all its trading book positions³⁰⁵ within the scope of application set out in Sub-Division 1 of Division 1 of this Part, whether such positions are long or short, in instruments (including derivatives and off-balance sheet instruments) whose market values are affected by changes in interest rates. A Merchant Bank must ensure that such instruments include, but are not limited to, the following:

- (a) fixed rate and floating rate debt securities;
- (b) traded mortgage securities and mortgage derivative products, even though these carry the risk of prepayment;
- (c) non-convertible preference shares;
- (d) convertible securities which are traded like debt securities;

³⁰⁵ To avoid doubt, this includes positions in any interest rate-related instrument that is sold or lent under an SFT, but excludes any interest rate-related instrument that is bought or borrowed under an SFT.

- (e) bond futures, interest rate swaps and cross-currency swaps, forward rate agreements, and forwards including foreign exchange forwards.

7.2.4 A Merchant Bank, in calculating its market risk capital requirement for interest rate risk under this Sub-division, must not include a position in any of the following:

- (a) a convertible security which is traded like an equity;
- (b) the position is a capital investment included as Deductions from Tier 1 Capital or Deductions from Tier 2 Capital; or
- (c) an option or a position hedging an option, which is caught under Sub-division 5 of this Division, except where the Merchant Bank is required under that Sub-division to include the delta-weighted position in this Sub-division.

7.2.5 For the purposes of paragraphs 7.2.3, 7.2.4, 7.2.29, 7.2.30 and 7.2.31 -

- (a) "convertible security" means a debt issue or preference share which is convertible at a stated price into ordinary shares of the issuer; and
- (b) a Merchant Bank must treat a "convertible security" as debt if it is traded like debt securities, and as equity if it is traded like equity. In the case where a convertible security is treated as debt, the Merchant Bank must include the position in the convertible security in calculating its market risk capital requirement for interest rate risk. In the case where a convertible security is treated as equity, the Merchant Bank must include the position in the convertible security in calculating its market risk capital requirement for equity risk.

Measurement of Positions with Interest Rate Risk

7.2.6 Except for any interest rate-related derivative referred to in paragraph 7.2.7 and any credit derivative referred to in paragraph 7.2.8, a Merchant Bank must use the current market value of the principal amount of its positions in interest rate-related instruments to calculate its market risk capital requirement for interest rate risk.

7.2.7 A Merchant Bank must convert its interest rate-related derivatives into notional positions in the relevant underlying instruments in accordance with Annex 7A and use the current market value of the principal amount of the underlying instruments to calculate its market risk capital requirement for interest rate risk.

7.2.8 A Merchant Bank must convert its credit derivatives into notional positions in the relevant reference obligations in accordance with Annex 7B and use the current market value of the principal amount of the reference obligations to calculate its market risk capital requirement for interest rate risk, except in the case of credit linked notes, where the Merchant Bank must use the current market value of the notes.

7.2.9 In determining the value of the positions or notional positions, a Merchant Bank must use the valuation of the relevant position with reference to readily observable market

prices³⁰⁶ or, for contracts for which there are no readily observable market prices, the Merchant Bank must base the valuation on appropriate valuation models or discounted cash flows using market quoted rates. The Merchant Bank must also ensure that the valuation it uses meets the standards set out in Annex 7N. For instruments where the apparent notional amount differs from the effective notional amount, the Merchant Bank must use the effective notional amount in determining the market value.

Allowable Offsetting of Matched Positions

7.2.10 For the purposes of calculating the specific risk and general market risk capital requirements for its positions in interest rate-related instruments, or notional positions in interest rate-related derivatives, a Merchant Bank may offset -

- (a) a long and a short position, including any notional position, in an identical issue³⁰⁷; or
- (b) a matched position in -
 - (i) a futures contract; or
 - (ii) a forward,

and its corresponding underlying exposures or underlying instruments. To avoid doubt, the Merchant Bank must include the position representing the time to expiry of a futures contract or forward in the calculation of the market risk capital requirements.

7.2.11 Where a Merchant Bank applies the offsetting in accordance with paragraph 7.2.10, the Merchant Bank must calculate the net position as the difference between the value of the long positions of the Merchant Bank (including notional positions) in a security and the value of its short positions (including notional positions) in the same security.

7.2.12 Where a futures contract or forward comprises a range of deliverable debt securities, a Merchant Bank may offset a short position in the futures contract or forward and a long position in the corresponding "cheapest-to-deliver" underlying security only where the Merchant Bank has sold the futures contract or forward and the "cheapest-to-deliver" underlying security is identifiable and the Merchant Bank is able to deliver it.

7.2.13 A Merchant Bank may offset opposite positions in the same category of interest rate-related instruments (including the delta-equivalent value of options and the separate legs of different swaps) if -

- (a) the positions relate to the same underlying instruments;
- (b) the positions are of the same notional value; and
- (c) the positions are denominated in the same currency;

³⁰⁶ Examples are prices quoted by exchanges or dealers.

³⁰⁷ To avoid doubt, no offsetting is permitted between different issues, even where the issuer is the same, since differences in coupon rates, liquidity, call features, etc. mean that prices may diverge in the short run.

and –

- (i) in the case of futures contracts, the offsetting positions in the notional or underlying instrument to which the futures contract relates are for identical products and mature within seven days of each other;
- (ii) in the case of swaps and FRAs, the reference rates for floating rate positions are identical and the coupons are within 15 basis points; and
- (iii) in the case of swaps, FRAs and forwards, the next interest fixing dates or, for fixed coupon positions or forwards, the residual maturities are as follows:
 - (A) on the same day as each other, if the period between the next interest fixing date and the time of calculation, or the residual maturity as of the time of calculation, is less than one month;
 - (B) within seven days of each other, if the period between the next interest fixing date and the time of calculation, or the residual maturity as of the time of calculation, is between one month and one year;
 - (C) within 30 days of each other, if the period between the next interest fixing date and the time of calculation, or residual maturity as of the time of calculation, is more than a year.

Allowable Offsets for Positions Hedged by Credit Derivatives

7.2.14 For the purposes of calculating the specific risk capital requirement for a credit derivative and its hedged position, a Merchant Bank may –

- (a) apply a full offset when the values of the two legs (i.e. long and short) always move in opposite directions and broadly to the same extent. This would be the case when –
 - (i) the two legs consist of completely identical instruments; or
 - (ii) a long cash position is hedged by a total return swap (or vice versa) and there is an exact match between the reference obligation of the total return swap and the long cash position³⁰⁸;
- (b) after taking into account any restrictive payout provisions³⁰⁹ applicable to the hedged position and the credit derivative, apply an 80% offset to the side of the transaction with the higher specific risk capital requirement and a zero specific risk capital requirement on the other side when the values

³⁰⁸ The maturity of the total return swap may be different from that of the long cash position.

³⁰⁹ Examples of restrictive payout provisions are fixed payouts and materiality thresholds below which no payment will be made.

of the two legs always move in opposite directions but not broadly to the same extent. This would be the case when –

- (i) a long cash position or credit derivative (referred to in this paragraph as the “initial derivative”), as the case may be, is hedged by a credit default swap or a credit linked note (or vice versa);
 - (ii) there is an exact match in terms of –
 - (A) the long cash position or the reference obligation of the initial derivative, as the case may be (such long cash position or reference obligation of the initial derivative is referred to in this paragraph as the “underlying instrument”), and the reference obligation of the credit default swap or credit linked note, as the case may be;
 - (B) the maturity of the long cash position or initial derivative, as the case may be, and the credit default swap or credit linked note, as the case may be; and
 - (C) the currency of the long cash position or initial derivative, as the case may be, and the credit default swap or credit linked note, as the case may be; and
 - (iii) the key features of the credit default swap or credit linked note³¹⁰, as the case may be, do not cause its price movement to materially deviate from the price movement of the long cash position or initial derivative, as the case may be; and
- (c) apply the higher of the two specific risk capital requirements when the values of the two legs usually move in opposite directions. This would be the case when –
- (i) the position would have been captured in sub-paragraph (a)(ii) but for an asset mismatch between the reference obligation of the total return swap and the long cash position where –
 - (A) the reference obligation of the total return swap ranks *pari passu* with or is junior to the long cash position; and
 - (B) the long cash position and reference obligation of the total return swap share the same obligor and legally enforceable cross-default or cross acceleration clauses are in place;
 - (ii) the position would have been captured in sub-paragraph (a)(i) or (b) but for a mismatch in maturities referred to in sub-paragraph (b)(ii)(B) or a mismatch in currencies referred to in sub-paragraph (b)(ii)(C); or

³¹⁰ Examples are credit event definitions, settlement mechanisms.

(iii) the position would have been captured in sub-paragraph (b) but for an asset mismatch between -

(A) the underlying instrument; and

(B) the reference obligation of the credit default swap or credit linked note, as the case may be,

and the underlying instrument is included in the deliverable obligations in the documentation of the credit default swap or credit linked note, as the case may be.

7.2.15 Where there is a mismatch in currencies referred to in paragraph 7.2.14(c)(ii), a Merchant Bank must treat the foreign exchange risk arising from the currency mismatch in accordance with Sub-division 3 of this Division.

7.2.16 A Merchant Bank must calculate a specific risk capital requirement for both the credit derivative and the hedged position if paragraph 7.2.14 does not apply to them.

Specific Risk Capital Requirement

7.2.17 Except for notional positions in zero-specific risk securities³¹¹, that do not attract specific risk, a Merchant Bank must calculate the specific risk capital requirement³¹² for each net position in an interest rate-related instrument³¹³ or a credit derivative, including the net delta-weighted position of options on that interest rate-related instrument or credit derivative where the Merchant Bank is using the delta-plus method or the scenario approach to calculate its market risk capital requirement for options, by -

- (a) in the case of a securitisation exposure, multiplying the market value of each net position (ignoring the sign) by the relevant specific risk charge in accordance with Table 7C-2 for positions covered under the standardised approach for securitisation exposures, and converting the resultant amount into the reporting currency of the Merchant Bank at prevailing foreign exchange spot rates³¹⁴;
- (b) in the case of a credit derivative and its hedged position for which the Merchant Bank has applied an offset pursuant to paragraph 7.2.14, multiplying the market value of the resulting net position (ignoring the sign) by the relevant specific risk charge in accordance with Table 7C-1, and converting this amount into the reporting currency of the Merchant Bank at prevailing foreign exchange spot rates;

³¹¹ Examples are interest rate and currency swaps, FRAs, forward foreign exchange contracts, interest rate futures and futures on an interest rate index.

³¹² The specific risk capital requirement is intended to protect against an adverse movement in the price of an individual instrument owing to factors related to the individual issuer.

³¹³ This includes both actual and notional positions (e.g. futures contracts where the underlying is a debt security or an index representing a basket of debt securities).

³¹⁴ In general, the specific risk capital requirement for securitisation exposures which are held in the trading book is to be calculated according to the method used for such positions in the banking book, unless specified otherwise in this Part.

- (c) in the case of a CTP, using the larger of:
 - (i) the aggregate of each of the net long positions from the net long correlation trading exposures multiplied by the relevant specific risk charge in accordance with the relevant table of Annex 7C, and converting this amount into the reporting currency of the Merchant Bank at prevailing foreign exchange spot rates; and
 - (ii) the aggregate of each of the net short positions from the net short correlation trading exposures multiplied by the relevant specific risk charge in accordance with the relevant table of Annex 7C, and converting this amount into the reporting currency of the Merchant Bank at prevailing foreign exchange spot rates;
- and
- (d) in all other cases, multiplying the market value of each net position (ignoring the sign) by the relevant specific risk charge in accordance with Table 7C-1, and converting this amount into the reporting currency of the Merchant Bank at prevailing foreign exchange spot rates.

7.2.18 A Merchant Bank must calculate the maximum possible loss for each individual position³¹⁵. Despite paragraph 7.2.17, the Merchant Bank may limit the specific risk capital requirement for an individual position in a credit derivative or securitisation instrument to the maximum possible loss.

7.2.19 For the purposes of paragraph 7.2.17(a), a Merchant Bank must apply the treatment described in paragraph 6.5.19(b) and the requirements set out in paragraph 6.5.12 to securitisation exposures held in the trading book and include any securitisation exposure where the requirements in paragraph 6.5.12(a) to (c) are not met as Deductions from Tier 1 Capital and Deductions from Tier 2 Capital. The Merchant Bank must ensure that the capital requirement for such exposures held in the trading book are no less than the amount required under the banking book treatment.

General Market Risk Capital Requirement

7.2.20 A Merchant Bank must calculate the general market risk capital requirement³¹⁶ for each currency portfolio by –

- (a) applying either the maturity method or the duration method to calculate the general market risk capital requirement in the foreign currency; and
- (b) converting the resultant amount into the reporting currency of the Merchant Bank at prevailing foreign exchange spot rates.

³¹⁵ For a short position, a Merchant Bank may calculate this limit as a change in value due to the underlying names immediately becoming default risk-free. For a long position, the Merchant Bank may calculate the maximum possible loss as the change in value in the event that all the underlying names were to default with zero recoveries.

³¹⁶ The general market risk capital requirement for interest rate risk is intended to capture the risk of loss arising from changes in market interest rates.

The Merchant Bank must sum up the absolute value of the general market risk capital requirements for each currency portfolio, across all its currency portfolios.

7.2.21 For the purposes of calculating the general market risk capital requirement in paragraphs 7.2.22 and 7.2.25, a Merchant Bank may exclude any securitisation exposure included as Deductions from Tier 1 Capital or Deductions from Tier 2 Capital.

Maturity Method³¹⁷

7.2.22 A Merchant Bank applying the maturity method must –

- (a) slot each net position (including the net delta-weighted position of options on interest rate-related instruments where the Merchant Bank is using the delta-plus method to calculate its market risk capital requirement for options) into the appropriate maturity band according to the maturity and coupon of the instrument in accordance with Table 7C-3;³¹⁸
- (b) calculate the weighted long and short positions for each maturity band by multiplying the net positions by the corresponding general risk charge in accordance with Table 7C-3;
- (c) match the weighted long and short positions within –
 - (i) the same maturity band;
 - (ii) the same zone (using unmatched positions from sub-paragraph (c)(i)); and
 - (iii) different zones (using unmatched positions from sub-paragraph (c)(ii));
- (d) calculate the maturity band requirement, by multiplying the total amount matched within each maturity band by the maturity band matching factor in accordance with Table 7C-5;
- (e) calculate the zone requirement, by multiplying the total amount matched within each zone by the corresponding zone matching factor in accordance with Table 7C-5;
- (f) calculate the adjacent zone requirement, by multiplying the total amount matched between adjacent zones by the adjacent zone matching factor in accordance with Table 7C-5;
- (g) calculate the non-adjacent zone requirement, by multiplying the total amount matched between Zones 1 and 3 and the non-adjacent zone matching factor in accordance with Table 7C-5;

³¹⁷ An illustration on the calculation of the general market risk capital requirement for interest rate risk under the maturity method is set out in Annex 7D.

³¹⁸ A Merchant Bank should allocate fixed rate instruments according to the residual term to maturity and floating rate instruments according to the residual term to the next repricing date.

- (h) calculate the net position requirement as the sum of all unmatched amounts after complying with sub-paragraphs (c) to (g); and
- (i) calculate the general market risk capital requirement as the sum of the maturity band requirement, the zone requirement, the adjacent zone requirement, the non-adjacent zone requirement and net position requirement determined in accordance with sub-paragraphs (d) to (h).

7.2.23 A Merchant Bank must use separate slotting tables for each currency, except in respect of those currencies in which the business of the Merchant Bank is insignificant. For currencies in which the business of the Merchant Bank is insignificant, the Merchant Bank may construct a single maturity ladder and slot, within each appropriate maturity band, the net long or short position for each currency. The Merchant Bank must calculate the individual weighted net long and short positions for each maturity band by multiplying the net positions by the corresponding risk charges in accordance with Table 7C-3. The Merchant Bank must sum the weighted net positions within each maturity band, irrespective of whether they are long or short positions, to produce a gross position figure. The Merchant Bank must then apply the treatment specified in paragraph 7.2.22(d) to (i) to calculate the general market risk capital requirement for these currencies.

Duration Method

7.2.24 A Merchant Bank may, having put in place the necessary IT systems and with prior written approval from the Authority, apply the duration method to measure general market risk by calculating the price sensitivity of each position separately. A Merchant Bank which elects to use this method must use this method to measure general market risk until a change in method is approved by the Authority.

7.2.25 A Merchant Bank applying the duration method must –

- (a) calculate the price sensitivity of each position based on either one of the following –
 - (i) by calculating the modified duration of each position using the following formulae:

$$\text{Modified duration} = \frac{\text{Duration (D)}}{(1 + r)}$$

$$D = \frac{\sum_{t=1}^m \frac{t C_t}{(1 + r)^t}}{\sum_{t=1}^m \frac{C_t}{(1 + r)^t}}$$

where –

r = yield to maturity;
 C_t = cash payment in time t; and
 m = total maturity.

- (ii) by adopting an alternative calculation methodology that has been approved by the Authority in writing;
- (b) perform slotting by -
 - (i) where the Merchant Bank applies sub-paragraph (a)(i), slotting each net position (including the net delta-weighted position of options on interest rate-related instruments where the Merchant Bank is using the delta-plus method to calculate its market risk capital requirement for options) into the appropriate duration band based on the modified duration of the position, in accordance with Table 7C-4; or
 - (ii) where the Merchant Bank applies sub-paragraph (a)(ii), slotting the sensitivity measures of each net position (including the sensitivity measures of the net delta-weighted position of options on interest rate-related instruments where the Merchant Bank is using the delta-plus method to calculate its market risk capital requirement for options) into the appropriate duration band based on the tenor of the interest rate risk factor applied to calculate the price sensitivity of the position, in accordance with Table 7C-4;
- (c) calculate the weighted long and short positions for each duration band by -
 - (i) where the Merchant Bank applies sub-paragraph (a)(i), multiplying the net positions by the modified duration of the position derived in sub-paragraph (a)(i) and the relevant assumed change in yield in accordance with Table 7C-4; or
 - (ii) where the Merchant Bank applies sub-paragraph (a)(ii), multiplying the sensitivity measures of the net positions by the relevant assumed change in yield in accordance with Table 7C-4;
- (d) match the weighted long and short positions within -
 - (i) the same duration band;
 - (ii) the same zone (using unmatched positions from sub-paragraph (d)(i)); and
 - (iii) different zones (using unmatched positions from sub-paragraph (d)(ii));
- (e) calculate the duration band requirement, by multiplying the total amount matched within each duration band by the duration band matching factor in accordance with Table 7C-5;
- (f) calculate the zone requirement, by multiplying the total amount matched within each zone by the respective zone matching factor in accordance with Table 7C-5;

- (g) calculate the adjacent zone requirement, by multiplying the total amount matched between adjacent zones by the adjacent zone matching factor in accordance with Table 7C-5;
- (h) calculate the non-adjacent zone requirement, by multiplying the total amount matched between Zones 1 and 3 and the non-adjacent zone matching factor in accordance with Table 7C-5;
- (i) calculate the net position requirement as the sum of all unmatched amounts after complying with sub-paragraphs (d) to (h); and
- (j) calculate the general market risk capital requirement as the sum of the duration band requirement, the zone requirement, the adjacent zone requirement, the non-adjacent zone requirement and the net position requirement determined in accordance with sub-paragraphs (e) to (i).

7.2.26 A Merchant Bank must use separate slotting tables for each currency, except in respect of those currencies in which the business of the Merchant Bank is insignificant. For currencies in which the business of the Merchant Bank is insignificant, the Merchant Bank may construct a single maturity ladder and slot, within each appropriate duration band, the net long or short position for each currency. The Merchant Bank must calculate the individual weighted net long and short positions for each duration band by multiplying the net positions by the corresponding assumed change in yield in accordance with Table 7C-4. The Merchant Bank must sum the weighted net positions within each duration band, irrespective of whether they are long or short positions, to produce a gross position figure. The Merchant Bank must then apply the treatment specified in paragraph 7.2.25 (e) to (j) to calculate the general market risk capital requirement for these currencies.

Sub-division 2: Equity Risk

7.2.27 A Merchant Bank must calculate its market risk capital requirement for equity risk by –

- (a) identifying the positions in its trading book which have equity risk;
- (b) allocating the positions into country or jurisdiction portfolios in accordance with paragraph 7.2.28;
- (c) for each country or jurisdiction portfolio –
 - (i) calculating the net position in each equity, equity basket or equity index in accordance with paragraph 7.2.34; and
 - (ii) including these net positions in the calculation of its specific risk and general market risk capital requirements; and
- (d) summing all specific risk and general market risk capital requirements for each country or jurisdiction portfolio.

7.2.28 A Merchant Bank must group equity positions into country or jurisdiction portfolios as follows:

- (a) a position in an individual equity belongs to –
 - (i) the country or jurisdiction of its primary listing; or
 - (ii) where it is unlisted, the country or jurisdiction of issue; and
- (b) a position in an equity basket or equity index is allocated to –
 - (i) one or more country or jurisdiction portfolios based on the countries or jurisdictions to which the underlying equities belong under subparagraph (a); or
 - (ii) a hypothetical country or jurisdiction.

Scope

7.2.29 In calculating its market risk capital requirement for equity risk, a Merchant Bank must include all its trading book positions³¹⁹ within the scope of application set out in Sub-Division 1 of Division 1 of this Part, whether such positions are long or short, in instruments (including derivatives and off-balance sheet instruments) whose market values are affected by changes in equity prices, unless –

- (a) the position is included as Deductions from Tier 1 Capital or Deductions from Tier 2 Capital; or
- (b) the position is an option or a position hedging an option, which is caught under Sub-division 5 of this Division, except where the Merchant Bank is required under that Sub-division to include the delta-weighted position in this Sub-division.

7.2.30 For the purposes of paragraph 7.2.29, “instruments whose market values are affected by changes in equity prices” include ownership interests, whether voting or non-voting, convertible securities that trade like equity, commitments to buy or sell equities, and derivatives on individual equities and on equity indices.

7.2.31 For the purposes of paragraphs 7.2.29 and 7.2.30, a Merchant Bank must treat a convertible security in accordance with paragraph 7.2.5(b) and include the position in calculating its market risk capital requirement for equity risk if the convertible security is treated as equity.

Measurement of Positions with Equity Risk

7.2.32 Except for equity derivatives referred to in paragraph 7.2.33, a Merchant Bank must use the current market value of its positions in equity instruments to calculate its market risk capital requirement for equity risk.

³¹⁹ To avoid doubt, this includes positions in any equity instrument that is sold or lent under an SFT, but excludes any equity that is bought or borrowed under an SFT.

7.2.33 A Merchant Bank must convert its equity derivatives into notional positions in the relevant underlying instruments in accordance with Annex 7E and use the current market value of the underlying instruments to calculate its market risk capital requirement for equity risk.

Allowable Offsetting of Matched Positions

7.2.34 For the purposes of calculating the specific risk and general market risk capital requirements for its equity positions, a Merchant Bank may offset -

- (a) a long position and a short position, including notional positions, in an identical equity, equity basket or equity index in the same country or jurisdiction portfolio; and
- (b) a matched position in a depository receipt against the corresponding underlying equity or identical equities in different country or jurisdiction portfolios provided that any costs of conversion are fully taken into account. The Merchant Bank must include any foreign exchange risk arising out of these positions in calculating its market risk capital requirements for foreign exchange risk under Sub-division 3 of this Division.

7.2.35 Where a Merchant Bank applies the offsetting in accordance with paragraph 7.2.34, the Merchant Bank must calculate the net position as the difference between the value of the long positions of the Merchant Bank (including notional positions) in a security and the value of its short positions (including notional positions) in the same security.

7.2.36 For the purposes of paragraph 7.2.34, a Merchant Bank must treat two equities as identical if they enjoy the same rights in all respects and are fungible.

Specific Risk Capital Requirement

7.2.37 A Merchant Bank must calculate the specific risk capital requirement for each net position in an equity instrument, including the net delta-weighted position of options on that equity instrument where the Merchant Bank is using the delta-plus method or the scenario approach to calculate its market risk capital requirement for options, by -

- (a) converting the value of the net position into the reporting currency of the Merchant Bank at prevailing foreign exchange spot rates; and
- (b) multiplying the resultant amount by the appropriate specific risk charge as follows:
 - (i) any qualifying equity index (as defined in Annex 7F) - 0%; or
 - (ii) any other equity, equity basket or equity index - 8%.

General Market Risk Capital Requirement

7.2.38 A Merchant Bank must calculate the general market risk capital requirement for each country or jurisdiction portfolio by –

- (a) calculating the net position in each country or jurisdiction portfolio by summing the net positions of equities, equity baskets and equity indices in the same country or jurisdiction portfolio, including the net delta-weighted positions of options on equities and equity indices where the Merchant Bank is using the delta-plus method to calculate its market risk capital requirement for options;
- (b) converting the net position in each country or jurisdiction portfolio into the reporting currency of the Merchant Bank at prevailing foreign exchange spot rates; and
- (c) multiplying the resultant amount (ignoring the sign) by a general risk charge of 8%.

Additional Market Risk Capital Requirement for Qualifying Equity Indices

7.2.39 In addition to the general market risk capital requirement, a Merchant Bank must apply an additional risk charge of 2% to the net long or short position in a qualifying equity index (as defined in Annex 7F).³²⁰

Treatment of Arbitrage Strategies

7.2.40 In the case of the futures-related arbitrage strategies described below, a Merchant Bank must apply an additional 2% risk charge to only one index with the opposite position exempt from the market risk capital requirement. Such futures-related arbitrage strategies are –

- (a) where the Merchant Bank takes an opposite position in exactly the same index at different dates or in different market centres; or
- (b) where the Merchant Bank takes an opposite position in contracts at the same date in a different but similar index, subject to approval by the Authority. The Authority will not normally grant approval for a Merchant Bank to use this treatment unless the Merchant Bank is able to demonstrate that the two indices contain sufficient common components to justify offsetting.

7.2.41 Where a Merchant Bank engages in a deliberate arbitrage strategy in which a futures contract on a broadly-based index matches a basket of stocks, the Merchant Bank may exclude both positions for the purposes of calculating its specific risk and general market risk capital requirements, on condition that –

³²⁰ This is intended to cover factors such as execution risk.

- (a) the trades have been deliberately entered into and are separately controlled; and
- (b) the composition of the basket of stocks represents at least 90% of the index when broken down into its underlying components.

In such a case, the Merchant Bank must apply a risk charge of 4%, with 2% on the gross value of the positions on each side, to reflect divergence and execution risks, even if all of the stocks comprising the index are held in identical proportions. The Merchant Bank must treat any excess value of the stocks comprising the basket over the value of the futures contract or excess value of the futures contract over the value of the basket as an open long or short position.

Sub-division 3: Foreign Exchange Risk

7.2.42 A Merchant Bank must calculate its market risk capital requirement for foreign exchange risk by –

- (a) identifying the positions which have foreign exchange risk;
- (b) calculating the net open position in each currency in accordance with paragraphs 7.2.46 to 7.2.49, and the net gold position in accordance with paragraphs 7.2.51 to 7.2.56;
- (c) converting the net open position in each currency and the net gold position into the reporting currency of the Merchant Bank at prevailing foreign exchange spot rates;
- (d) computing the overall net open position by aggregating –
 - (i) the absolute value of the sum of the net short currency positions or the sum of the net long currency positions, whichever is greater; and
 - (ii) the absolute value of the net position (long or short) in gold; and
- (e) multiplying the overall net open position by 8%.

7.2.43 Despite paragraph 7.2.42, a Merchant Bank doing negligible business in foreign currency and which does not take foreign exchange positions for its own account may, subject to the prior approval of the Authority, be exempted from market risk capital requirements on these positions provided that –

- (a) its foreign currency business, defined as the greater of the sum of its gross long positions and the sum of its gross short positions in all foreign currencies, does not exceed 100% of its Eligible Total Capital; and
- (b) its overall net open position as defined in paragraph 7.2.42 does not exceed 2% of its Eligible Total Capital.

Scope

7.2.44 In calculating its market risk capital requirement for foreign exchange risk, a Merchant Bank must include all positions within the scope of application set out in Sub-division 1 of Division 1 of this Part, in gold and foreign currency-denominated instruments, regardless of whether these are in the trading book or banking book, unless –

- (a) the position is included as Deductions from Tier 1 Capital or Deductions from Tier 2 Capital;
- (b) the position is hedging a position which is included as Deductions from Tier 1 Capital or Deductions from Tier 2 Capital, referred to in subparagraph (a);
- (c) the position is an option or a position hedging an option, which is caught under Sub-division 5 of this Division, except where the Merchant Bank is required under that Sub-division to include the delta-weighted position in this Sub-division; or
- (d) the position is a structural foreign exchange position defined in Sub-division 5 of Division 1 of this Part.

7.2.45 Despite paragraph 7.2.44(c), a Merchant Bank must calculate a market risk capital requirement for foreign exchange risk for option premiums that are denominated in foreign currency.

Measurement of Positions with Foreign Exchange Risk

7.2.46 A Merchant Bank must calculate its net open position in each currency by summing –

- (a) the net spot position, which is all asset items less all liability items, including accrued interest and accrued expenses, denominated in the currency in question;
- (b) the net forward position, which is all amounts to be received less all amounts to be paid under forward foreign exchange transactions, including currency futures and the principal on currency swaps not included in the spot position;
- (c) guarantees and other similar instruments denominated in foreign currency which are certain to be called and are likely to be irrecoverable;
- (d) future income or expenses included pursuant to paragraph 7.2.48;
- (e) depending on particular accounting conventions in different countries or jurisdictions, any other item representing a profit or loss in foreign currencies; and
- (f) the net delta-weighted position of foreign currency options where the Merchant Bank is using the delta-plus method to calculate its market risk

capital requirement for options. To avoid doubt, the Merchant Bank must separately calculate market risk capital requirements for gamma and vega for foreign currency options in accordance with paragraphs 7.2.74 to 7.2.78.

7.2.47 Despite paragraph 7.2.46, where a Merchant Bank is assessing its foreign exchange risk on a consolidated basis, and the inclusion of certain foreign exchange positions may be impractical³²¹, the Merchant Bank may use the internal limit in each currency as a proxy for the positions, provided the Merchant Bank monitors ex-post the actual positions against such limits daily. The Merchant Bank must add the absolute values of the limits to the net open position in each currency.

7.2.48 A Merchant Bank may include future income and expenses in the calculation of its net open position if these are certain and have been hedged and the Merchant Bank applies such inclusion consistently. To avoid doubt, the Merchant Bank must not include only the future income and expenses that would reduce its net position.

7.2.49 A Merchant Bank must allocate its positions in composite currencies to –

- (a) one or more currency portfolios based on their component parts on a consistent basis; or
- (b) a hypothetical currency.

7.2.50 A Merchant Bank must convert its foreign currency derivatives and derivative positions in gold into notional positions in the relevant foreign currencies and in gold in accordance with Annex 7G.

Sub-division 4: Commodity Risk

7.2.51 A Merchant Bank must calculate its market risk capital requirement for commodity risk by –

- (a) identifying the positions (including any notional positions) which have commodity risk;
- (b) expressing each commodity position in terms of the standard unit of measurement for that position³²²;
- (c) converting each position into the reporting currency of the Merchant Bank at the prevailing foreign exchange spot rates and the current spot price for the commodity;
- (d) calculating the market risk capital requirement for each commodity position in accordance with the simplified approach in paragraph 7.2.60 or the maturity ladder approach in paragraphs 7.2.61 to 7.2.62; and

³²¹ An example is marginal operations of a foreign branch or subsidiary.

³²² For example, barrels, kilos or grams.

- (e) summing the resulting individual market risk capital requirement for each commodity position.

7.2.52 A Merchant Bank must convert its commodity derivatives into notional positions in the relevant commodities in accordance with Annex 7H.

Scope

7.2.53 In calculating its market risk capital requirement for commodity risk, a Merchant Bank must include all positions³²³ within the scope of application set out in Sub-division 1 of Division 1 of this Part, whether such positions are long or short, in instruments (including derivatives³²⁴ and off-balance sheet instruments), whose market values are affected by changes in commodity prices, regardless of whether these positions are in the trading book or banking book unless –

- (a) it is a gold position, in which case the Merchant Bank must include the position within the scope of its foreign exchange risk and calculate it in accordance with Sub-division 3 of this Division;
- (b) the position is an option or a position hedging an option, which is caught under Sub-division 5 of this Division, except where the Merchant Bank is required under that Sub-division to include the delta-weighted position in this Sub-division; or
- (c) the position arises purely from stock financing, which is a transaction where a physical commodity is sold forward and the cost of funding is locked in until the date of the forward sale.

7.2.54 For the purposes of this Sub-division, “commodity” means a physical product which is or can be traded on a secondary market³²⁵.

7.2.55 To avoid doubt, a Merchant Bank must treat any interest rate risk or foreign exchange risk, arising from stock financing in accordance with Sub-divisions 1 and 3 of this Division, respectively.

Allowable Offsetting of Matched Positions

7.2.56 For the purposes of calculating the market risk capital requirement for its commodity positions, a Merchant Bank may offset the long and short positions in an identical commodity.

7.2.57 A Merchant Bank must treat positions in different sub-categories of the same commodity as different commodities unless they –

- (a) can be delivered against each other; or

³²³ This includes positions in any commodity that is sold under a repo or lent under a commodities lending transaction, but excludes positions in any commodity that is bought under a reverse repo or borrowed under a commodities borrowing transaction.

³²⁴ For example, commodity futures or commodity swaps

³²⁵ Examples are agricultural products, minerals (including oil) and precious metals.

- (b) are close substitutes of each other and have price movements which have exhibited a stable correlation coefficient of at least 0.9 over the last 12 months.

7.2.58 A Merchant Bank that relies on the approach in paragraph 7.2.57(b) must monitor the correlation coefficient of the price movements of the commodities to ensure that it is at least 0.9 on a continuing basis. The Merchant Bank must cease to treat positions in different sub-categories of the same commodity as the same commodity pursuant to paragraph 7.2.57(b) if the correlation coefficient of the price movements of the commodities ceases to be at least 0.9 at any time.

7.2.59 A Merchant Bank which intends to rely on the approach in paragraph 7.2.57(b) must obtain the prior approval of the Authority. The Authority will generally grant its approval if it is satisfied that the chosen method is accurate.

Simplified Approach

7.2.60 A Merchant Bank using the simplified approach must calculate the market risk capital requirement for each commodity by summing –

- (a) 15% of the net position in the commodity, including the net delta-weighted position of options on that commodity where the Merchant Bank is using the delta-plus method to calculate its market risk capital requirement for options; and
- (b) 3% of the gross position (long plus short, ignoring the sign) in the commodity, including the gross delta-weighted position of options on that commodity where the Merchant Bank is using the delta-plus method to calculate its market risk capital requirement for options.

Maturity Ladder Approach³²⁶

7.2.61 A Merchant Bank using the maturity ladder approach must calculate the market risk capital requirement for each commodity by –

- (a) offsetting long and short positions, including the net delta-weighted position of options on that commodity where the Merchant Bank is using the delta-plus method to calculate its market risk capital requirement for options, maturing –
 - (i) on the same day; or
 - (ii) in the case of positions arising from contracts traded in markets with daily delivery dates, within ten business days of each other;

³²⁶ An illustration on the calculation of the market risk capital requirement for commodity risk under the maturity ladder approach is set out in Annex 7I.

- (b) allocating the remaining positions to the appropriate maturity time-bands as follows:
 - (i) up to 1 month;
 - (ii) more than 1 month but not more than 3 months;
 - (iii) more than 3 months but not more than 6 months;
 - (iv) more than 6 months but not more than 12 months;
 - (v) more than 1 year but not more than 2 years;
 - (vi) more than 2 years but not more than 3 years;
 - (vii) more than 3 years;
- (c) matching long and short positions within each time-band, and for each time-band, calculating a spread charge equal to the sum of long and short positions matched multiplied by the spread rate of 1.5%;
- (d) carrying unmatched positions remaining from a shorter maturity time-band to a longer maturity time-band where they can be matched, then matching them until all matching possibilities are exhausted. In each instance, calculating –
 - (i) a carry charge equal to the carried position multiplied by the carry rate of 0.6% and the number of time-bands by which the position is carried; and
 - (ii) a spread charge equal to the sum of long and short positions matched multiplied by the spread rate of 1.5%;
- (e) calculating the outright charge on the remaining positions (which will either be all long positions or all short positions) equal to the sum of the remaining positions (ignoring the sign) multiplied by the outright charge of 15%; and
- (f) summing the spread rates, carry rates and outright charge determined in sub-paragraphs (c) to (e).

7.2.62 A Merchant Bank must allocate physical commodity positions to the time-band of up to 1 month.

Sub-division 5: Treatment of Options

7.2.63 A Merchant Bank must calculate its market risk capital requirement for options using –

- (a) the simplified approach in accordance with paragraphs 7.2.65 to 7.2.69;

- (b) the delta-plus method in accordance with paragraphs 7.2.70 to 7.2.78; or
- (c) the scenario approach in accordance with paragraphs 7.2.79 to 7.2.86.

7.2.64 For the purposes of paragraph 7.2.63, a Merchant Bank must use the more sophisticated methods under the SA(MR) i.e. the delta-plus method or the scenario approach, if it engages in significant options trading. The Merchant Bank must also monitor closely other risks associated with options³²⁷. Despite the above, a Merchant Bank which trades in exotic options³²⁸ must use the scenario approach to calculate its market risk capital requirement for such options, unless it is able to demonstrate, to the satisfaction of the Authority, that the delta-plus method is appropriate.

Simplified Approach³²⁹

7.2.65 A Merchant Bank may use the simplified approach only if –

- (a) it does not write options; or
- (b) where it writes options, all its written options are hedged by perfectly matched long positions in exactly the same options, in which case, the Merchant Bank need not calculate market risk capital requirements for these positions.

7.2.66 Under the simplified approach, a Merchant Bank must exclude the positions in the options and the positions hedging the options that are outright positions in the associated underlying instruments, from the requirements in Sub-divisions 1 to 4 of this Division, and must separately calculate the market risk capital requirements for those positions in accordance with paragraph 7.2.67. The Merchant Bank must add the market risk capital requirements for those positions to the market risk capital requirements for the interest rate, equity, foreign exchange and commodity risk categories, as the case may be, calculated in accordance with Sub-divisions 1 to 4 of this Division.

7.2.67 A Merchant Bank using the simplified approach must calculate its market risk capital requirement for options by –

- (a) identifying the options and the outright positions in associated underlying instruments;
- (b) calculating the market risk capital requirement for each combination of a long put and a long outright position in the associated underlying instrument, or of a long call and a short outright position in the associated underlying instrument, by –

³²⁷ Examples of other risks associated with options are rho (this measures the rate of change of the option value with respect to interest rate) and theta (this measures the rate of change of the option value with respect to time). A Merchant Bank may also incorporate rho within their market risk capital requirement for interest rate risk.

³²⁸ Examples are barriers and digitals.

³²⁹ An illustration on the calculation of the market risk capital requirement under the simplified approach is set out in Annex 7J.

- (i) multiplying the market value of the outright position by the sum of the applicable specific and general risk charges, or single applicable risk charge, as the case may be; and
- (ii) subtracting the amount the option is in the money (if any) bounded at zero;
- (c) calculating the market risk capital requirement for each long call or long put as –
 - (i) the market value of the underlying instrument multiplied by the sum of the applicable specific and general risk charges, or single applicable risk charge, as the case may be; or
 - (ii) the market value of the option,
 whichever is lower; and
- (d) summing the market risk capital requirements determined in sub-paragraphs (b) and (c).

7.2.68 For the purposes of paragraph 7.2.67(b) and (c), -

- (a) a reference to the “underlying instrument” is a reference to the asset which would have been received if the option were to be exercised and physically settled;
- (b) where the market value of the underlying instrument of an option is zero³³⁰, the Merchant Bank must use the notional value of the option;
- (c) the Merchant Bank must³³¹ -
 - (i) determine the specific and general risk charges in respect of options on interest rate-related instruments in accordance with Sub-division 1 of this Division;
 - (ii) determine the specific and general risk charges in respect of options on equities or equity indices in accordance with Sub-division 2 of this Division;
 - (iii) apply a risk charge of 8% in respect of foreign currency and gold options; and
 - (iv) apply a risk charge of 15% in respect of options on commodities; and

³³⁰ For example, if the option is a cap, floor or swaption.

³³¹ To avoid doubt, options on zero-specific risk securities bear no specific risk.

- (d) despite paragraph 7.2.67(c)(ii), where the position in the option does not fall within the trading book³³², a Merchant Bank may use the book value of the option instead.

7.2.69 For the purposes of paragraph 7.2.67(b)(ii), a Merchant Bank must compare the strike price of an option that has a residual maturity of more than 6 months with the forward, and not current, price of the underlying, unless it is unable to do so, in which case it must take the in-the-money amount to be zero.

Delta-plus method³³³

7.2.70 A Merchant Bank using the delta-plus method must calculate its market risk capital requirement for options by –

- (a) calculating the delta-weighted position of each option in accordance with paragraph 7.2.71 and adding these delta-weighted positions to the net positions in the relevant risk category in Sub-divisions 1 to 4 of this Division for the purposes of calculating the specific risk and general market risk capital requirements;
- (b) calculating the capital requirement for gamma³³⁴ risk of its option positions (including hedge positions) based on the options pricing model of the Merchant Bank, in accordance with paragraphs 7.2.74 to 7.2.77;
- (c) calculating the capital requirement for vega³³⁵ risk of its option positions (including hedge positions) based on the options pricing model of the Merchant Bank, in accordance with paragraph 7.2.78; and
- (d) summing the capital requirements determined in sub-paragraphs (b) and (c).

7.2.71 A Merchant Bank must calculate its delta-weighted position for each option as follows:

- (a) where the underlying is a financial instrument, FX or commodity –

Delta-weighted position	=	Market value of the underlying financial instrument, FX or commodity	X	delta
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³³² For example, options on certain foreign exchange or commodities positions, that do not belong to the trading book.

³³³ An illustration on the calculation of the market risk capital requirement under the delta-plus method is set out in Annex 7K.

³³⁴ This measures the rate of change of delta.

³³⁵ This measures the sensitivity of the value of the option with respect to a change in volatility.

(b) where the underlying is an interest rate -

Delta-weighted position	=	Market value of the derived notional position in the equivalent interest-rate related instrument	X	delta
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7.2.72 For the purposes of paragraph 7.2.71(a), in the case of options on a futures contract or forward on a financial instrument, FX or commodity, a Merchant Bank must treat the underlying financial instrument, FX or commodity on which the futures contract or forward is based, as the relevant underlying financial instrument, FX or commodity.³³⁶

7.2.73 For the purposes of paragraph 7.2.71(b), a Merchant Bank must determine the delta-weighted position for the interest rate option in accordance with Annex 7L.

7.2.74 A Merchant Bank must calculate the "gamma impact" for each individual option according to a Taylor series expansion as follows:

Gamma impact = $\frac{1}{2} \times \text{Gamma} \times (\text{VU})^2$
--

where VU = variation of the underlying financial instrument, FX or commodity of the option or, where the underlying is an interest rate, variation of the equivalent interest rate-related instrument determined in accordance with Annex 7L.

7.2.75 For the purposes of paragraph 7.2.74, a Merchant Bank must calculate VU as follows:

- (a) for any interest rate-related option, the market value of the underlying interest rate-related instruments (including a derived notional position in an equivalent interest rate-related instrument) multiplied by the relevant general risk charge in accordance with Table 7C-3;
- (b) for any option on equities or equity indices, the market value of the underlying equities or equity indices multiplied by 8%;
- (c) for any foreign currency or gold option, the market value of the underlying currency or gold instruments multiplied by 8%; and
- (d) for any option on commodities, the market value of the underlying commodities multiplied by 15%.

7.2.76 A Merchant Bank must treat all of the following positions as positions with the same underlying for the purposes of calculating the gamma impact:

³³⁶ For example, for a bought call option on a June 3-month bill futures contract, the relevant underlying financial instrument is the 3-month bill.

- (a) for interest rate-related instruments denominated in the same currency, positions (including a derived notional position in an equivalent interest rate-related instrument where the underlying is an interest rate) under each time-band as set out in Table 7C-3 or Table 7C-4, depending on whether the Merchant Bank is using the maturity method or the duration method;
- (b) for equities and equity indices, positions in the same country or jurisdiction portfolio;
- (c) for foreign currencies, positions in the same currency pair;
- (d) for gold, positions in gold;
- (e) for commodities, positions in the same individual commodity, or positions treated as the same commodity pursuant to paragraphs 7.2.56 and 7.2.57.

7.2.77 A Merchant Bank must calculate its capital requirement for gamma risk by–

- (a) calculating the net gamma impact, which may be positive or negative, in respect of each underlying financial instrument, FX or commodity, where positions are treated as positions with the same underlying in accordance with paragraph 7.2.76, by aggregating the individual gamma impacts for each option position, which may be either positive or negative, in respect of that underlying financial instrument, FX or commodity; and
- (b) aggregating the absolute value of the net gamma impacts that are negative.

7.2.78 A Merchant Bank must calculate its capital requirement for vega risk by –

- (a) multiplying the sum of the vegas for all option positions in respect of the same underlying financial instrument, FX or commodity, where positions are treated as positions with the same underlying in accordance with paragraph 7.2.76, by a proportional shift in volatility of $\pm 25\%$; and
- (b) aggregating the absolute value of the individual capital requirements which have been calculated for vega risk.

Scenario Approach³³⁷

7.2.79 A Merchant Bank must obtain the prior approval of the Authority before using the scenario approach to calculate its market risk capital requirement for options.³³⁸

³³⁷ The scenario approach uses simulation techniques to calculate changes in the value of an option portfolio for changes in the level and volatility of the prices of its associated underlying.

³³⁸ A Merchant Bank should take into account qualitative standards which are relevant given the nature of the business. These would include, among others, the relevant standards in paragraphs 718(Lxxiv) and 718(Lxxv) of the BCBS document "International Convergence of Capital Measurement and Capital Standards" (June 2006), as amended by the BCBS document "Revisions to the Basel II market risk framework (February 2011).

7.2.80 Under the scenario approach, a Merchant Bank must exclude the positions in the options and the positions hedging the options, from the requirements in Sub-divisions 1 to 4 of this Division for the purposes of calculating its general market risk capital requirements, and must calculate the market risk capital requirements for those positions in accordance with paragraph 7.2.83.

7.2.81 A Merchant Bank applying the scenario approach must analyse its option portfolios using a two-dimensional matrix³³⁹ where -

- (a) the first dimension analyses the changes in the value of the option portfolio due to changes in the value of the underlying within a specified range of the current value; and
- (b) the second dimension analyses the changes in value of the option portfolio due to changes in the volatility of the value of the underlying within that range,

and

the Merchant Bank must set up a separate matrix for each group of positions that are treated as positions with the same underlying in accordance with paragraph 7.2.76.

7.2.82 For the purposes of paragraphs 7.2.81, 7.2.83, 7.2.85 and Annex 7M, "option portfolio" means each group of positions that are treated as positions with the same underlying in accordance with paragraph 7.2.76, and for which a separate matrix has been set up.

7.2.83 A Merchant Bank must calculate its market risk capital requirement for the positions referred to in paragraph 7.2.80 under the scenario approach by -

- (a) calculating the delta-weighted position of each position in accordance with paragraph 7.2.71 and adding these delta-weighted positions to the relevant risk category in Sub-divisions 1 to 4 of this Division for the purposes of calculating the specific risk capital requirement;
- (b) calculating the general market risk capital requirement by -
 - (i) specifying, for each option portfolio, a fixed range of changes in the rate or price of the underlying in accordance with paragraph 7.2.84. For all risk categories, the Merchant Bank must use at least seven observations, including the current observation, to divide the range into equally spaced intervals;
 - (ii) specifying, for each option portfolio, a shift in the volatility of the rate or price of $\pm 25\%$;
 - (iii) revaluing each option portfolio for simultaneous changes in the rate or price of the underlying and in the volatility of that rate or price; and

³³⁹ An example is set out in Annex 7M.

(iv) aggregating the absolute value of the largest loss computed in each option portfolio matrix; and

(c) summing the capital requirements determined in sub-paragraph (b)(iv).

7.2.84 A Merchant Bank must use the following specified range of changes in the rate or price of the underlying:

(a) for interest rates, the range must be $\pm$ the relevant assumed change in yield in Table 7C-3;

(b) for equities, the range must be $\pm 8\%$;

(c) for foreign exchange and gold, the range must be $\pm 8\%$;

(d) for commodities, the range must be $\pm 15\%$.

7.2.85 Subject to the approval of the Authority, a Merchant Bank which has significant positions in interest rate options may analyse the changes in its interest rate option portfolio using a minimum of six sets of time-bands. A Merchant Bank using this approach must not combine more than three of the time-bands as defined in Table 7C-3 into any one set. For each set of time-bands, the Merchant Bank must apply the highest of the assumed changes in yield in Table 7C-3 applicable to the group to which the time-bands belong.³⁴⁰

7.2.86 Despite the parameters prescribed in paragraph 7.2.83(b)(i) and (ii), the Authority may require a Merchant Bank to use a different change in rate, price, or volatility, or to calculate intermediate points on the matrix.

³⁴⁰ For example, if the time-bands of 3 to 4 years, 4 to 5 years and 5 to 7 years are combined, the highest assumed change in yield of these three time-bands would be 0.75.

DERIVATION OF NOTIONAL POSITIONS FOR INTEREST RATE-RELATED DERIVATIVES

Futures Contracts or Forwards on Debt Security

1.1 A Merchant Bank must treat a purchased (sold) futures contract or forward on a single debt security as –

- (a) a notional long (short) position in the underlying debt security (or the cheapest to deliver, taking into account the conversion factor, where the contract can be satisfied by delivery of one from a range of securities); and
- (b) a notional short (long) position in a zero coupon zero-specific risk security with a maturity equal to the expiry date of the futures contract or forward.

Futures Contracts or Forwards on a Basket or Index of Debt Securities

1.2 A Merchant Bank must convert a futures contract or forward on a basket or index of debt securities, into forwards on single debt securities as follows:

- (a) in the case of a single currency basket or index of debt securities –
 - (i) a series of forwards, one for each of the constituent debt securities in the basket or index, of an amount which is a proportionate part of the total current market value of the underlying securities of the contract according to the weighting of the relevant debt security in the basket or index; or
 - (ii) a single forward on a hypothetical debt security; or
- (b) in the case of multiple currency baskets or indices of debt securities –
 - (i) a series of forwards (using the method described in sub-paragraph (a)(i)); or
 - (ii) a series of forwards, each one on a hypothetical debt security to represent one of the currencies in the basket or index, of an amount which is a proportionate part of the total current market value of the underlying securities of the contract according to the weighting of debt securities in the relevant currency in the basket or index,

and treat the resulting positions according to paragraph 1.1 of this Annex.

1.3 A Merchant Bank must assign the hypothetical debt security in paragraph 1.2(a)(ii) of this Annex a specific risk charge and a general market risk charge equal to the highest that would apply to the debt securities in the basket or index, even if they

relate to different debt securities and regardless of the proportion of those debt securities in the basket or index.

Interest Rate Futures and FRAs

1.4 A Merchant Bank must treat a short (long) interest rate futures contract or a long (short) FRA as –

- (a) a notional short (long) position in a zero coupon zero-specific risk security with a maturity equal to the sum of the period to expiry of the futures contract or settlement date of the FRA and the maturity of the borrowing or deposit; and
- (b) a notional long (short) position in a zero coupon zero-specific risk security with maturity equal to the period to expiry of the futures contract or settlement date of the FRA.

Interest Rate Swaps or Foreign Exchange Swaps

1.5 A Merchant Bank must treat interest rate swaps or foreign exchange swaps as two notional positions as follows –

	Notional position 1	Notional position 2
Merchant Bank receives fixed and pays floating	A short position in a zero-specific risk security with a coupon equal to the floating rate and a maturity equal to the reset date.	A long position in a zero-specific risk security with a coupon equal to the fixed rate of the swap and a maturity equal to the maturity of the swap.
Merchant Bank receives floating and pays fixed	A short position in a zero-specific risk security with a coupon equal to the fixed rate of the swap and a maturity equal to the maturity of the swap.	A long position in a zero-specific risk security with a coupon equal to the floating rate and a maturity equal to the reset date.
Merchant Bank receives and pays floating	A short position in a zero-specific risk security with a coupon equal to the floating rate and a maturity equal to the reset date.	A long position in a zero-specific risk security with a coupon equal to the floating rate and a maturity equal to the reset date.

1.6 In the case of a foreign exchange swap or foreign exchange forward, a Merchant Bank must treat the two legs of the instrument as positions in two notional zero-specific risk securities, which are denominated in different currencies, in the calculation for each currency for market risk capital requirements for interest rate risk and foreign exchange risk, in accordance with the requirements in Sub-divisions 1 and 3 of Division 2 of Part VII, respectively.

TREATMENT OF CREDIT DERIVATIVES IN THE TRADING BOOK

Credit Default Swaps

1.1 A Merchant Bank that is a protection seller (buyer) must treat its position in a credit default swap as –

- (a) for the purposes of calculating the general market risk capital requirement where any periodic premiums or interest payments are due under the swap, a notional long (short) position in a zero-specific risk security with a coupon equal to the appropriate fixed or floating rate and a maturity equal to the expiry date of the swap or the date on which the interest rate will be reset respectively; and
- (b) for the purposes of calculating the specific risk capital requirement, a notional long (short) position in the reference obligation, or where the swap is a qualifying debt security³⁴¹, a long (short) position in the swap, with a maturity equal to the expiry date of the swap.

Total Return Swaps

1.2 A Merchant Bank that is a protection seller (buyer) must treat its position in a total return swap as –

- (a) for the purposes of calculating the general market risk capital requirement –
 - (i) a notional long (short) position in the reference obligation with a maturity equal to the expiry date of the swap, subject to paragraph 1.3 of this Annex; and
 - (ii) where any periodic premiums or interest payments are due under the swap, a notional short (long) position in a zero-specific risk security with a coupon equal to the appropriate fixed or floating rate and a maturity equal to the expiry date of the swap or the date on which the interest rate will be reset respectively; and
- (b) for the purposes of calculating the specific risk capital requirement, a notional long (short) position in the reference obligation with a maturity equal to the expiry date of the swap.

1.3 Where a long cash position is hedged by a total return swap (or vice versa) and there is an exact match between the reference obligation and the cash position, a Merchant Bank that is a protection buyer (seller) may, for the purposes of calculating the general market risk capital requirement, treat its position in the total return swap as a notional

³⁴¹ This refers to a security that falls under the “qualifying” category in paragraph 1.1(b) of Annex 7C.

short (long) position in the reference obligation with a maturity equal to the maturity date of the reference obligation.

Credit Linked Notes

1.4 A Merchant Bank that is a protection seller must treat its position in a credit linked note as –

- (a) for the purposes of calculating the general market risk capital requirement, a long position in the note issuer with a coupon equal to the appropriate fixed or floating rate and a maturity equal to the expiry date of the note or the date on which the interest rate will be reset respectively; and
- (b) for the purposes of calculating the specific risk capital requirement –
 - (i) in the case where the credit linked note is a qualifying debt security³⁴², a long position in the note issuer with a coupon equal to the appropriate fixed or floating rate and a maturity equal to the expiry date of the note or the date on which the interest rate will be reset respectively; and
 - (ii) in the case where the credit linked note is not a qualifying debt security, a long position in the note issuer with a coupon equal to the appropriate fixed or floating rate and a maturity equal to the expiry date of the note or the date on which the interest rate will be reset respectively, and either –
 - (A) for a single name credit linked note, a notional long position in the reference obligation with a maturity equal to the expiry date of the note; or
 - (B) for a multiple name credit linked note providing proportional protection, a notional long position in each of the reference obligations according to their respective proportions specified in the note.

1.5 A Merchant Bank that is a protection buyer must treat its position in a credit linked note as –

- (a) for the purposes of calculating the general market risk capital requirement, a short position in the note issuer with a coupon equal to the appropriate fixed or floating rate and a maturity equal to the expiry date of the note or the date on which the interest rate will be reset respectively; and
- (b) for the purposes of calculating the specific risk capital requirement –
 - (i) in the case where the credit linked note is a qualifying debt security³⁴³, a short position in the note issuer with a coupon equal to

³⁴² This refers to a security that falls under the “qualifying” category in paragraph 1.1(b) of Annex 7C.

³⁴³ This refers to a security that falls under the “qualifying” category in paragraph 1.1(b) of Annex 7C.

the appropriate fixed or floating rate and a maturity equal to the expiry date of the note or the date on which the interest rate will be reset respectively; and

- (ii) in the case where the credit linked note is not a qualifying debt security, either –
 - (A) for a single name credit linked note, a notional short position in the reference obligation with a maturity equal to the expiry date of the note; or
 - (B) for a multiple name credit linked note providing proportional protection, a notional short position in each of the reference obligations according to their respective proportions specified in the note.

First-to-default Credit Derivatives

1.6 A Merchant Bank that is a protection seller (buyer) must treat its position in a first-to-default credit derivative as –

- (a) for the purposes of calculating the general market risk capital requirement where any periodic premiums or interest payments are due under the credit derivative, a notional long (short) position in a zero-specific risk security with a coupon equal to the appropriate fixed or floating rate and a maturity equal to the expiry date of the credit derivative or the date on which the interest rate will be reset respectively;
- (b) for the purposes of calculating the specific risk capital requirement –
 - (i) in the case where the credit derivative is rated by a recognised ECAI, a long (short) position in the credit derivative. For such positions, the Merchant Bank must use the external credit assessment of the credit derivative and calculate the specific risk capital requirement in accordance with the specific risk capital requirements for securitisation exposures in paragraph 7.2.17(a); and
 - (ii) in all other cases, a long (short) position in each of the reference obligations in the contract, with the specific risk capital requirement for the contract capped at the maximum payout possible under the contract.

1.7 Where a Merchant Bank has a position in one of the reference obligations underlying a first-to-default credit derivative, and this credit derivative hedges the position, the Merchant Bank may reduce with respect to the hedged amount both the specific risk capital requirement for the reference obligation and that part of the specific risk capital requirement for the credit derivative that relates to this particular reference obligation.

1.8 Where a Merchant Bank holds multiple positions in reference obligations underlying a first-to-default credit derivative, the Merchant Bank may only offset the specific risk capital requirement for the underlying reference obligation with the lowest

specific risk capital requirement and that part of the specific risk capital requirement for the credit derivative that relates to this particular reference obligation.

N-th-to-default Credit Derivatives (with N greater than 1)

1.9 A Merchant Bank that is a protection seller (buyer) must treat its position in an n-th-to-default credit derivative with n greater than 1 as –

- (a) for the purposes of calculating the general market risk capital requirement where any periodic premiums or interest payments are due under the credit derivative, a notional long (short) position in a zero-specific risk security with a coupon equal to the appropriate fixed or floating rate and a maturity equal to the expiry date of the credit derivative or the date on which the interest rate will be reset respectively;
- (b) for the purposes of calculating the specific risk capital requirement –
 - (i) in the case where the credit derivative is rated by a recognised ECAI, a long (short) position in the credit derivative. For such positions, the Merchant Bank must use the external credit assessment of the credit derivative and calculate the specific risk capital requirement in accordance with the specific risk capital requirements for securitisation exposures in paragraph 7.2.17(a); and
 - (ii) in all other cases, a long (short) position in each of the reference obligations in the contract but disregarding the (n-1) obligations with the lowest specific risk capital requirements, with the specific risk capital requirement capped at the maximum payout possible under the contract.

1.10 For n-th-to-default credit derivatives with n greater than 1, a Merchant Bank must not offset the specific risk capital requirements against that of any underlying reference obligation.

1.11 Where a Merchant Bank has a position in an n-th-to-m-th-to-default credit derivative with n and m both greater than 1 and m greater than n, the Merchant Bank must decompose the position into equivalent positions in individual n-th-to-default credit derivatives³⁴⁴, and treat these equivalent positions in accordance with paragraphs 1.9 and 1.10 of this Annex.

1.12 A Merchant Bank must apply the capital requirements against each net n-th-to-default credit derivative position (including first-to-default credit derivative positions) irrespective of whether the Merchant Bank provides or obtains protection.

³⁴⁴ For example, for a 5th-to-8th default product, a Merchant Bank must decompose it into a 5th-to-default product, 6th-to-default product, 7th-to-default product and 8th-to-default product.

1.13 For the purposes of paragraphs 1.6(b)(i) and 1.9(b)(i) of this Annex, where a security has more than one external credit assessment and these map into different credit quality grades, a Merchant Bank must apply paragraph 6.3.7.

Summary of Treatment of Credit Derivatives in the Trading Book

		Protection seller	Protection buyer
Credit default swap	General market risk	Long position in a zero-specific risk security if there are any payments that are due	Short position in a zero-specific risk security if there are any premiums or interest payments to be paid
	Specific risk	Long position in the reference obligation, or long position in the swap if it is a qualifying debt security	Short position in the reference obligation, or short position in the swap if it is a qualifying debt security
Total return swap	General market risk	Long position in the reference obligation, and short position in a zero-specific risk security if there are any payments that are due	Short position in the reference obligation, and long position in a zero-specific risk security if there are any premiums or interest payments to be paid
	Specific risk	Long position in the reference obligation	Short position in the reference obligation
Credit linked notes	General market risk	Long position in the note issuer	Short position in the note issuer
	Specific risk	Long position in the note issuer and long position in the reference obligations, or long position in the note issuer if it is a qualifying debt security	Short position in the reference obligations, or short position in the note issuer if it is a qualifying debt security
First-to-default	General market risk	Long position in a zero-specific risk security if there are any payments that are due	Short position in a zero-specific risk security if there are any premiums or interest payments to be paid
	Specific risk	Long position in each of the reference obligations with the specific risk capital requirement capped at the maximum payout possible, or long position in the credit derivative if it is rated by a recognised ECAI. Offsets for capital charges from exposures to underlying reference obligations allowed under certain conditions.	Short position in each of the reference obligations with the specific risk capital requirement capped at the maximum payout possible Offsets for capital charges from exposures to underlying reference obligations allowed under certain conditions.
N-th-to-default	General market risk	Long position in a zero-specific risk security if there are any payments that are due	Short position in a zero-specific risk security if there are any premiums or interest payments to be paid

		Protection seller	Protection buyer
	Specific risk	Long position in each of the reference obligations with the specific risk capital requirement capped at the maximum payout possible, or long position in the credit derivative if it is rated by a recognised ECAI. Offsets for capital charges from exposures to any underlying reference credit instrument not allowed.	Short position in each of the reference obligations with the specific risk capital requirement capped at the maximum payout possible. Offsets for capital charges from exposures to any underlying reference credit instrument not allowed.

APPLICABLE RISK CHARGES OR MATCHING FACTORS FOR CALCULATION OF SPECIFIC RISK AND GENERAL MARKET RISK CAPITAL REQUIREMENTS FOR INTEREST RATE RISK UNDER THE SA(MR)

Table 7C-1 – Specific Risk Capital Requirement - Specific Risk Charges for Positions not covered under SA(SE)

Category	Credit Quality Grade as set out in Table 6M-1	Residual term to final maturity	Specific risk charge
Government	1	N.A.	0.00%
	2 or 3	6 months or less	0.25%
		more than 6 and up to and including 24 months	1.00%
		more than 24 months	1.60%
	4 or 5	N.A.	8.00%
	6	N.A.	12.00%
	Unrated	N.A.	8.00%
Qualifying		6 months or less	0.25%
		more than 6 and up to and including 24 months	1.00%
		more than 24 months	1.60%
Others	4	N.A.	8.00%
	5 or 6	N.A.	12.00%
	Unrated	N.A.	8.00%

1.1 For the purposes of Table 7C-1, -

(a) the “government” category comprises –

- (i) all forms of securities, including bonds, treasury bills and other short-term securities, issued by a central government or central bank; and
- (ii) any security issued by a PSE which is risk-weighted at 0% under the SA(CR), pursuant to paragraph 6.3.25 and Table 6-3;

(b) the “qualifying” category comprises –

- (i) any security that is issued by an MDB;

- (ii) any security issued by a PSE which has a credit quality grade of "3" or better as set out in Table 6M-1 by a recognised ECAI other than any security issued by a PSE which falls under the "government" category in sub-paragraph (a)(ii);
 - (iii) any unrated security issued by a PSE outside Singapore, for which the bank regulatory agency of the jurisdiction where the PSE is established has exercised the national discretion to treat the exposure to the PSE as an exposure to the central government and the central government of the jurisdiction of that PSE has a credit quality grade of "2" as set out in Table 6M-1 by a recognised ECAI; and
 - (iv) any security which has a credit quality of grade "3" or better as set out in Table 6M-1, from external credit assessments by at least two recognised ECAIs; and
- (c) the "others" category comprises any security that attracts specific interest rate risk and does not fall into either the "government" or "qualifying" category.

1.2 For the purposes of paragraphs 1.1(b)(ii) and (iii) and 1.3(b) of this Annex, where a security has more than one external credit assessment and these map into different credit quality grades, the Merchant Bank must apply paragraph 6.3.7.

1.3 Despite Table 7C-1, and subject to paragraph 1.4 of this Annex, a Merchant Bank must assign a 0% specific risk charge to an exposure to any security that is issued by –

- (a) the Singapore Government or the Authority, which is denominated in Singapore dollars and funded by the Merchant Bank in Singapore dollars;
- (b) other central governments with a credit quality grade of "3" or better as set out in Table 6M-1 by a recognised ECAI, which is denominated in the domestic currency and funded by the Merchant Bank in the same currency; or
- (c) a PSE which is risk-weighted at 0% under the SA(CR) pursuant to paragraph 6.3.25 and Table 6-3.

1.4 The Authority may, at its discretion, direct a Merchant Bank to assign a higher specific risk charge other than the specific risk charges mentioned in paragraph 1.3 of this Annex and Table 7C-1 to securities issued by certain governments or PSEs³⁴⁵.

1.5 For securities in the "others" category which have a high yield to redemption relative to government debt securities issued in the same country or jurisdiction, the Authority may do either or both of the following:

- (a) apply a higher specific risk charge to such securities;

³⁴⁵ This may apply especially in cases where the securities are denominated in a currency other than that of the issuing government, or that of the government of the issuing PSE, respectively.

- (b) disallow offsetting for the purposes of defining the extent of general market between such securities and any other debt securities.

Table 7C-2 – Specific Risk Capital Requirement – Specific Risk Charges for Positions covered under the SA(SE)

Credit Quality Grade³⁴⁶		1 to 2	3 to 5	6 to 8	9 to 11	12 or unrated
Credit Quality Grade³⁴⁷		I	II	III		IV or unrated
Specific Risk Charge	Securitisation Exposures	1.60%	4.00%	8.00%	28.00%	Deduction
	Resecuritisation Exposures	3.20%	8.00%	18.00%	52.00%	Deduction

1.6 For the purposes of Table 7C-2, -

- (a) “deduction” means Deductions from Tier 1 Capital and Deductions from Tier 2 Capital; and
- (b) a Merchant Bank must include as Deductions from Tier 1 Capital and Deductions from Tier 2 Capital unrated securitisation or resecuritisation exposures, with the exception of the circumstances described in paragraphs 6.5.23 to 6.5.28.

³⁴⁶ Refer to Table 6M-3. A Merchant Bank may use the external credit assessments of a recognised ECAI only if paragraphs 6.5.18 and 6.5.20 are met.

³⁴⁷ Refer to Table 6M-4. A Merchant Bank may use the external credit assessments of a recognised ECAI only if paragraphs 6.5.18 and 6.5.20 are met.

Table 7C-3 – General Market Risk Capital Requirement - Maturity Bands, General Risk Charges and Assumed Changes in Yield for the Maturity Method

Maturity Band	Coupon 3% or more	Coupon less than 3%	General Risk Charge	Assumed change in yield
	Zone 1			
1	Up to 1 month	Up to 1 month	0.00%	1.00
2	More than 1 month but not more than 3 months	More than 1 month but not more than 3 months	0.20%	1.00
3	More than 3 months but not more than 6 months	More than 3 months but not more than 6 months	0.40%	1.00
4	More than 6 months but not more than 12 months	More than 6 months but not more than 12 months	0.70%	1.00
	Zone 2			
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%	0.90
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%	0.80
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%	0.75
	Zone 3			
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%	0.75
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%	0.70
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%	0.65
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%	0.60
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%	0.60
13	More than 20 years	More than 10.6 years but not more than 12 years	6.00%	0.60
14		More than 12 years but not more than 20 years	8.00%	0.60
15		More than 20 years	12.50%	0.60

Table 7C-4 – General Market Risk Capital Requirement - Duration Bands and Assumed Changes in Yield for the Duration Method

Duration Band		Assumed change in yield
	Zone 1	
1	Up to 1 month	1.00
2	More than 1 month but not more than 3 months	1.00
3	More than 3 months but not more than 6 months	1.00
4	More than 6 months but not more than 12 months	1.00
	Zone 2	
5	More than 1.0 year but not more than 1.9 years	0.90
6	More than 1.9 years but not more than 2.8 years	0.80
7	More than 2.8 years but not more than to 3.6 years	0.75
	Zone 3	
8	More than 3.6 years but not more than 4.3 years	0.75
9	More than 4.3 years but not more than 5.7 years	0.70
10	More than 5.7 years but not more than 7.3 years	0.65
11	More than 7.3 years but not more than 9.3 years	0.60
12	More than 9.3 years but not more than 10.6 years	0.60
13	More than 10.6 years but not more than 12 years	0.60
14	More than 12 years but not more than 20 years	0.60
15	More than 20 years	0.60

Table 7C-5 – General Market Risk Capital Requirement - Matching Factors for the Maturity and Duration Methods

Maturity Band Matching Factor		Duration Band Matching Factor	
10%		5%	

Zone	Zone Matching Factor	Adjacent Zone Matching Factor	Non-adjacent Zone Matching Factor
1	40%	40%	100%
2	30%		
3	30%		

ILLUSTRATION ON THE CALCULATION OF THE GENERAL MARKET RISK CAPITAL REQUIREMENT FOR INTEREST RATE RISK UNDER THE MATURITY METHOD

1.1 A Merchant Bank may have all of the following positions:

- (a) a qualifying bond³⁴⁸, \$13.33 million market value, remaining maturity 8 years, coupon 8%;
- (b) a government bond, \$75 million market value, remaining maturity 2 months, coupon 7%;
- (c) an interest rate swap, \$150 million, in respect of which the Merchant Bank receives floating rate interest and pays fixed, next interest fixing after 9 months, remaining life of swap is 8 years (assume the current interest rate is identical to the one on which the swap is based);
- (d) a long position in an interest rate future, \$50 million, delivery date after 6 months, life of underlying government security is 3.5 years (assume the current interest rate is identical to the one on which the interest rate future is based).

1.2 Assuming that all the coupons or interest rates are more than 3%, a Merchant Bank must record these positions as positions in a maturity slotting table and apply risk charges to them in accordance with Table 7C-3.

1.3 A Merchant Bank must calculate the maturity band requirement by multiplying the total amount matched within each maturity band by the maturity band matching factor of 10%. In this example, there are partially offsetting long and short positions in the 10th maturity band, the matched amount of which is equal to \$500,000. This results in a vertical disallowance of \$50,000.

1.4 A Merchant Bank must then calculate its horizontal disallowances comprising –

- (a) the zone requirement, by multiplying the total amount matched within each zone by the corresponding zone matching factor in Table 7C-5. In this example, a zone requirement would be calculated for Zone 1 amounting to 40% of the total matched amount of \$200,000. This results in a horizontal disallowance within the zones of \$80,000. There is no zone requirement if offsetting does not occur within a zone;
- (b) the adjacent zone requirement, by multiplying the total amount matched between adjacent zones by the adjacent zone factor in Table 7C-5. In this example, the following positions remain unmatched after sub-paragraph (a): Zone 1 +\$1,000,000, Zone 2 +\$1,125,000, Zone 3 -\$5,125,000. The adjacent zone matching factor of 40% would apply to the matched amount of \$1,125,000 between Zones 2 and 3. This results in a horizontal disallowance between adjacent zones of \$450,000; and

³⁴⁸ This refers to a security that falls under the “qualifying” category in paragraph 1.1(b) of Annex 7C.

- (c) the non-adjacent zone requirement, by multiplying the total amount matched between Zones 1 and 3. In this example, the following positions remain unmatched after sub-paragraph (b): Zone 1 +\$1,000,000, Zone 3 -\$4,000,000. The non-adjacent zone factor of 100% would apply to the matched amount of \$1,000,000 resulting in a horizontal disallowance between Zones 1 and 3 of \$1,000,000.

1.5 Finally, the Merchant Bank must calculate a net position requirement for the residual unmatched amount. In this example this amounts to \$3,000,000.

1.6 The general market risk capital requirement is the sum of the maturity band requirement, the zone requirement, the adjacent zone requirement, the non-adjacent zone requirement and the net position requirement. In this example, the general market risk capital requirement would be $\$50,000 + \$80,000 + \$450,000 + \$1,000,000 + \$3,000,000 = \$4,580,000$.

Tabular Illustration (\$million)

	Zone 1 (months)				Zone 2 (years)			Zone 3 (years)					
Maturity Band	0-1	1-3	3-6	6-12	1-2	2-3	3-4	4-5	5-7	7-10	10-15	15-20	> 20
Position		+75 Gov.	-50 Fut.	+150 Swap			+50 Fut.			-150 Swap +13.33 Qual.			
General risk charge (%)	0.00	0.20	0.40	0.70	1.25	1.75	2.25	2.75	3.25	3.75	4.50	5.25	6.00
Risk-charged position		+0.15	-0.2	+1.05			+1.125			-5.625 +0.5			
Vertical (Para 1.3)										0.5 x 10% = 0.05			
Horizontal (Para 1.4(a))	0.2 x 40% = 0.08												
Horizontal (Para 1.4(b))					1.125 x 40% = 0.45								
Horizontal (Para 1.4(c))	1.0 x 100%												

DERIVATION OF NOTIONAL POSITIONS FOR EQUITY DERIVATIVESDepository Receipts

1.1 A Merchant Bank must treat a depository receipt as a notional position in the underlying equity.

Convertibles

1.2 Where a Merchant Bank includes a convertible financial instrument in the equity risk calculation, it must –

- (a) treat the convertible financial instrument as a notional position in the equity into which it converts; and
- (b) adjust its equity position by making –
 - (i) an addition equal to the current value of any loss which the Merchant Bank would make if it did convert to equity; or
 - (ii) a reduction equal to the current value of any profit which the Merchant Bank would make if it did convert to equity, subject to a maximum reduction equal to the equity position on the notional position underlying the convertible financial instrument.

Futures Contracts, Forwards and Contract for Differences (“CFD”) on a Single Equity

1.3 A Merchant Bank must treat a futures contract, forward or CFD on a single equity as a notional position in that equity.

Futures Contracts, Forwards and CFDs on Equity Indices or Baskets

1.4 A Merchant Bank must treat a futures contract, forward or CFD on an equity index or basket as either –

- (a) a notional position in each of the underlying equities with a value reflecting that equity's contribution to the total market value of the equities in the index or basket; or
- (b) if there is –
 - (i) one country or jurisdiction in the index or basket, a notional position in the index or basket with a value equal to the total market value of the equities in the index or basket; or

- (ii) more than one country or jurisdiction in the index or basket –
 - (A) several notional basket positions, one for each country or jurisdiction basket with a value reflecting that country's or jurisdiction's contribution to the total market value of the equities in the index or basket; or
 - (B) one notional basket position in a separate, hypothetical country or jurisdiction with a value equal to the total market value of the equities in the index or basket.

1.5 In the case of a futures contract, forward or CFD on a single equity, equity index or equity basket, a Merchant Bank must treat any interest rate risk or foreign exchange risk arising from the non-equity leg of the futures contract, forward or CFD in accordance with the requirements set out in Sub-divisions 1 and 3 of Division 2 of Part VII, respectively.

Equity Swaps

1.6 A Merchant Bank must treat an equity swap where the Merchant Bank is receiving an amount based on the change in value of a single equity or equity index and paying an amount based on the change in value of another equity or equity index as a notional long position in the former and a notional short position in the latter.

1.7 Where one of the legs of an equity swap involves receiving or paying, a fixed or floating interest rate, a Merchant Bank must slot that exposure into the appropriate re-pricing time-band for interest rate risk as set out in Sub-division 1 of Division 2 of Part VII.

QUALIFYING EQUITY INDICES

1.1 A “qualifying equity index” means an index listed in the table below:

	Qualifying equity indices
Australia	S&P/ASX 200 Index
Canada	S&P/TSX Composite Index
Europe	STOXX Europe 50 Index Euro STOXX 50 Index
France	CAC 40 Index
Germany	DAX Index
Hong Kong	Hang Seng China Enterprises Index Hang Seng Index
Italy	FTSE MIB Index
Japan	Nikkei 225
Malaysia	FTSE Bursa Malaysia KLCI Index
Netherlands	AEX Index
Singapore	MSCI Singapore Free Index FTSE Straits Times Index
South Korea	KOSPI 200 Index
Sweden	OMX Stockholm 30 Index
Taiwan	MSCI Taiwan Index
United Kingdom	FTSE 100 Index
United States of America	S&P 500 Index Dow Jones Industrial Average

and any index that is approved by the Authority on an exceptional basis.

DERIVATION OF NOTIONAL POSITIONS FOR FOREIGN CURRENCY AND GOLD DERIVATIVES

Foreign Exchange Forwards, Futures Contracts, Contract for Differences ("CFD"s)

1.1 A Merchant Bank must treat a foreign exchange forward, futures contract or CFD as two notional currency positions:

- (a) a long notional position in the currency which the Merchant Bank has contracted to buy; and
- (b) a short notional position in the currency which the Merchant Bank has contracted to sell,

where each notional position has a value equal to the present value³⁴⁹ of the amount of each currency to be exchanged in the case of a forward or futures contract.

Foreign Exchange Swaps

1.2 A Merchant Bank must treat a foreign exchange swap as –

- (a) a long notional position in the currency which the Merchant Bank has contracted to receive interest and principal; and
- (b) a short notional position in the currency which the Merchant Bank has contracted to pay interest and principal,

where each notional position has a value equal to the present value amount of all cash flows in the relevant currency.

Gold Forwards, Futures Contract and CFDs

1.3 A Merchant Bank must treat a forward, futures contract or CFD on gold as a notional position in gold with a value equal to the amount of gold underlying the contract multiplied by the current spot price for gold, except in the case of a forward where the Merchant Bank, in accordance with industry norms, may use the net present value of each position, discounted using prevailing interest rates and valued at prevailing spot rates.

1.4 In the case of a futures contract, forward or CFD on gold, a Merchant Bank must treat any interest rate risk or foreign exchange risk arising from the non-gold leg of the futures contract, forward or CFD in accordance with Sub-divisions 1 and 3 of Division 2 of Part VII, respectively.

³⁴⁹ This is normally equal to the amount underlying the contract multiplied by the current spot price, except in the case of a forward where the Merchant Bank, in accordance with industry norms, may use the net present value of each position, discounted using prevailing interest rates and valued at prevailing spot rates.

DERIVATION OF NOTIONAL POSITIONS FOR COMMODITY DERIVATIVESFutures Contract, Forwards and Contract for Differences ("CFD"s) on a Single Commodity

1.1 A Merchant Bank must treat a forward, futures contract or CFD on a single commodity which settles according to the difference between the price set on trade date and that prevailing at the maturity date of the contract as a notional position equal to the total quantity of the commodity underlying the contract that has a maturity equal to the expiry date of the contract.

Commitment to Buy or Sell a Single Commodity at an Average of Spot Prices Prevailing in the Future

1.2 A Merchant Bank must treat a commitment to buy (sell) at the average spot price of a single commodity prevailing over some period between trade date and maturity date as a combination of –

- (a) a long (short) position equal to the total quantity of the commodity underlying the contract with a maturity equal to the maturity date of the contract; and
- (b) a series of short (long) notional positions, one for each of the reference dates where the contract price remains unfixed, each of which is a fractional share of the total quantity of the commodity underlying the contract and has a maturity equal to the relevant reference date.

Futures Contract and CFDs on a Commodity Index

1.3 A Merchant Bank must treat a futures contract or CFD on a commodity index which settles according to the difference between the price set on trade date and that prevailing at the maturity date of the contract as either –

- (a) a single notional commodity position (separate from all other commodities) equal to the total quantity of the commodities underlying the contract that has a maturity equal to the maturity date of the contract; or
- (b) a series of notional positions, one for each of the constituent commodities in the index, each of which is a proportionate part of the total quantity of the commodities underlying the contract according to the weighting of the relevant commodity in the index and has a maturity equal to the maturity date of the contract.

1.4 In the case of a futures contract, forward or CFD on a single commodity or commodity index, a Merchant Bank must treat any interest rate or foreign exchange risk

from the non-commodity leg of the futures contract, forward or CFD in accordance with the requirements set out in Sub-divisions 1 and 3 of Division 2 of Part VII, respectively.

Commodity Swaps

1.5 A Merchant Bank must treat a commodity swap as a series of notional positions, one for each payment under the swap, each of which equals the total quantity of the commodity underlying the contract, has a maturity corresponding to each payment and is long or short as follows:

	Receiving amounts unrelated to any commodity's price	Receiving the price of commodity 'b'
Paying amounts unrelated to any commodity's price	N.A.	Long positions in commodity 'b'
Paying the price of commodity 'a'	Short positions in commodity 'a'	Short positions in commodity 'a' and long positions in commodity 'b'

1.6 Where one of the legs of a commodity swap involves receiving or paying, a fixed or floating interest rate, a Merchant Bank must slot that exposure into the appropriate re-pricing time-band for interest rate risk as set out in Sub-division 1 of Division 2 of Part VII.

ILLUSTRATION ON THE CALCULATION OF THE MARKET RISK CAPITAL REQUIREMENT FOR COMMODITY RISK UNDER THE MATURITY LADDER APPROACH

Assuming that a Merchant Bank has the following positions in the same commodity which are converted at current spot rates into Singapore dollar, the Merchant Bank must calculate its total market risk capital requirement as follows:

Time-band	Position	Spread	Capital calculation
Up to 1 month		1.5%	
More than 1 month but not more than 3 months		1.5%	
More than 3 months but not more than 6 months	Long \$800 Short \$1000	1.5%	(1) 800 long + 800 short (matched) Spread charge = $\$1,600 \times 1.5\% = \24 (2) 200 short carried forward to 1-2 years Carry charge = $\$200 \times 0.6\% \times 2 = \2.40
More than 6 months but not more than 12 months		1.5%	
More than 1 year but not more than 2 years	Long \$600	1.5%	(2) 200 long + 200 short (matched) Spread charge = $\$400 \times 1.5\% = \6 (3) 400 long carried forward to over 3 years Carry charge = $\$400 \times 0.6\% \times 2 = \4.80
More than 2 years but not more than 3 years		1.5%	
More than 3 years	Short \$600	1.5%	(3) 400 long + 400 short (matched) Spread charge = $\$800 \times 1.5\% = \12 (4) Net position = 200 Outright charge = $\$200 \times 15\% = \30
			(5) Total market risk capital requirement = \$79.20

ILLUSTRATION ON THE CALCULATION OF THE MARKET RISK CAPITAL REQUIREMENT FOR OPTIONS UNDER THE SIMPLIFIED APPROACH

1.1 Assuming a Merchant Bank holds 100 shares currently valued at \$10 each and an equivalent put option with a strike price of \$11, the Merchant Bank must calculate its market risk capital requirement as follows: $\$1,000 \times 16\%$ (i.e. 8% specific risk + 8% general market risk) = \$160, less the amount the option is in the money $(\$11 - \$10) \times 100 = \$100$. In this example, the market risk capital requirement of the Merchant Bank would be \$60.

1.2 A Merchant Bank must apply a similar methodology as that mentioned in paragraph 1.1 of this Annex for options whose underlying is a foreign currency, an interest rate-related instrument or a commodity.

ILLUSTRATION ON THE CALCULATION OF THE MARKET RISK CAPITAL REQUIREMENT FOR OPTIONS UNDER THE DELTA-PLUS METHOD

1.1 Assume a Merchant Bank has a European short call option on a commodity with an exercise price of 490 and a market value of the underlying commodity 12 months from the expiration of the option at 500, a risk-free interest rate at 8% per annum, and the volatility at 20%. The current delta for this position is according to the Black-Scholes formula -0.721 (i.e. the price of the option changes by -0.721 if the price of the underlying commodity moves by one). The gamma is -0.0034 (i.e. the delta changes by -0.0034 (from -0.721 to -0.7244) if the price of the underlying commodity moves by one). The current value of the option is 65.48.

1.2 The following example shows how the market risk capital requirement will be calculated according to the delta-plus method:

- (a) the Merchant Bank must calculate the delta-weighted position by multiplying the current market value of the commodity by the absolute value of the delta.

$$500 \times 0.721 = 360.5$$

- (b) the Merchant Bank must incorporate the delta-weighted position into the measure described in Sub-division 4 of Division 2 of Part VII on Commodity Risk. If the Merchant Bank uses the maturity ladder approach and no other positions exist, the Merchant Bank must multiply the delta-weighted position by the outright charge of 15% to calculate the capital requirement for delta.

$$360.5 \times 0.15 = 54.075$$

- (c) the Merchant Bank must calculate the capital requirement for gamma in accordance with paragraphs 7.2.74 to 7.2.77.

$$1/2 \times 0.0034 \times (500 \times 0.15)^2 = 9.5625$$

- (d) the Merchant Bank must calculate the capital requirement for vega risk. Assuming that the current (implied) volatility is 20%, as only an increase in volatility carries a risk of loss for a short call option, the volatility has to be increased by a relative shift of 25%. This means that the Merchant Bank must calculate the vega risk capital requirement on the basis of a change in volatility of 5% from 20% to 25% in this example. According to the Black-Scholes formula used, the vega risk equals 1.68. Thus, a 1% or 0.01 increase in volatility increases the value of the option by 1.68. Accordingly, a change in volatility of 5% increases the value by -

$$5 \times 1.68 = 8.4$$

which is the capital requirement for vega risk.

- (e) the Merchant Bank must calculate the market risk capital requirement in this example as follows: $54.075 + 9.5625 + 8.4 = 72.0375$.

ILLUSTRATIONS ON DETERMINING DELTA-WEIGHTED POSITIONS FOR INTEREST RATE OPTIONS

1.1 In the case of a bought call option on a June 3-month interest rate future, a Merchant Bank must in April treat the option as a long position with a maturity of 5 months and a short position with a maturity of 2 months. The Merchant Bank must delta-weight both positions.

1.2 In the case of a written option on a June 3-month interest rate future, a Merchant Bank must in April treat the option as a long position with a maturity of 2 months and a short position with a maturity of 5 months. The Merchant Bank must delta-weight both positions.

1.3 A Merchant Bank must in April treat a 2-month call option on a 10-year bond future where delivery of the bond takes place in September as a long bond position with a maturity of 10 years 5 months and a short 5 months deposit position. The Merchant Bank must delta-weight both positions.

1.4 A Merchant Bank must treat caps and floors as a series of European options. For example, a Merchant Bank that buys a 2-year cap with semi-annual resets and a cap rate of 15% must treat the cap as a series of bought call options on a FRA with a reference rate of 15%, each with a negative sign at the maturity date of the underlying FRA and a positive sign at the settlement date of the underlying FRA.

1.5 A Merchant Bank must treat floating rate instruments with caps or floors as a combination of floating rate securities and a series of European options. For example, a Merchant Bank that buys a 3-year floating rate bond indexed to 6-month LIBOR with a cap of 15% must treat the position as a debt security that reprices in 6 months and a series of five written call options on an FRA with a reference rate of 15%, each with a positive sign at the maturity date of the underlying FRA and a negative sign at the settlement date of the underlying FRA.

EXAMPLE OF MATRICES FOR ANALYSING OPTION PORTFOLIOS UNDER THE SCENARIO APPROACH

Where a Merchant Bank has purchased and sold options on interest rates, and options to purchase Japanese Yen and sell USD, the Merchant Bank may use the scenario approach to calculate the general market risk of these option portfolios by calculating the following matrices:

(a) Options on interest rate-related instruments maturing up to 3 months

Yield Volatility	- 100 basis points	- 66 basis points	- 33 basis points	Current yield	+ 33 basis points	+ 66 basis points	+ 100 basis points
+25%	gain/loss	gain/loss	gain/loss	gain/loss	gain/loss	gain/loss	gain/loss
Current % volatility	gain/loss	gain/loss	gain/loss	market value	gain/loss	gain/loss	gain/loss
-25%	gain/loss	gain/loss	gain/loss	gain/loss	gain/loss	gain/loss	gain/loss

Repeat the interest rate matrix above for each of the maturity bands.

(b) Options on Japanese Yen/USD exchange rate

Exchange rate Volatility	- 8%	- 5.33%	- 2.67%	Current exchange rate	+ 2.67%	+ 5.33%	+ 8%
+25%	gain/loss	gain/loss	gain/loss	gain/loss	gain/loss	gain/loss	gain/loss
Current % volatility	gain/loss	gain/loss	gain/loss	market value	gain/loss	gain/loss	gain/loss
-25%	gain/loss	gain/loss	gain/loss	gain/loss	gain/loss	gain/loss	gain/loss

STANDARDS FOR A PRUDENT VALUATION FRAMEWORK

1.1 This Annex sets out the standards for valuing positions³⁵⁰ that are accounted for at fair value, whether they are in the trading book or the banking book of a Merchant Bank (such positions are referred to in this Annex as “positions”).

1.2 These standards are especially important for positions without actual market prices or observable inputs to valuation, as well as less liquid positions. The standards are not intended to require a Merchant Bank to change valuation procedures for financial reporting purposes.

1.3 The Authority will review the implementation of these standards by a Merchant Bank to assess the quality of its risk management systems, including whether the Merchant Bank has taken appropriate valuation adjustments for regulatory purposes under paragraphs 1.17 to 1.20 of this Annex. The degree of consistency between the Merchant Bank’s valuation procedures and these standards will be a factor in the Authority’s assessment of whether the Merchant Bank must take a valuation adjustment for regulatory purposes under paragraphs 1.17 to 1.20 of this Annex.

Governance Structure

1.4 A Merchant Bank must have in place a clear and delineated governance structure that facilitates the setting, implementation and review of its policies and procedures on valuation. A Merchant Bank must ensure that the governance structure includes all of the following key elements:

- (a) approval by the Board for the overall valuation framework for positions of the Merchant Bank;
- (b) periodic review by the Board on the valuation framework to ensure it remains appropriate, especially if any major acquisition, disposal or business changes have occurred;
- (c) approval by the Board on all significant changes to a Merchant Bank’s valuation policies and procedures;
- (d) significant involvement by senior management of a Merchant Bank in the design and implementation of the controls and methodologies within the approved valuation framework;
- (e) proper oversight by senior management on any significant breach of valuation policies and other significant issues arising from the valuation process. The Merchant Bank must document all breaches of valuation policies and issues arising from the valuation process, and the actions taken.

³⁵⁰ To avoid doubt, this includes positions in instruments that are in scope for credit risk capital requirements and positions in instruments that are in scope for market risk capital requirements.

Policies, Systems and Controls

1.5 A Merchant Bank must ensure that its senior management establishes and maintains adequate policies, systems and controls to ensure that its valuation methodologies are robust and reliable.

1.6 A Merchant Bank must maintain sufficient documentation on its valuation policies and procedures³⁵¹. The Merchant Bank must ensure that such documentation contains all of the following key elements:

- (a) responsibilities of the various units involved in the determination of the valuation;
- (b) sources of market information and provisions for regular reviews of their appropriateness;
- (c) policies for the use of unobservable inputs reflecting the Merchant Bank's assumptions of what market participants would use in pricing the position;
- (d) frequency of independent valuation;
- (e) timing for obtaining closing prices;
- (f) procedures for adjusting valuations;
- (g) end-of-the-month and other ad-hoc verification procedures³⁵².

1.7 A Merchant Bank must ensure that its units or departments accountable for the valuation process maintain clear reporting lines which are independent of the market risk-taking function of the Merchant Bank³⁵³.

1.8 A Merchant Bank must integrate its valuation systems with other risk management systems within the Merchant Bank.

1.9 A Merchant Bank must ensure that its internal auditors or external auditors conduct reviews of the independent price verification procedures and control processes on an annual basis.

³⁵¹ To avoid doubt, the Merchant Bank must meet the requirements in paragraph 1.6 of this Annex, in addition to the requirements on policy statements for the trading book as specified in Sub-division 4 of Division 1 of Part VII.

³⁵² This may include collateral reconciliations to position values, a review of similar recent transactions and early termination analysis.

³⁵³ A Merchant Bank should ensure that the reporting line is ultimately to an executive director of the Board of the Merchant Bank.

Marking-to-Market

1.10 A Merchant Bank must mark-to-market its positions using readily available close out prices³⁵⁴ that are sourced independently.

1.11 A Merchant Bank must mark-to-market its positions on a regular and consistent basis and, this must be done at least daily.³⁵⁵ The Merchant Bank must use the more prudent side of bid and offer unless the Merchant Bank is a significant market maker in a particular position type and has the ability to close out at mid-market.

Marking-to-Model

1.12 Despite paragraph 1.11 of this Annex, where marking-to-market is not possible, a Merchant Bank must mark-to-model.

1.13 A Merchant Bank must meet all of the following requirements when implementing its marked-to-model valuation framework:

- (a) the Merchant Bank must ensure its senior management is aware of the elements of the trading book or of other fair-valued positions which are marked-to-model and understands the materiality of the uncertainty this creates in the reporting of the risk or performance of the business;
- (b) the Merchant Bank must ensure that market inputs are sourced externally and the appropriateness of market inputs for a particular position being valued is reviewed on a regular basis;
- (c) the Merchant Bank must ensure that, where available, generally accepted valuation methodologies for particular products are used;
- (d) where a model used in the valuation framework³⁵⁶ is developed by the Merchant Bank, the Merchant Bank must ensure that the model, and any significant changes made to an existing model, are validated by a unit, or department, independent of both the development process and the front office, and that the validation includes validating the mathematics, the assumptions and the software implementation;
- (e) the Merchant Bank must ensure that there are formal control procedures in place for changes to models used in the valuation framework, and a copy of each model is maintained, with access controls in place to prevent

³⁵⁴ Examples of readily available close out prices include exchange prices, screen prices, or quotes from several independent reputable brokers.

³⁵⁵ A Merchant Bank should maximise the use of relevant observable inputs and minimise the use of unobservable inputs when estimating fair value using a valuation technique. However, observable inputs, such as transactions, may not be relevant, such as in a forced liquidation or distressed sale, or transactions may not be observable, such as when markets are inactive. In such cases, the Merchant Bank should consider the observable inputs, although such inputs may not be determinative of the fair value of a position.

³⁵⁶ The Merchant Bank should ensure that each model used in the valuation framework is developed or approved by a unit or department independent of the front office and based on reasonable and appropriate assumptions which have been documented, and challenged and assessed by suitably qualified parties independent of the development process.

unauthorised changes to the models, and periodically used to check the accuracy of valuations;

- (f) the Merchant Bank must be aware of the weaknesses of each model used in the valuation framework and assess how best to reflect those in the model valuation;
- (g) the Merchant Bank must ensure that each model used in the valuation framework is reviewed to ascertain the accuracy of its performance and such review must include ascertaining the reasonableness of assumptions made, analysing how changes in risk factors affect the profit and loss of a position and comparing how close actual close out values are to model valuations -
 - (i) periodically; and
 - (ii) when there are changes in the model or in the assumptions resulting from developments in market conditions,

and the Merchant Bank must document, for each model, the outcome of the review, the date of the last review and the scheduled date for the next review;

- (h) the Merchant Bank must ensure that valuation adjustments are made as appropriate, including to address the uncertainty of a model valuation (see also paragraphs 1.15 to 1.20 of this Annex).

Independent Price Verification³⁵⁷

1.14 A Merchant Bank must verify the market prices and model inputs used for marking-to-market and marking-to-model respectively for appropriateness and accuracy. A Merchant Bank must ensure that price verification is performed by a unit independent of the market risk-taking function at a frequency that is commensurate with the nature of the market or trading activity, and in any case not less frequently than once a month.

^{358,359}

³⁵⁷ Independent price verification is a process by which market prices or model inputs are regularly and independently verified for accuracy.

³⁵⁸ A Merchant Bank need not perform independent price verification daily, since the daily mark-to-market process should reveal any error or bias in pricing, which should result in the elimination of inaccurate daily marks.

³⁵⁹ A Merchant Bank should make independent unscheduled (e.g. mid-month) price verification of its positions. This should be performed especially if the Merchant Bank identifies potential or actual problems or inaccuracies in its valuation process and results respectively. In the case where pricing sources are limited e.g. only one available broker quote, measures such as valuation adjustments may be appropriate.

Valuation Adjustments

1.15 A Merchant Bank must establish and maintain procedures for considering valuation adjustments³⁶⁰, whether the position is marked-to-market using market prices, observable inputs or third party valuations, or marked-to-model.

1.16 While the list below is not intended to be exhaustive, a Merchant Bank must make valuation adjustments³⁶¹, where relevant, for the following:

- (a) unearned credit spreads;
- (b) close-out costs;
- (c) operational risks;
- (d) early termination;
- (e) investing and funding costs;
- (f) future administrative costs;
- (g) model risk.

Adjustment to the current valuation of less liquid positions for regulatory capital purposes

1.17 A Merchant Bank must establish and maintain procedures for judging the necessity of and calculating an adjustment to the current valuation of less liquid positions for regulatory capital purposes.³⁶² A Merchant Bank must consider the need for an adjustment to a position's valuation to reflect current illiquidity whether the position is marked-to-market using market prices, observable inputs or third-party valuations, or marked-to-model.

1.18 Where assumptions made about liquidity by a Merchant Bank in calculating its market risk capital requirements are inconsistent with the Merchant Bank's ability to sell or hedge out less liquid positions³⁶³, a Merchant Bank must make an adjustment to the current valuation of these positions, where appropriate, and review their continued appropriateness on an ongoing basis. The Merchant Bank must consider all relevant factors and, at a minimum, the following factors when determining the appropriateness of the valuation adjustment for less liquid positions:

- (a) the amount of time it would take to hedge out the risks within the position;
- (b) the average volatility of bid and offer spreads;

³⁶⁰ A Merchant Bank should make valuation adjustments at the transaction level, which means valuation adjustments should be made to the valuation of individual transactions.

³⁶¹ The Merchant Bank should review the appropriateness of the valuation adjustments regularly.

³⁶² This adjustment may be in addition to any changes to the value of the position required for financial reporting purposes.

³⁶³ Reduced liquidity may have arisen from market events.

- (c) the availability of independent market quotes (including the number and identity of market makers) ;
- (d) the average trading volume and volatility of trading volumes (including trading volumes during periods of market stress);
- (e) market concentrations³⁶⁴;
- (f) the aging of positions³⁶⁵;
- (g) the extent to which valuation relies on marking-to-model;
- (h) the impact of other model risks, which the Merchant Bank has not calculated valuation adjustments for under paragraph 1.17 of this Annex.

1.19 For complex products including, but not limited to, securitisation exposures and n-th-to-default credit derivatives, a Merchant Bank must explicitly assess the need for valuation adjustments to reflect two forms of model risk: the model risk associated with using a possibly incorrect valuation methodology and the risk associated with using unobservable (and possibly incorrect) calibration parameters in the valuation model.

1.20 In some circumstances, it is possible that the adjustments to the current valuation of less liquid positions made under paragraph 1.17 of this Annex may exceed those valuation adjustments made under financial reporting standards and paragraphs 1.15 to 1.16 of this Annex. Where this occurs, a Merchant Bank must include the difference as Deductions from Tier 1 capital.

³⁶⁴ A Merchant Bank should consider the impact of liquidating concentrated positions when determining the valuation adjustment.

³⁶⁵ A Merchant Bank should consider the impact of liquidating stale positions when determining the valuation adjustment.

PART VIII: OPERATIONAL RISK

Division 1: Overview of Operational RWA Calculation

Approaches for Calculating Operational RWA⁴⁰¹

8.1.1 A Merchant Bank must use the BIA or SA(OR) to calculate its operational RWA. The Merchant Bank must calculate the operational RWA as the operational risk capital requirement calculated using -

- (a) the BIA in accordance with Division 2 of this Part; or
- (b) the SA(OR) in accordance with Division 3 of this Part,

multiplied by 12.5.

8.1.2 Despite paragraph 8.1.1, the Authority may take supervisory measures, which may include requiring a Merchant Bank to hold additional capital, if the Authority is of the view that the operational risk capital requirement under the BIA or SA(OR) is distorted by negative gross income, or that the credibility of the operational risk capital requirement is lacking in relation to the Merchant Bank's peers.

8.1.3 A Merchant Bank which has adopted the SA(OR) must not subsequently use the BIA without the prior approval of the Authority.

8.1.4 If the Authority is not satisfied that a Merchant Bank which has adopted the SA(OR) has complied with the requirements specified in this Part for that approach, the Authority may require the Merchant Bank to use the BIA for some or all of its operations. The Merchant Bank must not return to using the SA(OR) without the prior approval of the Authority. The Authority may further require the Merchant Bank to comply with other conditions before it may return to using the SA(OR).

⁴⁰¹ A Merchant Bank should adopt the practices set out in the report "Principles for the Sound Management of Operational Risk" issued by the BCBS in June 2011. A Merchant Bank should adopt an approach for calculating its operational risk capital requirement that is commensurate with the complexity and sophistication of its businesses and operations. A Merchant Bank with significant operational risk exposures should use an approach other than the BIA.

Division 2: BIA

8.2.1 A Merchant Bank using the BIA must calculate its operational risk capital requirement as follows:

$$K_{BIA} = [\sum(GI_{1...n} \times \alpha)]/n$$

where -

- (a) K_{BIA} = operational risk capital requirement under the BIA;
- (b) GI = annual gross income of the Merchant Bank, where positive, over the preceding three years as set out in paragraph 8.2.4. If the annual gross income for any given year is negative or zero, the Merchant Bank must not include the annual gross income for the purposes of calculating the operational risk capital requirement;
- (c) n = number of years in the preceding three years when annual gross income was positive; and
- (d) α = 15%.

8.2.2 A Merchant Bank must calculate its gross income⁴⁰² as the sum of its net interest income and non-interest income, taking into account the following adjustments:

- (a) gross of any allowances (including for unpaid interest);
- (b) gross of operating expenses, including any fees paid for outsourced services,

but excluding –

- (i) any realised profits or losses arising from the sale of securities in the banking book;
- (ii) any income or expense item not derived from the ordinary activities of the Merchant Bank and not expected to recur frequently or regularly⁴⁰³; and
- (iii) any income derived from any insurance recoveries.

8.2.3 For the purposes of paragraph 8.2.2 –

- (a) the Merchant Bank must use audited gross income figures where available. Where audited figures are not available, the Merchant Bank may use unaudited gross income figures, provided that the Merchant Bank reconciles, on a timely basis, such unaudited gross income figures with its audited financial statements (as well as any quarterly and half-yearly

⁴⁰² An example of the calculation of gross income is set out in Annex 8A.

⁴⁰³ Such items may include income or expenses arising from – (a) the sale of fixed assets; (b) expropriation of assets; or (c) earthquakes or other natural disasters.

financial statement which has been reviewed by external auditors, where available), and use the latest reconciled numbers for future calculations. If a Merchant Bank does not have sufficient income data to calculate GI in accordance with paragraph 8.2.1(b), a Merchant Bank must, with the approval of the Authority, use an alternative method, which considers gross income estimates, for calculating the operational risk capital requirements;

- (b) the Merchant Bank must include any fees received for its outsourcing services in the calculation of gross income;
- (c) "net interest income" is defined as interest income less interest expense; and
- (d) "non-interest income" includes fees and commissions income after deducting fees and commissions expense.

8.2.4 A Merchant Bank must calculate its annual gross income for the most recent year by aggregating the gross income of the last four financial quarters. A Merchant Bank must calculate its annual gross income for each of the two years preceding the most recent year in the same manner.⁴⁰⁴

8.2.5 Despite paragraph 8.2.4, a Merchant Bank must consult the Authority on the appropriate method for calculating the operational risk capital requirement if –

- (a) it is currently undertaking an acquisition or merger; or
- (b) it has completed an acquisition or merger within the last three years from the date on which the Merchant Bank is required to comply with Part VIII.

⁴⁰⁴ An example of the calculation of annual gross income for the previous three years is set out in Annex 8B.

Division 3: SA(OR)

8.3.1 A Merchant Bank using the SA(OR) must calculate its operational risk capital requirement by taking the three-year average of the simple summation of the operational risk capital requirements across the eight business lines set out in paragraph 8.3.2 in each year. The Merchant Bank must calculate its operational risk capital requirement in each year as follows:

$$K_{SA(OR)} = [\sum_{\text{years } 1-3} \max\{\sum (GI_{1-8} \times \beta_{1-8}), 0\}] / 3$$

where -

- (a) $K_{SA(OR)}$ = operational risk capital requirement under the SA(OR);
- (b) GI_{1-8} = annual gross income⁴⁰⁵ in a given year calculated in accordance with paragraph 8.2.2, for each of the eight business lines set out in Table 8-1; and
- (c) β_{1-8} = fixed beta factor⁴⁰⁶ as set out in Table 8-1.

Table 8-1: Beta Factors for the Business Lines

Business Lines	Beta Factors
Corporate Finance (β_1)	18%
Trading and Sales (β_2)	18%
Payment and Settlement (β_3)	18%
Agency Services (β_4)	15%
Asset Management (β_5)	12%
Retail Brokerage (β_6)	12%
Retail Banking (β_7)	12%
Commercial Banking (β_8)	15%

In any given year, the Merchant Bank may offset negative operational risk capital requirements (resulting from negative gross income) in any business line with positive operational risk capital requirements in other business lines. A Merchant Bank must deem the operational risk capital requirement for a year as zero, if the aggregate operational risk capital requirement across the eight business lines in that year is negative.

8.3.2 A Merchant Bank using the SA(OR) must classify its business activities into the eight business lines set out in Table 8-1 (referred to in this Part as “business lines”) in a mutually exclusive and jointly exhaustive manner.

⁴⁰⁵ Within each business line, gross income is a broad indicator that serves as a proxy for the scale of business operations and thus the likely scale of operational risk exposure within each of these business lines.

⁴⁰⁶ Each beta factor serves as a proxy for the industry-wide relationship between the operational risk loss experience for a given business line and the aggregate level of gross income for that business line.

8.3.3 A Merchant Bank must –

- (a) develop specific policies and have documented criteria for mapping its current business activities to the appropriate business lines in accordance with paragraph 8.3.4 and Annex 8C;
- (b) ensure that senior management is responsible for the mapping policy, which must be subject to approval by the Board;
- (c) ensure that the written business line definitions are sufficiently clear and detailed to allow third parties to replicate the business line mapping;
- (d) document any exceptions or overrides that it has applied when mapping business activities to business lines in accordance with the policies in sub-paragraph (a); and
- (e) review and adjust the policies and criteria in sub-paragraph (a) for new or changing business activities as appropriate.

8.3.4 A Merchant Bank must comply with the following when mapping its business activities to the appropriate business lines:

- (a) subject to sub-paragraph (b), each activity or product must be mapped into a business line. A Merchant Bank must have processes in place to substantiate the mapping of any new activities or products;
- (b) any activity which cannot be readily mapped into any business line and which is ancillary to and supports a business line (“ancillary activity”) must be allocated to the business line it supports. If the activity supports more than one business line, an objective criterion must be used to allocate the annual gross income derived from that activity to the relevant business lines;
- (c) any activity which cannot be readily mapped into any business line and which is not an ancillary activity must be allocated to the business line with the highest associated beta factor (i.e. 18%). Any ancillary activity to that activity must be treated in the same manner;
- (d) once an activity has been mapped to a particular business line, the activity and any ancillary activity must be mapped to the same business line consistently over time;
- (e) the mapping of activities into business lines must be consistent with the definitions of business lines used for regulatory capital calculations for credit and market risk. The Merchant Bank must ensure that the reasons for any deviations are valid, clearly articulated and documented;
- (f) a Merchant Bank may use an internal pricing method to allocate gross income between business lines provided that the total gross income for the Merchant Bank (calculated in accordance with paragraph 8.2.2) equals the sum of gross income for the eight business lines;

- (g) the mapping process must be subject to regular independent reviews by the internal or external auditors of the Merchant Bank.

8.3.5 A Merchant Bank must not use the SA(OR) to calculate its operational risk capital requirement unless⁴⁰⁷ -

- (a) the Merchant Bank has an operational risk management system that is conceptually sound and is implemented with integrity, and with clear responsibilities assigned to an operational risk management function. The Merchant Bank must ensure that the operational risk management function -
 - (i) develops strategies to identify, assess, monitor, control and mitigate operational risk;
 - (ii) codifies policies and procedures concerning operational risk management and controls;
 - (iii) designs and implements the operational risk assessment methodology and operational risk-reporting system of the Merchant Bank; and
 - (iv) has sufficient resources for the use of the SA(OR), as well as the control and audit areas.
- (b) as part of its internal operational risk assessment system, the Merchant Bank systematically tracks relevant operational risk data including material losses by business line;
- (c) the Merchant Bank has a process for ensuring compliance with a set of internal policies, procedures and controls concerning its operational risk management system, that is well documented and implemented, including policies for the treatment of non-compliance issues and for taking appropriate action according to the information conveyed in the reports;
- (d) there is regular reporting of operational risk exposures, including material operational losses, to business unit management, senior management and to its Board; and
- (e) the operational risk management processes and assessment system of the Merchant Bank, including the activities of the business units and of the operational risk management function, are subject to validation and regular independent reviews by external auditors or the Authority.

8.3.6 A Merchant Bank must ensure that its operational risk assessment system is closely integrated into its risk management processes. The Merchant Bank must ensure that its output is an integral part of the process of monitoring and controlling the

⁴⁰⁷ The Authority may impose a requirement on the Merchant Bank to monitor its implementation of the SA(OR) Approach for a specified period and for the results of the monitoring to be subjected to review by the Authority before the Merchant Bank may use the SA(OR) for regulatory capital purposes.

operational risk of the Merchant Bank.⁴⁰⁸ The Merchant Bank must have techniques for creating incentives to improve operational risk management.

8.3.7 In addition, a Merchant Bank using the SA(OR) must ensure that its Board or senior management, or both, as the case may be, are actively involved in the oversight of the operational risk management framework.

⁴⁰⁸ For example, this information must play a prominent role in risk reporting, management reporting, and risk analysis.

EXAMPLE OF GROSS INCOME COMPUTATION

	S\$	S\$
Interest Income	100	100
Less: Interest Expense	(70)	(70)
Net Interest Income	30	30
Fee and Commission Income	7	7
Dividend Income	5	5
Rental Income	3	3
Profit/loss from Trading	2	2
Realised gains/losses from sale of banking book securities	5	
Other Non-interest Income	3	3
Non-interest Income	25	20
Less: Operating expenses	(20)	
Less: Allowances	(3)	
Less: Taxes	(7)	
Net Income as per Profit & Loss	25	
Gross Income as per paragraph 8.2.2		50

EXAMPLE OF ANNUAL GROSS INCOME COMPUTATION FOR PREVIOUS THREE YEARS

Table 8B-1 sets out an illustration of the calculation of the annual gross income for the previous three years, for a Merchant Bank calculating its operational RWA as at end Nov 2020:

Table 8B-1: Illustration of Calculation of Annual Gross Income

	Year 3	Year 2	Year 1
Gross Income for financial quarter ending	Sep'20 (GI _{3a})	Sep'19 (GI _{2a})	Sep'18 (GI _{1a})
	Jun'20 (GI _{3b})	Jun'19 (GI _{2b})	Jun'18 (GI _{1b})
	Mar'20 (GI _{3c})	Mar'19 (GI _{2c})	Mar'18 (GI _{1c})
	Dec'19 (GI _{3d})	Dec'18 (GI _{2d})	Dec'17 (GI _{1d})
Total	GI ₃ = GI _{3a} + GI _{3b} + GI _{3c} + GI _{3d}	GI ₂ = GI _{2a} + GI _{2b} + GI _{2c} + GI _{2d}	GI ₁ = GI _{1a} + GI _{1b} + GI _{1c} + GI _{1d}

where GI = Gross Income

MAPPING OF BUSINESS LINES

Table 8C-1: Mapping of Business Lines

Level 1	Level 2	Activity Groups
Corporate Finance	Corporate Finance	Mergers and acquisitions, Underwriting, Privatisations, Securitisation, Research, Debt (Government, High Yield), Equity, Syndications, Initial Public Offerings, Secondary Private Placements
	Municipal / Government Finance	
	Merchant Banking	
	Advisory Services	
Trading & Sales	Sales	Fixed Income, Equity, Foreign Exchanges, Commodities, Credit, Funding, Own Position Securities, Lending and Repurchase Agreements, Brokerage, Debt, Prime Brokerage
	Market Making	
	Proprietary Positions	
	Treasury	
Payment & Settlement ⁴⁰⁹	External Clients	Payments and Collections, Funds Transfers, Clearing and Settlement
Agency Services	Custody	Escrow, Depository Receipts, Securities Lending (Customers) Corporate Actions
	Corporate Agency	Issuer and Paying Agents
	Corporate Trust	
Asset Management	Discretionary Fund Management	Pooled, Segregated, Retail, Institutional, Closed, Open, Private Equity
	Non-Discretionary Fund Management	Pooled, Segregated, Retail, Institutional, Closed, Open
Retail Brokerage	Retail Brokerage	Execution and Full Service
Retail Banking	Retail Banking	Retail Lending and Deposits, Banking Services, Trust and Estates
	Private Banking	Private Lending and Deposits, Banking Services, Trust and Estates, Investment Advice
	Card Services	Merchant / Commercial / Corporate Cards, Private Labels and Retail
Commercial Banking	Commercial Banking	Project Finance, Real Estate, Export Finance, Trade Finance, Factoring, Leasing, Lending, Guarantees, Bills of Exchange

⁴⁰⁹ Payment and settlement losses related to a Merchant Bank's own activities should be incorporated in the loss experience of the affected business lines.

PART IX: REPORTING SCHEDULES

Division 1: Introduction

9.1.1 A Merchant Bank must submit to the Authority, information relating to its capital adequacy calculated according to the requirements and guidelines of this Notice in the format of the reporting schedules set out in Annexes 9A to 9E and such other reporting schedules as the Authority may specify. A summary of the reporting schedules in Annexes 9A to 9E is set out in the Table 9-1.

Table 9-1: Summary of Reporting Schedules in Annexes 9A to 9E

Section		Annex/Schedule
1	Capital Adequacy Reporting Schedules	Annex 9A
	Statement of Tier 1 CAR and Total CAR	Schedule 1A
	Capital Treatment of Allowances	Schedule 1B
2	Credit Risk Reporting Schedules	Annex 9B
	Summary of Credit RWA	Schedule 2
	SA(CR)	Schedule 2-1A
	SA(EQ)	Schedule 2-2A
	SA(SE)	Schedule 2-3A
	Unsettled Transactions	Schedule 2-4A
3	Market Risk Reporting Schedules	Annex 9C
	Summary of Market RWA	Schedule 3
	SA(MR) – Interest Rate Risk	Schedule 3-1A
	SA(MR) – Interest Rate Risk (General Market Risk)	Schedule 3-1B
	SA(MR) – Equity Risk	Schedule 3-1C
	SA(MR) – Foreign Exchange Risk	Schedule 3-1D
	SA(MR) – Commodity Risk	Schedule 3-1E
	SA(MR) – Options Position Risk	Schedule 3-1F
4	Operational Risk Reporting Schedules	Annex 9D
	Summary of Operational RWA	Schedule 4
	BIA, SA(OR)	Schedule 4-1A
5	Other Reporting Schedules	Annex 9E
	Off-Balance Sheet Exposures (Excluding Derivative Transactions and Securitisation Exposures)	Schedule 5A
	OTC Derivative Transactions	Schedule 5B
	Inflows into and Outflows from Asset Sub-classes due to Credit Protection	Schedule 5C
	Eligible Financial Collateral	Schedule 5D

Division 2: Scope and Frequency of Reporting

9.2.1 A Merchant Bank must submit to the Authority, the reporting schedules –

(a) at the Solo level; and

(b) where applicable, at the Group level,

at the end of each quarter, no later than the 30th of the following month.

9.2.2 The Merchant Bank must include with the reporting schedules a written confirmation from its chief financial officer, in the format set out in Annex 9F.

9.2.3 Where a Merchant Bank is aware of material misstatements in the reporting schedules subsequent to submitting these schedules to the Authority, the Merchant Bank must resubmit to the Authority such schedules with the information corrected, as soon as practicable.

MAS NOTICE 1111: CAPITAL ADEQUACY REPORTING SCHEDULES
SCHEDULE 1A

Annex 9A

STATEMENT OF TIER 1 CAR AND TOTAL CAR

Name of the Merchant Bank:

Statement as at:

Scope of Reporting:

Part A: Tier 1 Capital and Tier 2 Capital

	Solo	Group
1. Tier 1 Capital	(In S\$ million)	
(a) Paid-up ordinary share capital		
(b) Disclosed reserves pursuant to paragraph 5.1.1(b)		
(c) Paid-up perpetual non-cumulative preference shares (subject to limits) pursuant to paragraph 5.1.1(c)		
(d) Minority interest pursuant to paragraph 5.1.1(d)		
Gross Tier 1 Capital		
2. Deductions from Gross Tier 1 Capital		
(a) Goodwill		
(b) Intangible assets		
(c) Deferred tax assets pursuant to paragraph 5.1.7(c)		
Net Tier 1 Capital		
Less:		
(d) Amounts included as Deductions from Tier 1 Capital pursuant to paragraph 6.5.17 (gain-on-sale from securitisations)		
(e) 50% of Total Deductible Items from Part B below pursuant to paragraph 5.1.7		
Eligible Tier 1 Capital		
3. Tier 2 Capital		
(a) General allowances pursuant to paragraph 5.2.1(a)		
(b) UT2 pursuant to paragraph 5.2.1(e)		
(c) Revaluation surpluses on land and building assets pursuant to paragraph 5.2.1(b)		
(d) Revaluation gains on FVOCI equity securities pursuant to paragraph 5.2.1(c)		
(e) Paid-up perpetual non-cumulative preference shares in excess of limits, pursuant to paragraph 5.2.1(d)		
(f) LT2 (subject to limits) pursuant to paragraph 5.2.6		
Tier 2 Capital subject to Limits		
4. Total Capital (i.e. Net Tier 1 Capital + Tier 2 Capital subject to Limits)		
Less:		
5. Deductions from Tier 2 Capital		
(a) 50% of Total Deductible Items from Part B below pursuant to paragraph 5.2.12		
6. Eligible Total Capital		

**MAS NOTICE 1111: CAPITAL ADEQUACY REPORTING SCHEDULES
SCHEDULE 1A**

Annex 9A

STATEMENT OF TIER 1 CAR AND TOTAL CAR

Name of the Merchant Bank:

Statement as at:

Scope of Reporting:

Part B: Deductible Items

	Solo	Group
	(In S\$ million)	
1. Capital investments in insurance subsidiaries		
2. Capital investments in unconsolidated subsidiaries approved, licensed, registered or otherwise regulated by the Authority		
3. Capital investments in unconsolidated subsidiaries not approved, licensed, registered or otherwise regulated by the Authority		
4. Capital investments in every company in which a stake of 10% or more is acquired or held, and which was acquired or held in the course of the satisfaction of debts		
5. Capital investments in every associate, in excess of 20% of each tranche of such capital investments		
6. Capital investments in financial institutions incorporated in Singapore approved, licensed, registered or otherwise regulated by the Authority, in excess of 2% of Eligible Total Capital		
7. PE/VC investments held beyond relevant holding periods set out in MAS Notice 1018		
8. Capital deficits in regulated financial subsidiaries and regulated financial associates		
9. Amounts included as Deductions from Tier 1 Capital and Deductions from Tier 2 Capital pursuant to Division 5 of Part VI (excluding any gain-on-sale already deducted from Net Tier 1 Capital)		
10. Amounts representing the materiality thresholds below which no payment will be made by the protection provider in the event of loss pursuant to paragraphs 6.3.55 and 6.4.14		
11. Amounts included as Deductions from Tier 1 Capital and Deductions from Tier 2 Capital pursuant to paragraph 6.3.52		
12. Amounts included as Deductions from Tier 1 Capital and Deductions from Tier 2 Capital pursuant to Part VII		
13. Capital investments in financial institutions that are designed to artificially inflate the capital position of the Merchant Bank		
14. Other supervisory deductions		
Total Deductible Items		

**MAS NOTICE 1111: CAPITAL ADEQUACY REPORTING SCHEDULES
SCHEDULE 1A**

Annex 9A

STATEMENT OF TIER 1 CAR AND TOTAL CAR

Name of the Merchant Bank:

Statement as at:

Scope of Reporting:

Part C: Total Risk Weighted Assets

	Solo	Group
	(In S\$ million)	
1. Credit RWA calculated under the SA(CR), SA(EQ), SA(SE)	from Sch 2	
2. Market RWA calculated under the SA(MR)	from Sch 3	
3. Operational RWA calculated under the (a) BIA	from Sch 4	
(b) SA(OR)	from Sch 4	
Total Operational RWA	from Sch 4	
4. Total RWA		

Part D: Limits

1. Limits on Net Tier 1 Capital		
(a) Allowable Preference Shares ÷ Net Tier 1 Capital pursuant to paragraphs 5.1.10 and 5.1.11		
2. Limits on Tier 2 Capital		
(a) Allowable Tier 2 Capital ÷ Net Tier 1 Capital pursuant to paragraph 5.2.10		
(b) Allowable Lower Tier 2 Capital ÷ Total Capital pursuant to paragraph 5.2.11		

Part E: CAR (as set out in Part IV)

1. Tier 1 CAR		
2. Total CAR		

MAS NOTICE 1111: CAPITAL ADEQUACY REPORTING SCHEDULES
SCHEDULE 1B

Annex 9A

CAPITAL TREATMENT OF ALLOWANCES

Name of the Merchant Bank:	
Statement as at:	
Scope of Reporting:	

(In S\$ million)

1. General Allowances	
(a) General Allowances	 A
Less: associated deferred tax assets	
(b) Net General Allowances	
2. General Allowances Attributable to SA(CR), SA(EQ), SA(SE)	
(a) Proportion of credit RWA attributable to SA(CR), SA(EQ), SA(SE) (%)	B
(b) Net General Allowances attributable to SA(CR), SA(EQ), SA(SE)	B x A C
(c) Limit on Net General Allowances acceptable as Upper Tier 2 Capital pursuant to paragraph 5.2.1(a)(ii)	D
(d) Eligible Net General Allowances recognised as Upper Tier 2 Capital	MIN(C,D) E

MAS NOTICE 1111: CREDIT RISK REPORTING SCHEDULES

SCHEDULE 2

Annex 9B

SUMMARY OF CREDIT RWA

Name of the Merchant Bank:

Statement as at:

Scope of Reporting:

1. Credit RWA

Amount
(S\$ million)

(a) SA(CR), SA(EQ), SA(SE)

Total Credit
RWA

(i) Cash and Cash Equivalents

(ii) Central Government and Central Bank Asset Class

(iii) PSE Asset Class

(iv) MDB Asset Class

(v) Bank Asset Class

(vi) Corporate Asset Class

(vii) Regulatory Retail Asset Class

(viii) Residential Mortgage Asset Class

(ix) CRE Asset Class

(x) Other Exposures Asset Class

(xi) SA(EQ) RWA

(xii) SA(SE) RWA

(xiii) Unsettled Trades

Total Credit RWA

MAS NOTICE 1111: CREDIT RISK REPORTING SCHEDULES
SCHEDULE 2-1A

Annex 9B

SA(CR)

Name of the Merchant Bank:

Statement as at:

Scope of Reporting:

(In \$ million)

1. Cash Items as set out in paragraphs 6.3.1(a), 6.3.18 and 6.3.19

- (a) Cash
- (b) Gold bullion held in own vault or on an allocated basis backed by gold bullion liabilities
- (c) Receivable funds from DvP transactions up to and including the fourth business day after the settlement date
- (d) Cash equivalents
- Total for Cash Items

Notional Amount	Risk Weight	Credit RWA
(a)	(b)	(c=akb)
	0%	
	0%	
	0%	
	20%	

2. Central Government and Central Bank Asset Class as set out in paragraphs 6.3.1(b) and 6.3.20 to 6.3.23

- (a) On-balance Sheet Exposures
- Risk Weight 0%
- Risk Weight 20%
- Risk Weight 50%
- Risk Weight 100%
- Risk Weight 150%
- Sub-Total
- (b) Off-balance Sheet Exposures (excluding OTC Derivative Transactions & SFTs)
- Risk Weight 0%
- Risk Weight 20%
- Risk Weight 50%
- Risk Weight 100%
- Risk Weight 150%
- Sub-Total
- (c) OTC Derivative Transactions
- Risk Weight 0%
- Risk Weight 10%
- Risk Weight 20%
- Risk Weight 50%
- Risk Weight 100%
- Risk Weight 150%
- Sub-Total
- (d) SFTs
- Risk Weight 0%
- Risk Weight 10%
- Risk Weight 20%
- Risk Weight 50%
- Risk Weight 100%
- Risk Weight 150%
- Sub-Total
- Total for Central Government and Central Bank Asset Class

Before CRM				CRM Adjustments				After CRM	Risk Weight	Credit RWA
Notional Amount	Before applying qualifying bilateral netting agreements	After applying qualifying bilateral netting agreements (other than SFTs)	Net Exposure	(Outflows) due to Credit Protection Bought	Inflows due to Credit Protection Sold	Redistribution of Net Exposures due to FC(SA)	Decrease in Net Exposure due to FC(CA)	Net Exposure		
			(d)	(e)	(f)	(g)	(h)	(i=d+e+f+g+h)	(j)	(k=ix)
									0%	
									20%	
									50%	
									100%	
									150%	
						Sum to zero				
									0%	
									20%	
									50%	
									100%	
									150%	
						Sum to zero				
									0%	
									10%	
									20%	
									50%	
									100%	
									150%	
						Sum to zero				
									0%	
									10%	
									20%	
									50%	
									100%	
									150%	
						Sum to zero				

MAS NOTICE 1111: CREDIT RISK REPORTING SCHEDULES
SCHEDULE 2-1A

Annex 9B

SA(CR)

Name of the Merchant Bank:

Statement as at:

Scope of Reporting:

		Before CRM			CRM Adjustments				After CRM			
		Gross Exposure		Net Exposure	(Outflows) due to Credit Protection Bought	Inflows due to Credit Protection Sold	Redistribution of Net Exposures due to FC(SA)	Net Exposure due to FC(CA)	Net Exposure	Risk Weight	Credit RWA	
		Notional Amount	Before applying qualifying bilateral netting agreements									
					(e)	(f)	(g)	(h)	(i=d+e+f+g+h)	(j)	(k=i* j)	
3.	PSE Asset Class as set out in paragraphs 6.3.1(c) and 6.3.24 to 6.3.26											
(a)	On-balance Sheet Exposures											
	Risk Weight 0%									0%		
	Risk Weight 20%									20%		
	Risk Weight 50%									50%		
	Risk Weight 100%									100%		
	Risk Weight 150%									150%		
	Sub-Total						Sum to zero					
(b)	Off-balance Sheet Exposures (excluding OTC Derivative Transactions & SFTs)											
	Risk Weight 0%									0%		
	Risk Weight 20%									20%		
	Risk Weight 50%									50%		
	Risk Weight 100%									100%		
	Risk Weight 150%									150%		
	Sub-Total						Sum to zero					
(c)	OTC Derivative Transactions											
	Risk Weight 0%									0%		
	Risk Weight 10%									10%		
	Risk Weight 20%									20%		
	Risk Weight 50%									50%		
	Risk Weight 100%									100%		
	Risk Weight 150%									150%		
	Sub-Total						Sum to zero					
(d)	SFTs											
	Risk Weight 0%									0%		
	Risk Weight 10%									10%		
	Risk Weight 20%									20%		
	Risk Weight 50%									50%		
	Risk Weight 100%									100%		
	Risk Weight 150%									150%		
	Sub-Total						Sum to zero					
	Total for PSE Asset Class											
4.	MDB Asset Class as set out in paragraphs 6.3.1(d) and 6.3.27 to 6.3.28											
(a)	On-balance Sheet Exposures											
	Risk Weight 0%									0%		
	Risk Weight 20%									20%		
	Risk Weight 50%									50%		
	Risk Weight 100%									100%		
	Risk Weight 150%									150%		
	Sub-Total						Sum to zero					
(b)	Off-balance Sheet Exposures (excluding OTC Derivative Transactions & SFTs)											
	Risk Weight 0%									0%		
	Risk Weight 20%									20%		
	Risk Weight 50%									50%		
	Risk Weight 100%									100%		
	Risk Weight 150%									150%		
	Sub-Total						Sum to zero					
(c)	OTC Derivative Transactions											
	Risk Weight 0%									0%		
	Risk Weight 10%									10%		
	Risk Weight 20%									20%		
	Risk Weight 50%									50%		
	Risk Weight 100%									100%		
	Risk Weight 150%									150%		
	Sub-Total						Sum to zero					
(d)	SFTs											
	Risk Weight 0%									0%		
	Risk Weight 10%									10%		
	Risk Weight 20%									20%		
	Risk Weight 50%									50%		
	Risk Weight 100%									100%		
	Risk Weight 150%									150%		
	Sub-Total						Sum to zero					
	Total for MDB Asset Class											

MAS NOTICE 1111: CREDIT RISK REPORTING SCHEDULES
SCHEDULE 2-1A

Annex 9B

SA(CR)

Name of the Merchant Bank:

Statement as at:

Scope of Reporting:

		Before CRM			CRM Adjustments				After CRM			
		Notional Amount	Gross Exposure		Net Exposure	(Outflows) due to Credit Protection Bought	Inflows due to Credit Protection Sold	Redistribution of Net Exposures due to FC(SA)	Decrease in Net Exposure due to FC(CA)	Net Exposure	Risk Weight	Credit RWA
			Before applying qualifying bilateral netting agreements	After applying qualifying bilateral netting agreements (other than SFTs)								
5.	Bank Asset Class as set out in paragraphs 6.3.1(e) and 6.3.29 to 6.3.34											
(a)	On-balance Sheet Exposures											
	Risk Weight 0%										0%	
	Risk Weight 20%										20%	
	Risk Weight 50%										50%	
	Risk Weight 100%										100%	
	Risk Weight 150%										150%	
	Sub-Total							Sum to zero				
(b)	Off-balance Sheet Exposures (excluding OTC Derivative Transactions & SFTs)											
	Risk Weight 0%										0%	
	Risk Weight 20%										20%	
	Risk Weight 50%										50%	
	Risk Weight 100%										100%	
	Risk Weight 150%										150%	
	Sub-Total							Sum to zero				
(c)	OTC Derivative Transactions											
	Risk Weight 0%										0%	
	Risk Weight 10%										10%	
	Risk Weight 20%										20%	
	Risk Weight 50%										50%	
	Risk Weight 100%										100%	
	Risk Weight 150%										150%	
	Sub-Total							Sum to zero				
(d)	SFTs											
	Risk Weight 0%										0%	
	Risk Weight 10%										10%	
	Risk Weight 20%										20%	
	Risk Weight 50%										50%	
	Risk Weight 100%										100%	
	Risk Weight 150%										150%	
	Sub-Total							Sum to zero				
	Total for Bank Asset Class											
6.	Corporate Asset Class as set out in paragraphs 6.3.1(f) and 6.3.35 to 6.3.37											
(a)	On-balance Sheet Exposures											
	Risk Weight 0%										0%	
	Risk Weight 20%										20%	
	Risk Weight 50%										50%	
	Risk Weight 100%										100%	
	Risk Weight 150%										150%	
	Sub-Total							Sum to zero				
(b)	Off-balance Sheet Exposures (excluding OTC Derivative Transactions & SFTs)											
	Risk Weight 0%										0%	
	Risk Weight 20%										20%	
	Risk Weight 50%										50%	
	Risk Weight 100%										100%	
	Risk Weight 150%										150%	
	Sub-Total							Sum to zero				
(c)	OTC Derivative Transactions											
	Risk Weight 0%										0%	
	Risk Weight 10%										10%	
	Risk Weight 20%										20%	
	Risk Weight 50%										50%	
	Risk Weight 100%										100%	
	Risk Weight 150%										150%	
	Sub-Total							Sum to zero				
(d)	SFTs											
	Risk Weight 0%										0%	
	Risk Weight 10%										10%	
	Risk Weight 20%										20%	
	Risk Weight 50%										50%	
	Risk Weight 100%										100%	
	Risk Weight 150%										150%	
	Sub-Total							Sum to zero				
	Total for Corporate Asset Class											

MAS NOTICE 1111: CREDIT RISK REPORTING SCHEDULES
SCHEDULE 2-1A

Annex 9B

SA(CR)

Name of the Merchant Bank:

Statement as at:

Scope of Reporting:

		Before CRM Gross Exposure			Net Exposure	CRM Adjustments				After CRM	Risk Weight	Credit RWA	
		Notional Amount	Before applying qualifying bilateral netting agreements	After applying qualifying bilateral netting agreements (other than SFTs)		(Outflows) due to Credit Protection Bought	Inflows due to Credit Protection Sold	Redistribution of Net Exposures due to FC(SA)	Decrease in Net Exposure due to FC(CA)	Net Exposure (i=d+e+f+g+h)			
7. Regulatory Retail Asset Class as set out in paragraphs 6.3.1(g) and 6.3.38													
(a)	On-balance Sheet Exposures												
	Risk Weight 0%											0%	
	Risk Weight 20%											20%	
	Risk Weight 50%											50%	
	Risk Weight 75% - Exposures to individuals											75%	
	Risk Weight 75% - Exposures to small business											75%	
	Risk Weight 100%											100%	
	Risk Weight 150%											150%	
	Sub-Total							Sum to zero					
(b)	Off-balance Sheet Exposures (excluding OTC Derivative Transactions & SFTs)												
	Risk Weight 0%											0%	
	Risk Weight 20%											20%	
	Risk Weight 50%											50%	
	Risk Weight 75% - Exposures to individuals											75%	
	Risk Weight 75% - Exposures to small business											75%	
	Risk Weight 100%											100%	
	Risk Weight 150%											150%	
	Sub-Total							Sum to zero					
(c)	OTC Derivative Transactions												
	Risk Weight 0%											0%	
	Risk Weight 10%											10%	
	Risk Weight 20%											20%	
	Risk Weight 50%											50%	
	Risk Weight 75% - Exposures to individuals											75%	
	Risk Weight 75% - Exposures to small business											75%	
	Risk Weight 100%											100%	
	Risk Weight 150%											150%	
	Sub-Total							Sum to zero					
(d)	SFTs												
	Risk Weight 0%											0%	
	Risk Weight 10%											10%	
	Risk Weight 20%											20%	
	Risk Weight 50%											50%	
	Risk Weight 75% - Exposures to individuals											75%	
	Risk Weight 75% - Exposures to small business											75%	
	Risk Weight 100%											100%	
	Risk Weight 150%											150%	
	Sub-Total							Sum to zero					
	Total for Regulatory Retail Asset Class												G
8. Residential Mortgage Asset Class as set out in paragraphs 6.3.1(h) and 6.3.39 to 6.3.42													
(a)	On-balance Sheet Exposures												
	Risk Weight 0%											0%	
	Risk Weight 20%											20%	
	Risk Weight 35%											35%	
	Risk Weight 50%											50%	
	Risk Weight 75%											75%	
	Risk Weight 100%											100%	
	Sub-Total							Sum to zero					
(b)	Off-balance Sheet Exposures												
	Risk Weight 0%											0%	
	Risk Weight 20%											20%	
	Risk Weight 35%											35%	
	Risk Weight 50%											50%	
	Risk Weight 75%											75%	
	Risk Weight 100%											100%	
	Sub-Total							Sum to zero					
	Total for Residential Mortgage Asset Class												H
9. CRE Asset Class as set out in paragraph 6.3.1(i) and 6.3.43													
(a)	On-balance Sheet Exposures												
	Risk Weight 0%											0%	
	Risk Weight 20%											20%	
	Risk Weight 35%											35%	
	Risk Weight 50%											50%	
	Risk Weight 75%											75%	
	Risk Weight 100%											100%	
	Risk Weight 150%											150%	
	Sub-Total							Sum to zero					
(b)	Off-balance Sheet Exposures												
	Risk Weight 0%											0%	
	Risk Weight 20%											20%	
	Risk Weight 35%											35%	
	Risk Weight 50%											50%	
	Risk Weight 75%											75%	
	Risk Weight 100%											100%	
	Risk Weight 150%											150%	
	Sub-Total							Sum to zero					
	Total for CRE Asset Class												I

MAS NOTICE 1111: CREDIT RISK REPORTING SCHEDULES
SCHEDULE 2-1A

Annex 9B

SA(CR)

Name of the Merchant Bank:

Statement as at:

Scope of Reporting:

10. Other Exposures Asset Class as set out in paragraphs 6.3.1(j) and 6.3.44
- (a) Premises, plant and equipment and other fixed assets
- (b) Real Estate
- (c) Exposures to individuals excluded from regulatory retail asset class
- (d) Other exposures/assets not included in above categories
(% itemise and specify)

Total for Other Exposures Asset Class

11. Total SA(CR) net exposures after CRM, where applicable
- Total SA(CR) RWA

Net exposure before CRM, where applicable	Net exposure (after CRM, where applicable)	Risk Weight	Credit RWA
		100%	
		100%	
		100%	
		100%	

K=SUM(A:J)

For on-balance sheet exposures - (1) Gross exposures before CRM refers to exposure amounts gross of all specific allowances; and (2) Net exposures before CRM refers to exposure amounts net of specific allowances.

For off-balance sheet exposures (excluding OTC derivative transactions and SFTs) - (1) For Notional amounts before CRM, the notional amounts of off-balance sheet exposures subject to a CCF of 0% can be excluded; (2) Gross exposures before CRM refers to the credit equivalent amounts gross of all specific allowances; and (3) Net exposures before CRM refers to the credit equivalent amounts gross of all specific allowances.

For OTC derivative transactions - (1) Notional amounts before CRM refers to the notional amounts of the OTC derivative transactions, whether in the banking book or trading book; (2) Gross exposures before CRM before applying qualifying bilateral netting agreements refers to the credit equivalent amounts gross of specific allowances before applying the qualifying bilateral netting agreements; (3) Gross exposures before CRM after applying qualifying bilateral netting agreements refers to the credit equivalent amounts gross of specific allowances before applying the qualifying bilateral netting agreements; (4) Net exposure before CRM refers to credit equivalent amounts net of specific allowances and after applying the qualifying bilateral netting agreements.

For SFTs - (1) Gross exposures before CRM refers to the exposure amounts of SFTs gross of all individual impairment allowances, whether in the banking book or trading book; (2) Net exposures before CRM refers to exposures amounts net of specific allowances. The effects of collateral and netting are taken into account in a separate column - "Decrease in Net Exposure due to FC(CA)" where the adjustments to exposure measurement of SFTs to reflect the effect of eligible collateral and qualifying bilateral netting agreements should also take place in this column. These adjustments should be reported as negative amounts and should represent the amount by which gross exposures of SFTs subject to qualifying bilateral netting agreements must be reduced to equal to E*.

The columns "Outflows due to Credit Protection Bought" and "Inflows due to Credit Protection Sold" are meant to capture SA(CR) exposures which are protected by eligible protection providers. Exposures protected by eligible protection providers (including protection providers within the same asset class) should be reported as an outflow (expressed in negative amounts) in the column "Outflows due to Credit Protection Bought". These exposures are then inserted into the risk weight category of the protection provider within the asset class of the protection provider and reported (as positive amounts) in the column Inflows due to Credit Protection Sold. For example, in the case of a corporate on-balance sheet exposure of S\$100 originally risk-weighted at 100% and guaranteed by a bank with a risk weight of 20%, an outflow of S\$100 should be reported under Panel (6a) pertaining to the corporate asset class in the column Outflows due to Credit Protection Bought under the 100% risk weight category, and an inflow of S\$100 should be reported under Panel (6a) pertaining to the bank asset class in the column Inflows due to Credit Protection Sold under the 20% risk weight category.

In the column "Redistribution of Net Exposures due to FC(SA)", net exposure amounts that are collateralised by eligible financial collateral should be moved out of its original obligor risk weight category and moved into the risk weight category applicable to the eligible financial collateral. Negative amounts represent movements out of specific risk weight categories, while positive amounts represent movements into specific risk weight categories. The total exposures by asset class and exposure type do not change under this substitution approach. As such, the sum of the column should be zero as negative amounts are exactly offset by positive amounts. For example, a corporate on-balance sheet exposure of S\$100 originally risk weighted at 100% is collateralised by S\$50 (after appropriate haircuts) of eligible financial collateral with risk weight of 20%. For reporting purposes, within Panel (6a) which pertains to the corporate asset class, an outflow i.e. S\$50 will be reported in the column "Redistribution of Net Exposure due to FC(SA)" under the 100% risk weight category, and an inflow of S\$50 will be reported in the same column under the 20% risk weight category, such that the sum of the column amounts to zero.

For SA(CR) exposures using FC(CA), the effect of recognising eligible financial collateral serves to decrease the exposure amounts. These decrease in amounts should be reported as negative amounts in the column "Decrease in Net Exposure due to FC(CA)". These amounts are essentially calculated from E* - E.

MAS NOTICE 1111: CREDIT RISK REPORTING SCHEDULES
SCHEDULE 2-2A

Annex 9B

SA(EQ)

Name of the Merchant Bank:

Statement as at:

Scope of Reporting:

(In S\$ million)

	Gross Exposures	Net Exposures	Risk Weight	SA(EQ) RWA
1. Equity Exposures				
(a) Capital investments in associates				
Where Merchant Bank holds ≤ 20% equity stake			100%	
Where Merchant Bank holds > 20% equity stake			100%	
(b) Capital investments in financial institutions incorporated in Singapore, approved, licensed, registered or otherwise regulated by the Authority, ≤ 2% of Eligible Total Capital			100%	
(c) Other equity exposures			100%	
2. Total SA(EQ) RWA				

In the column Gross Exposures, the E measured as per Division 2 of Part VI of the Notice should be disclosed.
In the column Net Exposures, the gross exposure values adjusted for any offsetting or eligible credit protection should be disclosed.

MAS NOTICE 1111: CREDIT RISK REPORTING SCHEDULES
SCHEDULE 2-3A

Annex 9B

SA(SE)

Name of the Merchant Bank:

Statement as at:

Scope of Reporting:

(In S\$ million)

	Before CRM			CRM Adjustments			After CRM	Deductions from Tier 1 and Deductions from Tier 2	SA(SE) RWA
	Notional Amount	Gross Exposure	Net Exposure	(Outflows) due to Credit Protection Bought	Redistribution of Net Exposures due to FC(SA)	Decrease in Net Exposure due to FC(CA)	Net Exposures		
			(a)	(b)	(c)	(d)	(e=a+b+c+d)		
1. Rated Securitisation Exposures									
Risk Weight 20%									
Risk Weight 50%									
Risk Weight 100%									
Risk Weight 350%									
Deduction									
[Risk Weight of Collateral under FC(SA), if app]									
Total Rated Securitisation Exposures					Sum to zero				
2. Unrated Securitisation Exposures									
(a) On-balance sheet									
Unrated most senior exposures									
Second loss positions in ABCPs									
Other unrated exposures									
[Risk Weight of Collateral under FC(SA), if app]									
Sub-Total					Sum to zero				
(b) Off-balance sheet									
Eligible liquidity facilities									
Eligible servicer cash advance facilities									
Early amortisation									
Other unrated exposures									
[Risk Weight of Collateral under FC(SA), if app]									
Sub-Total					Sum to zero				
(c) Total Unrated Securitisation Exposures									
3. Rated Resecuritisation Exposures									
Risk Weight 40%									
Risk Weight 100%									
Risk Weight 225%									
Risk Weight 650%									
Deduction									
[Risk Weight of Collateral under FC(SA), if app]									
Total Rated Resecuritisation Exposures					Sum to zero				
4. Unrated Resecuritisation Exposures									
(a) On-balance sheet									
Unrated most senior exposures									
Second loss positions in ABCPs									
Other unrated exposures									
[Risk Weight of Collateral under FC(SA), if app]									
Sub-Total					Sum to zero				
(b) Off-balance sheet									
Eligible liquidity facilities									
Eligible servicer cash advance facilities									
Early amortisation									
Other unrated exposures									
[Risk Weight of Collateral under FC(SA), if app]									
Sub-Total					Sum to zero				
(c) Total Unrated Resecuritisation Exposures									
5. Summary									
Gain-on-sale									
Credit-enhancing interest only strips net of gain-on-sale									
Rated exposures									
Unrated exposures									
Total									
Adjusted Total (after deducting amount in excess of the maximum capital requirement)									

Deductions from		SA(SE) RWA
Tier 1 Capital only	Tier 1 Capital and Tier 2 Capital	

Exposures measured as per Division 2 of Part VI, gross of specific allowances should be disclosed in the column "Gross Exposures before CRM".
Gross exposures less specific allowances should be disclosed in the column "Net Exposures before CRM".

Securitisation exposures protected by eligible protection providers should be reported as outflows (expressed in negative amounts) in the column "Outflow due to Credit Protection Bought". These exposures are then inserted into the risk weight category of the protection provider and reported (as positive amounts) in the columns "Inflows due to Credit Protection Sold" within the schedules pertaining to the asset sub-class of the protection providers.
For example, credit protection provided by a bank to a securitisation exposure will be reported as an outflow of the securitisation exposures asset sub-class and as a corresponding inflow to the gross exposure of the bank asset sub-class.

Net exposure amounts that are collateralised by eligible financial collateral should be moved out of its original risk weight category and moved into the risk weight category applicable to the eligible financial collateral.
Where there is no specific risk weight category for a particular financial collateral type, a Merchant Bank can add rows accordingly and insert the applicable risk weight category.
Negative amounts represent movements out of specific risk weight categories, while positive amounts represent movements into specific risk weight categories.
The total exposures do not change under this substitution approach. As such, the sum of the column should be zero as negative amounts are exactly offset by positive amounts.

For exposures using FC(CA), recognising eligible financial collateral decreases "before CRM net exposure" amounts. These decreases in amounts should be reported as negative amounts in the column "Decrease in Net Exposure due to FC(CA)".
The net exposure amounts after CRM is calculated by adjusting the net exposure amounts before CRM with CRM adjustments. These amounts refer to E* as calculated under Division 2 of Part VI.

MAS NOTICE 1111: CREDIT RISK REPORTING SCHEDULES
SCHEDULE 2-4A

Annex 9B

UNSETTLED TRANSACTIONS

Name of the Merchant Bank:

Statement as at:

Scope of Reporting:

(In S\$ million)

1. Unsettled DvP Trades

Number of working days after the due settlement date

- (a) From 5 to 15
(b) From 16 to 30
(c) From 31 to 45
(d) 46 or more

Sub-Total for Unsettled DvP Trades

Positive Current Exposure	Risk Weight	Credit RWA
(a)	(b)	(c= axb)
	100%	
	625%	
	937.5%	
	1250%	

Positive Current Exposure	Risk Weight	Credit RWA
(d)	(e)	(f= dxe)

Deductions from Tier 1 Capital and Deductions from Tier 2 Capital

2. Unsettled non-DvP Trades

- (a) Up to and including the fourth business day after the second contractual payment or delivery date
(b) Five or more business days after the second contractual payment or delivery date

	100%	
--	------	--

3. Total

In general, unsettled non-DvP transactions that remain outstanding after the end of the business day of the first contractual payment/delivery leg must be treated as the equivalent of a loan to the counterparty and included in Schedule 2-1A. Where such transactions are immaterial, a Merchant Bank may choose to apply a risk weight of 100% to such exposures (in accordance with paragraph 6.3.51), and the associated credit RWA is captured in Panel 2.

SUMMARY OF MARKET RWA

Name of the Merchant Bank:

Statement as at:

Scope of Reporting:

Market Risk Capital Requirement under SA(MR)

(In S\$ million)

Market Risk Type	Specific Risk	General Market Risk	Additional Capital Requirement for Options	Total Capital Requirement
	(a)	(b)	(c)	(d=a+b+c)
Interest Rate Risk				
Equity Risk				
Foreign Exchange Risk				
Commodity Risk				
Total Capital Requirement under SA(MR)				A
Total Market RWA under SA(MR)			Ax12.5	B

MAS NOTICE 1111: MARKET RISK REPORTING SCHEDULES
SCHEDULE 3-1A

Annex 9C

SA(MR) - INTEREST RATE RISK

Name of the Merchant Bank:

Statement as at:

Scope of Reporting:

In SGD Equivalent of Foreign Currency (S\$ million)

Gross Position		Net Position		Net Positions subject to Risk Charge	Specific Risk Charge	Capital Requirement
Long	Short	Long	Short			
		(a)	(b)	(c) = (la) + (lb)	(d)	(e) = (c) x (d)

1. Specific Risk as set out in Sub-division 1 of Division 2 of Part VII

(i) Positions not covered under SA(SE)

Government	Credit quality grade as set out in Table 6M-1						
	1					0.00%	
	2 or 3					0.25%	
	6 months or less more than 6 and up to 24 months more than 24 months					1.00%	
	4 or 5					1.60%	
	6					8.00%	
	Unrated					12.00%	
						8.00%	

Qualifying	6 months or less more than 6 and up to 24 months more than 24 months						
						0.25%	
						1.00%	
						1.60%	

Others	Credit quality grade as set out in Table 6M-1						
	4					8.00%	
	5 or 6					12.00%	
	Unrated					8.00%	

Sub-Total

(ii) Securitisation/Resecuritisation Positions (Non-Correlation Trading)

Securitisation positions covered under SA(SE)	Credit quality grade as set out in Table 6M-3	Credit quality grade as set out in Table 6M-4					
	1 to 2	I				1.60%	
	3 to 5	II				4.00%	
	6 to 8	III				8.00%	
	9 to 11					28.00%	
	12 or Unrated	IV or Unrated				Deduction	

Sub-Total

Resecuritisation positions covered under SA(SE)	Credit quality grade as set out in Table 6M-3	Credit quality grade as set out in Table 6M-4					
	1 to 2	I				3.20%	
	3 to 5	II				8.00%	
	6 to 8	III				18.00%	
	9 to 11					52.00%	
	12 or Unrated	IV or Unrated				Deduction	

Sub-Total

(iii) Correlation Trading Portfolio

Correlation Trading Portfolio						*	
						Higher of (a) or (b)	

Total Interest Rate Risk (Specific Risk) Capital Requirement A

MAS NOTICE 1111: MARKET RISK REPORTING SCHEDULES
SCHEDULE 3-1A

Annex 9C

SA(MR) - INTEREST RATE RISK

Name of the Merchant Bank:

Statement as at:

Scope of Reporting:

2. General Market Risk (Summary)

Method Used

SGD Equivalent (\$ million)
Interest Rate Positions

Singapore Dollar
United States Dollar
(Pls itemise other currencies)

Other Residual Currencies

Vertical	Horizontal	Residual Unmatched
(a)	(b)	(c)
from A or H of Sch 3-1B	from F or M of Sch 3-1B	from E or L of Sch 3-1B

Capital Requirement
(d=a+b+c)

Total Interest Rate Risk (General Market Risk) Capital Requirement

 B

3. Additional Capital Requirement for Options

Simplified Method
Delta-Plus Method - Capital Requirement for Gamma Risk and Vega Risk
Scenario Approach

 C
 D
 E

Additional Capital Requirement for Options

C or D or E F

4. Total Market Risk-Capital Requirement for Interest Rate Risk

A+B+F

MAS NOTICE 1111: MARKET RISK REPORTING SCHEDULES
SCHEDULE 3-1B

Annex 9C

SA(MR) - INTEREST RATE RISK (GENERAL MARKET RISK)

Name of the Merchant Bank:

Statement as at:

Scope of Reporting:

Method Used :

Interest Rate Positions

Denominated in :

(In S\$ million)

1. Maturity Method as set out in paragraph 7.2.22

	Net Position (Notional Amount)		General Risk Charge	Risk Weighted Position		Disallowances												Unmatched Position	
	Long	Short		Long	Short	Vertical			Horizontal										
						Matched Weighted Position	Band Matching Factor	Requirement	Within Zone			Between Zone 1 & 2 and 2 & 3			Between Zone 1 & 3				
									Matched Weighted Position	Zone Matching Factor	Requirement	Matched Weighted Position	Zone Matching Factor	Requirement	Matched Weighted Position	Zone Matching Factor	Requirement		
	(a)	(b)	(c)	(d) = (a) x (c)	(e) = (b) x (c)	(f)	(g)	(h) = (f) x (g)	(i)	(j)	(k) = (i) x (j)	(l)	(m)	(n) = (l) x (m)	(o)	(p)	(q) = (o) x (p)	(r)	
Zone 1	Time Band 1		0.00%				10.00%												
	Time Band 2		0.20%				10.00%												
	Time Band 3		0.40%				10.00%			40.00%									
	Time Band 4		0.70%				10.00%												
Zone 2	Time Band 5		1.25%				10.00%												
	Time Band 6		1.75%				10.00%			30.00%									
	Time Band 7		2.25%				10.00%												
Zone 3	Time Band 8		2.75%				10.00%												
	Time Band 9		3.25%				10.00%												
	Time Band 10		3.75%				10.00%												
	Time Band 11		4.50%				10.00%												
	Time Band 12		5.25%				10.00%			30.00%									
	Time Band 13		6.00%				10.00%												
	Time Band 14		8.00%				10.00%												
	Time Band 15		12.50%				10.00%												

A

B

C

D

E

Total Vertical Disallowance

A

Total Horizontal Disallowance

B+C+D

F

Interest Rate Risk (General Market Risk) Capital Requirement - Maturity Method

A+E+F

G

2. Duration Method as set out in paragraph 7.2.25

	Net Position x Modified Duration		Assumed Yield Change	Risk Weighted Position		Disallowances												Unmatched Position	
	Long	Short		Long	Short	Vertical			Horizontal										
						Matched Weighted Position	Band Matching Factor	Requirement	Within Zone			Between Zone 1 & 2 and 2 & 3			Between Zone 1 & 3				
									Matched Weighted Position	Zone Matching Factor	Requirement	Matched Weighted Position	Zone Matching Factor	Requirement	Matched Weighted Position	Zone Matching Factor	Requirement		
	(a)	(b)	(c)	(d) = (a) x (c)	(e) = (b) x (c)	(f)	(g)	(h) = (f) x (g)	(i)	(j)	(k) = (i) x (j)	(l)	(m)	(n) = (l) x (m)	(o)	(p)	(q) = (o) x (p)	(r)	
Zone 1	Duration Band 1		1.00%				5.00%												
	Duration Band 2		1.00%				5.00%												
	Duration Band 3		1.00%				5.00%			40.00%									
	Duration Band 4		1.00%				5.00%												
Zone 2	Duration Band 5		0.90%				5.00%												
	Duration Band 6		0.80%				5.00%			30.00%									
	Duration Band 7		0.75%				5.00%												
Zone 3	Duration Band 8		0.70%				5.00%												
	Duration Band 9		0.65%				5.00%												
	Duration Band 10		0.60%				5.00%												
	Duration Band 11		0.60%				5.00%												
	Duration Band 12		0.60%				5.00%			30.00%									
	Duration Band 13		0.60%				5.00%												
	Duration Band 14		0.60%				5.00%												
	Duration Band 15		0.60%				5.00%												

H

I

J

K

L

Total Vertical Disallowance

H

Total Horizontal Disallowance

I+J+K

M

Interest Rate Risk (General Market Risk) Capital Requirement - Duration Method

H+L+M

N

**MAS NOTICE 1111: MARKET RISK REPORTING SCHEDULES
SCHEDULE 3-1C**

Annex 9C

SA(MR) - EQUITY RISK

Name of the Merchant Bank:

Statement as at:

Scope of Reporting:

In SGD Equivalent of Foreign Currency (\$\$ million)

Net Position / Matched Position		Specific / General Market Risk Charge / Additional Risk Charge	Capital Requirement
Long	Short		

1. Specific Risk, calculated in accordance with paragraph 7.2.37

(a) (b) (c) (d) = (|a|+|b|) x (c)

(a) Qualifying equity indices

Singapore
United States
(Pls list and specify)

		2%*	
		2%*	

(b) Equities and equity baskets

Singapore
United States
(Pls list and specify)

		8%	
		8%	

(c) Other equity indices

Singapore
United States
(Pls list and specify)

		8%	
		8%	

Total Equity Risk (Specific Risk) Capital Requirement

A

2. General Market Risk, calculated in accordance with paragraph 7.2.38

Singapore
United States
(Pls list and specify)

(e)	(f)	(g) = (e) x (f)
	8%	
	8%	

Total Equity Risk (General Market Risk) Capital Requirement

B

3. Additional Capital Requirement for Arbitrage Strategies

(a) Matched positions in same
underlying index at different dates
or in different market centres,
calculated in accordance with paragraph 7.2.40(a)

(h)	(i)	(j) = (h) x (i)
	2%	

(b) Matched positions in different but
similar indices at the same date,
calculated in accordance with paragraph 7.2.40(b)

	2%	
--	----	--

(c) Index versus basket of constituent
stocks comprising at least 90%
of the index
calculated in accordance with paragraph 7.2.41

	4%	
--	----	--

Total Equity Risk Capital Requirement for Arbitrage Strategies

C

4. Additional Capital Requirement for Options

Simplified Method
Delta-Plus Method - Capital Requirement for Gamma Risk and Vega Risk
Scenario Approach

	D
	E
	F

Additional Capital Requirement for Options

D or E or F G

5. Total Market Risk Capital Requirement for Equity Risk

A+B+C+G

MAS NOTICE 1111: MARKET RISK REPORTING SCHEDULES
SCHEDULE 3-1D

Annex 9C

SA(MR) - FOREIGN EXCHANGE RISK

Name of the Merchant Bank:

Statement as at:

Scope of Reporting:

1. Foreign Exchange Positions

Currencies / Gold

**S\$ Equivalent of Foreign
Currency (\$\$ million)**

Long Position	Short Position
---------------	----------------

Australian Dollars		
Canadian Dollars		
Chinese Renminbi		
Danish Krone		
Euro		
Hong Kong Dollar		
Indian Rupee		
Indonesian Rupiah		
Japanese Yen		
Korean Won		
Malaysia Ringgit		
New Taiwan Dollars		
New Zealand Dollars		
Norwegian Krone		
Philippines Peso		
Pound Sterling		
Saudi Arabian Riyal		
Swedish Kroner		
Sri Lanka Rupee		
Swiss Franc		
Thai Baht		
United States Dollars		
Other Material Currencies (Please specify and itemise)		
.....		
.....		
.....		
.....		
.....		
Other Non-Material Currencies		

Sum of Net Long Positions / Sum of Net Short Positions

Net Position in Foreign Exchange A
(Higher of sum of net long positions or sum of net short positions)

2. Gold Position
Net Exposure in Gold B

3. Foreign Exchange and Gold Positions
Net Exposure in Foreign Exchange and Gold A+B C

Risk Charge 8%

4. Foreign Exchange and Gold Positions Capital Requirement Cx8% D

5. Additional Capital Requirement for Options
Simplified Method E
Delta-Plus Method - Capital Requirement for Gamma Risk and Vega Risk F
Scenario Approach G

Additional Capital Requirement for Options E or F or G H

**6. Total Market Risk Capital Requirement for Foreign Exchange Risk
calculated in accordance with paragraph 7.2.42** D+H

MAS NOTICE 1111: MARKET RISK REPORTING SCHEDULES
SCHEDULE 3-1E

Annex 9C

SA(MR) - COMMODITY RISK

Name of the Merchant Bank:

Statement as at:

Scope of Reporting:

Method Used:

1. Simplified Approach as set out in paragraph 7.2.60

Commodity	Commodity Positions (S\$ million)			
	Gross Long Position	Gross Short Position	Absolute Net Long or Short Position	Absolute Gross Long plus Short Positions
	(a)	(b)	(c) = a - b	(d) = a + b
Silver				
Brent				
Others (Pls specify and itemise)				
Sum of Absolute Net Position			A	B
Risk Charge to be applied on Net Positions				15%
Capital Requirement for Net Positions			Ax15% C	
Risk Charge to be applied on Gross Positions				3%
Capital Requirement for Gross Positions			Bx3% D	
Market Risk Capital Requirement for Commodity Risk - Simplified Approach			C+D E	

2. Maturity Ladder Approach as set out in paragraph 7.2.61

Commodity	Commodity Positions (S\$ million)						
	Matched Position	Spread Charge	Capital Requirement for Matched Positions	Carried Forward Positions	Carry/Outright Charge	Capital Requirement for Carried Forward Positions	Total Capital Requirement
	(e)	(f)	(g) = (e) x (f)	(h)	(i)	(j) = (h) x (i)	(k) = (g) + (j)
Silver							
Time Band 1		1.50%			0.60%		
Time Band 2		1.50%			0.60%		
Time Band 3		1.50%			0.60%		
Time Band 4		1.50%			0.60%		
Time Band 5		1.50%			0.60%		
Time Band 6		1.50%			0.60%		
Time Band 7		1.50%			0.60%		
Remaining Positions					15.0%		
Brent							
Time Band 1		1.50%			0.60%		
Time Band 2		1.50%			0.60%		
Time Band 3		1.50%			0.60%		
Time Band 4		1.50%			0.60%		
Time Band 5		1.50%			0.60%		
Time Band 6		1.50%			0.60%		
Time Band 7		1.50%			0.60%		
Remaining Positions					15.0%		

Market Risk Capital Requirement for Commodity Risk - Maturity Ladder Approach F

3. Additional Capital Requirement for Options

Simplified Method G
Delta-Plus Method - Capital Requirement for Gamma Risk and Vega Risk H
Scenario Approach I

Additional Capital Requirement for Options G or H or I J

4. Total Market Risk Capital Requirement for Commodity Risk E+J or F+J

MAS NOTICE 1111: MARKET RISK REPORTING SCHEDULES
SCHEDULE 3-1F

Annex 9C

SA(MR) - OPTIONS POSITION RISK

Name of the Merchant Bank:

Statement as at:

Scope of Reporting :

Method Used:

1 Simplified Approach as set out in paragraph 7.2.67

S\$ Equivalent of Foreign Currency (S\$ million)

Risk Charge		Positions			Total Capital Charge
		Long Put & Long Outright Position	Long Call & Short Outright Position	Long Call	
1a. Interest Rate-Related Options					
Specific Risk of Long Put & Long Outright Position or Long Call & Short Outright Position					
General Market Risk of Long Put & Long Outright Position or Long Call & Short Outright Position					
Capital Requirements of Long Put & Long Outright Position or Long Call & Short Outright Position after subtracting the amount the option is in the money (if any) bounded at zero					
Capital Requirements of Long Calls or Long Puts					
Total					A
1b. Equity Options					
Specific Risk of Long Put & Long Outright Position or Long Call & Short Outright Position					
General Market Risk of Long Put & Long Outright Position or Long Call & Short Outright Position					
Capital Requirements of Long Put & Long Outright Position or Long Call & Short Outright Position after subtracting the amount the option is in the money (if any) bounded at zero					
Capital Requirements of Long Calls or Long Puts					
Total					B
1c. Foreign Exchange and Gold Options					
General Market Risk of Long Put & Long Outright Position or Long Call & Short Outright Position	8%				
Capital Requirements of Long Put & Long Outright Position or Long Call & Short Outright Position after subtracting the amount the option is in the money (if any) bounded at zero					
Capital Requirements of Long Calls or Long Puts					
Total					C
1d. Commodity Options					
General Market Risk of Long Put & Long Outright Position or Long Call & Short Outright Position	15%				
Capital Requirements of Long Put & Long Outright Position or Long Call & Short Outright Position after subtracting the amount the option is in the money (if any) bounded at zero					
Capital Requirements of Long Calls or Long Puts					
Total					D
1e. Total Options Position Capital Requirement - Simplified Approach					SUM(A-D) E

2. Delta-Plus Method as set out in paragraph 7.2.70

Capital requirement (S\$ million)

	Capital Requirement for Gamma Risk (a)	Capital Requirement for Vega Risk (b)	Capital Requirement for Gamma Risk & Vega Risk (c) = (a) + (b)
2a. Interest Rate-Related Options			
Singapore Dollar			
Time Band 1			
Time Band 2			
Time Band 3			
.			
Time Band 15			
United States Dollar			
Time Band 1			
Time Band 2			
Time Band 3			
.			
Time Band 15			
Others (Pls specify and itemise by currency type)			
Total Capital Requirement for Gamma Risk and Vega Risk			F
2b. Equity Options			
Singapore			
USA			
Others (Pls specify and itemise by national markets)			
Total Capital Requirement for Gamma Risk and Vega Risk			

MAS NOTICE 1111: MARKET RISK REPORTING SCHEDULES
SCHEDULE 3-1F

Annex 9C

SA(MR) - OPTIONS POSITION RISK

Name of the Merchant Bank:

Statement as at:

Scope of Reporting :

2c. Foreign Exchange and Gold Options

Australian Dollar	AUD				
Canadian Dollar	CAD				
.					
United States Dollar	USD				
Others (Pls specify and itemise by currency type)					
Total Capital Requirement for Gamma Risk and Vega Risk					

2d. Commodity Options

Silver			
Brent			
Others (Pls specify and itemise by commodity type)			
Total Capital Requirement for Gamma Risk and Vega Risk			

2e. Total Capital Requirement for Gamma Risk and Vega Risk for all Options SUM(F:I)

MAS NOTICE 1111: MARKET RISK REPORTING SCHEDULES
SCHEDULE 3-1F

Annex 9C

SA(MR) - OPTIONS POSITION RISK

Name of the Merchant Bank:

Statement as at:

Scope of Reporting :

3. Scenario Approach as set out in paragraph 7.2.83

3a. Interest Rate-Related Options

Singapore Dollar (SGD)

Time Band 1: Assumed change in yield of 100 bp

Gain/Loss (\$\$ million)

Yield	-100 bp	-66 bp	-33 bp	Current Yield	+33 bp	+66 bp	+100 bp
Volatility							
+25%							
Current Volatility %							
-25%							

Repeat the above table for each time band relevant to the interest rate-related option position

Other Currencies (Pls specify and itemise)

Repeat the analysis for other currencies, if applicable.

Total Interest Rate-Related Options Capital Requirement

 K

3b. Equity Options

Singapore

Gain/Loss (\$\$ million)

Equity Value	-8.00%	-5.33%	-2.67%	Current Equity Value	+2.67%	+5.33%	+8.00%
Volatility							
+25%							
Current Volatility %							
-25%							

Other National Markets (Pls specify and itemise)

Repeat the analysis for other national markets, if applicable.

Total Equity Options Capital Requirement

 L

3c. Foreign Exchange and Gold Options

Singapore Dollar / United States Dollar

SGD/USD

Gain/Loss (\$\$million)

Exchange Rate	-8.00%	-5.33%	-2.67%	Current Exchange Rate	+2.67%	+5.33%	+8.00%
Volatility							
+25%							
Current Volatility %							
-25%							

Other Currency Pairs and Gold (Pls specify and itemise)

Repeat the analysis for other currency pairs and gold, if applicable.

Total Foreign Exchange and Gold Options Capital Requirement

 M

3d. Commodity Options

Brent

Gain/Loss (\$\$ million)

Commodity Position Value	-15.00%	-10.00%	-5.00%	Current Commodity Position	+5.00%	+10.00%	+15.00%
Volatility							
+25%							
Current Volatility %							
-25%							

Other Commodity Types (Pls specify and itemise)

Repeat the analysis for other commodity types, if applicable.

Total Commodity Options Capital Requirement

 N

3e. Total Options Position Capital Requirement - Scenario Approach

SUM(K:N) O

MAS NOTICE 1111: OPERATIONAL RISK REPORTING SCHEDULES
SCHEDULE 4

Annex 9D

SUMMARY OF OPERATIONAL RWA

Name of the Merchant Bank:	
Statement as at:	
Scope of Reporting:	

1. Operational RWA

(In S\$ million)

1a. Operational Risk Capital Requirement

BIA
SA(OR)

	A
	B

Total Operational Risk Capital Requirement

A+B C

1b. Total Operational RWA

BIA
SA(OR)

Ax12.5		D
Bx12.5		E

Total Operational RWA

Cx12.5 F

MAS NOTICE 1111: OPERATIONAL RISK REPORTING SCHEDULES
SCHEDULE 4-1A

Annex 9D

BIA , SA(OR)

Name of the Merchant Bank:

Statement as at:

Scope of Reporting:

(\$ million)

Banking Activities

1. BIA as set out in Division 2 of Part VIII

2. SA(OR) as set out in Division 3 of Part VIII

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

α and β
Factors

15%

18%

18%

18%

15%

12%

12%

12%

15%

Total

3. Operational Risk Capital Requirement

A Merchant Bank must fill out only Panel 1 on BIA or Panel 2 on SA(OR), based on its adopted approach.

Gross Income		
First Year	Second Year	Third Year

Operational Risk Capital Requirement			
First Year	Second Year	Third Year	Average

A

B

A+B

MAS NOTICE 1111: OTHER REPORTING SCHEDULES
SCHEDULE 5A

Annex 9E

OFF-BALANCE SHEET EXPOSURES
(EXCLUDING DERIVATIVE TRANSACTIONS AND SECURITISATION EXPOSURES)

Name of the Merchant Bank:

Statement as at:

Scope of Reporting:

(In S\$ million)

SA(CR)		
Notional Amount	CCF	Credit Equivalent Amount

1. Non-Retail Exposures

(a) Direct Credit Substitutes

General guarantees of indebtedness
Standby letters of credit serving as financial guarantees for loans and securities
Acceptances (including endorsements with the character of acceptances)
Others
Total

	100%	
	100%	
	100%	
	100%	

(b) Transaction-related Contingent Items

Performance bonds, bid bonds, warranties
Standby letters of credit related to particular transactions
Others
Total

	50%	
	50%	
	50%	

(c) Short-term Self-Liquidating Trade-related Contingent Items and Underwriting Commitments

Documentary credits collateralised by underlying shipments
Commitments with an original maturity of one year or less to underwrite debt and equity securities
Others
Total

	20%	
	20%	
	20%	

(d) Note Issuance Facilities (NIF) & Revolving Underwriting Facilities (RUF)

NIFs
RUFs
Total

	50%	
	50%	

(e) Transactions, other than SFTs, involving the posting of securities held by the merchant bank as collateral

	100%	
--	------	--

(f) Asset Sales with Recourse

Sale and repurchase agreements and asset sales with recourse (credit risk remains with the Merchant Bank)

	100%	
--	------	--

(g) Other Commitments with Certain Drawdown

Forward purchase
Forward deposits
Partly-paid securities
Others
Total

	100%	
	100%	
	100%	
	100%	

(h) Other Commitments (credit lines, formal standby facilities)

Unconditionally cancellable at any time
Original maturity up one year or less
Original maturity of more than one year
Total

	0%	
	20%	
	50%	

(i) Total Non-Retail Off-Balance Sheet Exposures

(Excluding derivative transactions and securitisation exposures)

2. Retail Exposures

(a) Direct Credit Substitutes

General guarantees of indebtedness
Standby letters of credit serving as financial guarantees for loans and securities
Acceptances (including endorsements with the character of acceptances)
Others
Total

	100%	
	100%	
	100%	
	100%	

(b) Transaction-related Contingent Items

Performance bonds, bid bonds, warranties
Standby letters of credit related to particular transactions
Others
Total

	50%	
	50%	
	50%	

(c) Short-term Self-Liquidating Trade-related Contingent Items and Underwriting Commitments

Documentary credits collateralised by underlying shipments
Commitments with an original maturity of one year or less to underwrite debt and equity securities
Others
Total

	20%	
	20%	
	20%	

(d) Note Issuance Facilities (NIF) & Revolving Underwriting Facilities (RUF)

NIFs
RUFs
Total

	50%	
	50%	

(e) Transactions, other than SFTs, involving the posting of securities held by the merchant bank as collateral

	100%	
--	------	--

(f) Asset Sales with Recourse

Sale and repurchase agreements and asset sales with recourse (credit risk remains with the Merchant Bank)

	100%	
--	------	--

(g) Other Commitments with Certain Drawdown

Forward purchase
Forward deposits
Partly-paid securities
Others
Total

	100%	
	100%	
	100%	
	100%	

(h) Other Commitments (credit lines, formal standby facilities)

Unconditionally cancellable at any time
Original maturity up one year or less
Original maturity of more than one year
Total

	0%	
	20%	
	50%	

(i) Total Retail Off-Balance Sheet Exposures

(Excluding derivative transactions and securitisation exposures)

The requirements and guidelines for off-balance sheet exposures (excluding derivative transactions and securitisation exposures) are set out in Division 2 of Part VI and Annex 6A. Credit equivalent amounts are to be reported gross of allowances and before any CRM.

Annex 9E

(Notional Amounts and E)

- CURRENT EXPOSURE METHOD
- CCR STANDARDISED METHOD

Name of the Merchant Bank:

Statement as at:

Scope of Reporting:

(In S\$ million)

(In \$ million)		Foreign Exchange Contracts and Gold	Interest Rates Contracts	Equity Contracts	Precious Metals Contracts	Other Commodities Contracts	Credit Derivative Contracts	Total Contracts
1. Current Exposure Method								
a. Maturity of One Year or Less								
i.	Notional Amount							
ii.	Contracts Subject to Netting							
	Replacement Cost							
	Potential Future Exposure							
iii.	Contracts Not Subject to Netting							
	Replacement Cost							
	Potential Future Exposure							
iv.	Credit Equivalent Amount (E) calculated based on Annex 6K							
b. Maturity of Over One Year and Up To 5 Years								
i.	Notional Amount							
ii.	Contracts Subject to Netting							
	Replacement Cost							
	Potential Future Exposure							
iii.	Contracts Not Subject to Netting							
	Replacement Cost							
	Potential Future Exposure							
iv.	Credit Equivalent Amount (E) calculated based on Annex 6K							
c. Maturity of Over Five Years / All Maturity for Credit Derivatives								
i.	Notional Amount							
ii.	Contracts Subject to Netting							
	Replacement Cost							
	Potential Future Exposure							
iii.	Contracts Not Subject to Netting							
	Replacement Cost							
	Potential Future Exposure							
iv.	Credit Equivalent Amount (E) calculated based on Annex 6K							
Total E								
2. CCR Standardised Method								
(a)	Contracts subject to Current Market Value o Hedging Sets	(a)						
(b)	Contracts subject to the CCF-weighted Abso Amounts of Risk Positions	(b)						
(c)	Total subject to § of 1.4	(a)+(b)						
Total E calculated based on Annex 6L								

MAS NOTICE 1111: OTHER REPORTING SCHEDULES
SCHEDULE 5C

Annex 9E

INFLOWS INTO AND OUTFLOWS FROM ASSET SUB-CLASSES DUE TO CREDIT PROTECTION

Name of the Merchant Bank:

Statement as at:

Scope of Reporting:

(In S\$ million)

Asset Class	Pre-CRM Net Exposure By Original Asset Class	Exposures with Credit Protection by Following Asset Classes					Exposure Not Guaranteed	(Outflows) from Asset Class	Inflows into Asset Class	Total Exposures in Asset Class
		Central Government & Central Bank Asset Class	PSE Asset Class	MDB Asset Class	Bank Asset Class	Corporate Asset Class				
	(a)	(b)	(c)	(d)	(e)	(f)	(g=a-b-c-d-e-f)	(h=-SUM(b:f))	(i)	(j=a+h+i)
1. SA(CR)										
(i) Central Government & Central Bank Asset Class	(k)								A	
(ii) PSE Asset Class	(l)								B	
(iii) MDB Asset Class	(m)								C	
(iv) Bank Asset Class	(n)								D	
(v) Corporate Asset Class	(o)								E	
(vi) Regulatory Retail Asset Class	(p)									
(vii) Residential Mortgage Asset Class	(q)									
(viii) CRE Asset Class	(r)									
(ix) Other Exposures Asset Class	(s)									
2. SA(SE)										
(i) Securitisation Exposures	(t)									
Total Inflows into Asset Class	u=SUM(k:t)									
		A	B	C	D	E				

Annex 9E

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Table 5D-Col
(In S\$ million)

(a) (b) (c) (d) (e) (f) (g) (h) (i) (j) ($k = a+b+c+d+e+f+g+h+i+j$)

[illegible][illegible][illegible][illegible][illegible][illegible][illegible]

```
R = sum(l:q)
```

[illegible][illegible][illegible][illegible][illegible][illegible][illegible]
$$Y = \text{sum}(s:x)$$
[illegible] $R+Y$

MAS NOTICE 1111

**NOTICE ON RISK BASED CAPITAL ADEQUACY REQUIREMENTS FOR
MERCHANT BANKS INCORPORATED IN SINGAPORE**

Reporting Schedules

Name of Merchant Bank:

Statement as at:

Scope of Reporting:
(*"Tick" as appropriate*)

Solo

☐

Group

☐

We certify that:

1. The information provided in the reporting schedules is, to the best of our knowledge and belief, accurate and complete.
2. The capital adequacy ratio was at any time not less than that specified under Part IV of the Notice.

Signature of Chief Financial Officer

Name of Chief Financial Officer

Date