

CONSULTATION PAPER

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Proposed Amendments to MAS Notice 637 to Implement Capital Requirements for Bank Exposures to Central Counterparties

MAS

Monetary Authority of Singapore

In July 2012, the Basel Committee on Banking Supervision (“BCBS”) published the interim framework, as part of Basel III, for capitalisation of bank exposures to central counterparties (“CCPs”) in the publication, “Capital Requirements for Bank Exposures to Central Counterparties” (refer to press release <http://www.bis.org/press/p120725a.htm>).

This consultation paper sets out MAS’ proposed amendments to MAS Notice 637 on Risk Based Capital Requirements for Banks Incorporated in Singapore (“the Notice”), to implement the capital requirements for bank exposures to central counterparties. The proposed amendments seek to strengthen the capital framework for trade exposures and default fund exposures of banks to CCPs. It also sets out the requirements to be met by a CCP for the purpose of determining the applicable capital requirements for bank exposures to the CCP. The proposed revisions will take effect from 1 January 2013. The draft amendments to the Notice are appended in Annex 1.

MAS invites comments from Singapore-incorporated banks and other interested parties. Please note that any comments received may be made public unless confidentiality is specifically requested. Electronic submission is encouraged.

The public consultation period will close on 29 Oct 2012.

Please direct comments to –

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ANNEX 1

DRAFT AMENDMENTS TO MAS NOTICE 637

Disclaimer: This version of the draft amendments to MAS Notice 637 is in draft form and is subject to change.

PROPOSED REVISIONS TO PART II (DEFINITIONS)

Definitions to be inserted in the Glossary

CCP RWA	means the risk-weighted assets for exposures to CCPs calculated in accordance with Annex 7AJ;
CCP trade exposures	means current exposure, including the variation margin due to a clearing member but not yet received, potential future exposure and initial margin of a clearing member or a client of a clearing member arising from any OTC derivative transaction, exchange-traded derivative transaction or SFT;
clearing member	means a member of, or a direct participant in, a CCP that is entitled to enter into a transaction with the CCP, regardless of whether it enters into trades with a CCP for its own hedging, investment or speculative purposes or whether it also enters into trades as a financial intermediary between the CCP and other market participants. Where a CCP has a link to a second CCP, that second CCP shall be treated as a clearing member of the CCP ^B ;
client	in relation to Annex 7AJ, means a party to a transaction with a CCP through either a clearing member acting as a financial intermediary, or a clearing member guaranteeing the performance of the client to the CCP;
CPSS	means Committee on Payment and Settlement Systems;
default fund ^C	means a fund established by a CCP, comprising the funded or unfunded contributions of a CCP and its clearing members towards, or underwriting of, a CCP's mutualised loss sharing arrangements, the purpose of which is to mutualise the losses that the CCP may incur due to the default or insolvency of one or more of its clearing members, and includes initial margins posted to a CCP in the case where the CCP uses the initial margins to mutualise losses among clearing members;
default fund exposure	means exposure arising from contributions of a Reporting Bank to a default fund of a CCP;
initial margin	means funded collateral of a clearing member or a client of a clearing member posted to the CCP to mitigate the potential future exposure of the CCP to the clearing member arising

^B Whether the second CCP's collateral contribution to the first CCP is treated as initial margin or a default fund contribution shall depend upon the legal arrangement between the CCPs. A Reporting Bank shall consult the Authority to determine the treatment of such initial margin and default fund contributions.

^C A default fund may also be known as clearing deposits, guaranty fund deposits or any other name. The description given by a CCP to its mutualised loss sharing arrangements is not determinative of the status of the arrangement as a default fund, rather, the substance of such arrangements shall govern its status as a default fund.

from the possible future change in value of their transactions, but shall not include any contribution to a CCP for mutualised loss sharing arrangements;

offsetting transaction means the transaction leg between a clearing member and the CCP when the clearing member acts on behalf of a client, for example, when a clearing member clears or novates a client's trade;

variation margin means funded collateral of a clearing member or a client of a clearing member posted on a daily or intraday basis to a CCP based on price movements of their transactions;

Proposed amendment to definition in the Glossary

CCP or central counterparty

means –

(a) in relation to ~~Subdivision 9 of Division 2 and~~ Annex 7L of Part VII, a designated clearing house in respect of a clearing facility as defined in the Securities and Futures Act (Cap. 289) which is regulated by the Authority, or a clearing house utilised by an exchange referred to in the Securities and Futures (Recognised Securities Exchange) Order 2005 in respect of a clearing facility which is regulated by a financial services regulatory authority of a country or territory other than Singapore; and

(b) in all other cases, a clearing house that interposes itself between counterparties to contracts traded in one or more financial markets, becoming the buyer to every seller and the seller to every buyer and thereby ensuring the future performance of open contracts, through novation, an open offer system or other legally binding arrangements;

PROPOSED REVISIONS TO PART VII (CREDIT RISK)

Amendments to paragraph 7.1.1

- 7.1.1 The credit RWA of a Reporting Bank is the sum of -
- (a) its SA(CR) RWA calculated in accordance with Sub-division 3 of this Division, its SA(EQ) RWA calculated in accordance with Sub-division 5 of this Division and its SA(SE) RWA calculated in accordance with Sub-division 6 of this Division;
 - (b) its IRBA RWA calculated in accordance with Sub-division 4 of this Division, its IRBA(EQ) RWA calculated in accordance with Sub-division 5 of this Division and its IRBA(SE) RWA calculated in accordance with Sub-division 6 of this Division, with the total multiplied by 1.06¹⁰¹; ~~and~~
 - (c) its CVA RWA calculated in accordance with Annex 7AI; ~~and-~~
 - (d) its CCP RWA calculated in accordance with Annex 7AJ.

Amendments to paragraph 7.2.34

7.2.34 Notwithstanding paragraphs 7.2.1 to 7.2.33 above, a Reporting Bank may attribute a value of zero to E or EAD, whichever is applicable, 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 Reporting Bank has outstanding¹¹⁹ with a central counterparty for which the latter acts as a custodian on the Reporting 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 Reporting Bank may recognise as eligible credit protection for a banking book exposure or another CCR exposure^{119A}; 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 Reporting Bank, and subject to credit risk capital requirements for the full notional amount.

¹¹⁹ ~~For example, credit exposures arising from monies placed and from collateral posted, with the counterparty.~~

Amendments to footnote 137A to paragraph 7.3.36 and to paragraph 7.3.40

7.3.36 A Reporting Bank shall comply with the requirements set out in paragraphs 7.3.37 to 7.3.39 below to calculate the credit-risk weighted exposure amount for any unsettled transactions^{137A} on securities, foreign exchange instruments and commodities (other than an SFT).

Footnote 137A

^{137A} This includes any transaction, through a settlement and clearing system recognised by the Authority or a CCP, that is subject to daily mark-to-market and payment of daily variation margins revaluation and remargining and that involves a mismatched trade. An exposure value of zero for CCR can be attributed to payment transactions (for example, funds transfer transactions) and other spot transactions that are outstanding with a CCP, when the CCP's CCR exposures with all participants in its arrangements are fully collateralised on a daily basis.

7.3.40 The Authority may exempt the Reporting Bank from the applicable capital treatment in paragraphs 7.3.37 and 7.3.39 above if there has been a system-wide failure of a settlement system, or clearing system or CCP that causes significant disruption to normal settlement and clearing processes. The Authority may grant such exemption subject to such conditions or restrictions as the Authority may impose.

Amendments to footnote 175 to paragraph 7.4.70 and to paragraph 7.4.74

7.4.70 A Reporting Bank shall comply with the requirements set out in this Subdivision to calculate K^{174} for any unsettled transaction¹⁷⁵ on securities, foreign exchange instruments and commodities (other than an SFT).

Footnote 175

¹⁷⁵ This includes any transaction, through a settlement and clearing system recognised by the Authority or a CCP, that is subject to daily mark-to-market and payment of daily variation margins revaluation and remargining and that involves a mismatched trade. An exposure value of zero for CCR can be attributed to payment transactions (for example, funds transfer transactions) and other spot transactions that are outstanding with a CCP, when the CCP's CCR exposures with all participants in its arrangements are fully collateralised on a daily basis.

7.4.74 The Authority may exempt the Reporting Bank from the applicable capital treatment in paragraphs 7.4.71 and 7.4.73 above if there has been a system-wide failure of a settlement system, or clearing system or CCP that causes significant disruption to normal settlement and clearing processes. The Authority may grant such exemption subject to such conditions or restrictions as the Authority may impose.

Amendments to Annex 7AC (IRBA Rollout Parameters)

Amendment to paragraph 1.2

1.2 A Reporting Bank should adopt the IRBA across the entire banking group, except for business units, asset classes or asset sub-classes excluded under permitted exclusions in paragraphs 4.1 to 4.8 below, and exposures to CCPs for which CCP RWA is calculated in accordance with paragraph 7.1.1(d) of Sub-division 1 of Division 1 of this Part. Irrespective of materiality, the credit RWA for exposures to CCPs arising from any OTC derivative transaction, exchange-traded transaction or SFT shall be calculated in accordance with paragraph 7.1.1(d) of Division 1 of this Part.

Revised footnote 367 to paragraph 1.3

³⁶⁷ By way of example, a Reporting Bank adopting F-IRBA on 1 Jan 2008 shall compute this threshold by dividing the RWA calculated in paragraph 7.1.1(b) for exposures transitioning to the IRBA on 1 Jan 2008 by the sum of (a) the RWA calculated in paragraph 7.1.1(b) for exposures transitioning to the IRBA on 1 Jan 2008 and (b) the RWA calculated in paragraph 7.1.1(a) for exposures that are permitted to be excluded from the IRBA. Equity exposures excluded from IRBA(EQ) as set out in paragraph 4.8 of this Annex and exposures to CCPs for which CCP RWA is calculated in accordance with paragraph 7.1.1(d) of Sub-division 1 of Division 1 of this Part are to be excluded from the computation of this threshold.

Amendment to paragraph 4.3

4.3 Beyond the end of the rollout period, a Reporting Bank may exclude from the IRBA only business units, asset classes or asset sub-classes that are immaterial in size and risk profile. These have to be specifically approved for exclusion by the Authority and approval may be revoked if the excluded portfolios become significant. For the avoidance of doubt, the assessment of materiality for the purposes of paragraphs 4.3 to 4.7 does not take into account exposures to CCPs for which CCP RWA is calculated in accordance with paragraph 7.1.1(d) of Sub-division 1 of Division 1 of this Part.

Amendment to paragraph 4.7

4.7 On a continuing basis, the aggregate credit risk capital requirements of the business units, asset classes, and asset sub-classes excluded from the IRBA should not exceed 15% of the capital requirements for credit risk of the Reporting Bank at the Group level. In determining compliance with this threshold, the approaches then in use for calculating the Tier 1 CAR and Total CAR of the Reporting Bank should be used. Equity exposures excluded from the IRBA(EQ), as set out in paragraph 4.8 below, and exposures to CCPs for which CCP RWA is calculated in accordance with paragraph 7.1.1(d) of of Sub-division 1 of Division 1 of this Part are to be excluded from both the numerator and the denominator in the computation of this threshold.

EXPOSURES TO CENTRAL COUNTERPARTIES

Section 1: Overview

1.1 A Reporting Bank shall include exposures to CCPs arising from the following transactions⁴⁰¹ in the calculation of its CCP RWA -

- (a) any OTC derivative transaction;
- (b) any exchange-traded derivative transaction; and
- (c) any SFT.

Where the clearing member-to-client leg of an exchange-traded derivative transaction is conducted under a bilateral agreement, a Reporting Bank shall, whether it is a clearing member or a client in the transaction, capitalise that transaction as an OTC derivative transaction in accordance with Subdivision 3 or Subdivision 4 of Division 1 of this Part and calculate CVA RWA for such exposures in accordance with Annex 7AI of this Part.

1.2 Where a Reporting Bank applies paragraph 1.3 for calculating CCP RWA for exposures to a qualifying CCP, the Reporting Bank shall ensure that the CCP meets the following requirements to be treated as a qualifying CCP:

- (a) the CCP holds a licence to operate as a CCP (including a licence granted by way of confirming an exemption), and is permitted by a financial services regulatory authority to operate as a CCP with respect to the products it offers.;
- (b) the CCP is based and prudentially supervised in a jurisdiction where the financial services regulatory authority has established, and publicly indicated that it applies to the CCP on an ongoing basis, domestic rules and regulations that are consistent with with the CPSS-IOSCO Principles for Financial Market Infrastructures⁴⁰²; and
- (c) the terms defined in paragraphs 3.6 to 3.11 relating to the calculation of the capital requirement for default fund exposures are calculated or made available in accordance with the requirements in paragraph 3.2.

1.3 For exposures to a qualifying CCP, a Reporting Bank shall calculate the CCP RWA for exposures to the CCP as the sum of -

⁴⁰¹ For the avoidance of doubt, cash transactions, such as equity, bond, spot foreign exchange or spot commodity transactions shall not be included in the calculation of the CCP RWA.

⁴⁰² The Authority shall have the discretion to determine if a Reporting Bank shall be required to hold more than the CCP RWA calculated in accordance with paragraph 1.3, under Part X. This might be appropriate where, for example, an external assessment such as a Financial Sector Assessment Program by the International Monetary Fund and World Bank has found material shortcomings in the CCP or the regulation of CCPs, and the CCP or the financial services regulatory authority supervising the CCP has not since publicly addressed the issues identified.

- (a) RWA for CCP trade exposures calculated in accordance with Section 2; and
- (b) RWA for default fund exposures, calculated as the capital requirement calculated in accordance with paragraph 3.1, multiplied by 12.5.

1.4 For exposures to a CCP which is not a qualifying CCP, a Reporting Bank shall calculate the CCP RWA for exposures to the CCP as the sum of –

- (a) RWA for CCP trade exposures calculated by applying the steps set out in Subdivision 3 of Division 1 of this Part⁴⁰³; and
- (b) 1250% of default fund exposures, including all funded contributions and unfunded⁴⁰⁴ contributions which are liable to be paid by the Reporting Bank should the CCP so require.

1.5 For exposures to a CCP which operates in a jurisdiction that does not have a financial services regulatory authority applying the CPSS-IOSCO Principles for Financial Market Infrastructures, a Reporting Bank shall calculate the CCP RWA for exposures to the CCP in accordance with paragraph 1.4, unless the Authority determines otherwise.

1.6 Where a CCP (for which CCP RWA had been calculated in accordance with paragraph 1.3) ceases to meet the requirements to be treated as a qualifying CCP set out in paragraph 1.2, a Reporting Bank shall, within 3 months of the CCP ceasing to meet the requirements to be treated as a qualifying CCP set out in paragraph 1.2, calculate the CCP RWA for exposures to the CCP in accordance with paragraph 1.4.

1.7 Notwithstanding paragraphs 1.2, 1.3 and 1.4, a Reporting Bank shall ensure that it maintains adequate capital for its exposures to a CCP and shall consider as part of its ICAAP under Part X if it should hold capital in excess of the requirements set out in paragraphs 1.3 and 1.4 if, for example, its transactions with the CCP give rise to exposures that pose higher risks or where it is unclear that the CCP meets the requirements specified in paragraph 1.2.

1.8 Where a Reporting Bank acts as a clearing member of a CCP, it shall assess through appropriate scenario analysis and stress testing whether the level of capital held against exposures to a CCP adequately addresses the inherent risks of those transactions. The Reporting Bank shall include, in the assessment, potential future or contingent exposures resulting from future drawings on default fund commitments, and from secondary commitments to take over or replace offsetting transactions from

⁴⁰³ For avoidance of doubt, the RWA for such CCP trade exposures shall not be included within the SA(CR) RWA of the Reporting Bank.

⁴⁰⁴ Where there is unlimited liability for unfunded contributions (i.e. unlimited binding commitments) of the Reporting Bank to the default fund of any CCP, the amount of unfunded commitments to which the 1250% risk weight should apply shall be determined by the Authority under Part X.

clients of another clearing member in case of that clearing member defaulting or becoming insolvent.

1.9 A Reporting Bank shall monitor and report to senior management and the appropriate committee of the Board of the Reporting Bank on a regular basis all its exposures to CCPs, including exposures arising from trading through a CCP and exposures arising from CCP membership obligations, such as default fund contributions.

Section 2: CCP Trade Exposures

Exposures to a CCP where a Reporting Bank is a Clearing Member

2.1 Where a Reporting Bank acts as a clearing member of a CCP for its own purposes, the Reporting Bank shall calculate its RWA for CCP trade exposures as 2% of E or EAD, whichever is applicable, of the Reporting Bank's CCP trade exposures to the CCP. Where a Reporting Bank which acts as a clearing member of a CCP offers clearing services to clients, the Reporting Bank shall calculate its RWA for CCP trade exposures as 2% of E or EAD, whichever is applicable, of the Reporting Bank's CCP trade exposures to the CCP, that arises when the Reporting Bank is obligated to reimburse the client for any losses due to changes in the value of its transactions in the event that the CCP defaults.

2.2 A Reporting Bank shall calculate E or EAD, whichever is applicable, of the CCP trade exposures in accordance with Subdivision 6, 7 or 8, whichever is applicable, of Division 2 of this Part. A Reporting Bank shall apply the method for calculating E or EAD, whichever is applicable, of CCP trade exposures consistently as that applied for the Reporting Bank's measurement of its other pre-settlement counterparty exposures. A Reporting Bank may take margining into account where it is permitted under the applicable method for calculating E or EAD.

2.3 Notwithstanding paragraph 2.2, for a Reporting Bank calculating E or EAD, whichever is applicable, using the CCR internal models method, the 20-day floor for the margin period of risk and the minimum holding period for a netting set where the number of trades exceeds 5,000 at any point during a quarter, as set out in paragraph 6.5 of Annex 7Q of this Part and Table 7J-2 of Annex 7J of this Part, shall not apply if there are no disputed trades within the netting set and the netting set does not contain any illiquid collateral or exotic trades;

2.4 Where the settlement of transactions is legally enforceable on a net basis in an event of default, regardless of whether the counterparty is insolvent or bankrupt, a Reporting Bank may calculate the total replacement cost of all contracts relevant to the calculation of E or EAD, whichever is applicable, of CCP trade exposures as a net replacement cost if the applicable close-out netting sets meet the requirements set out in Annex 7N of this Part⁴⁰⁵. If the Reporting Bank is not able to ensure that the

⁴⁰⁵ For the purposes of this Annex, the treatment of netting also applies to exchange-traded derivative transactions.

netting agreements meet these requirements, the Reporting Bank shall regard each single transaction as a netting set of its own for the calculation of CCP trade exposures.

Exposures to a CCP where a Reporting Bank is a Client of a Clearing Member

2.5 Where a Reporting Bank is a client of a clearing member, and enters into a transaction with the clearing member acting as a financial intermediary (i.e. the clearing member completes an offsetting transaction with a CCP) or enters into a transaction with a CCP with a clearing member guaranteeing the performance of the Reporting Bank, the Reporting Bank shall treat the exposure arising from the transaction as a CCP trade exposure and calculate the RWA for such CCP trade exposures in accordance with paragraphs 2.1 to 2.4 if the following conditions are met:

- (a) the offsetting transactions are identified by the CCP as client transactions and collateral to support them is held by the CCP or the clearing member or both, as applicable, under arrangements⁴⁰⁶ that prevent any losses to the Reporting Bank due to –
 - (i) the default or insolvency of the clearing member;
 - (ii) the default or insolvency of the clearing member's other clients; and
 - (iii) the joint default or insolvency of the clearing member and any of its other clients⁴⁰⁷; and
- (b) relevant laws, regulation, rules, contractual, or administrative arrangements provide that the offsetting transactions with the defaulted or insolvent clearing member are highly likely to continue to be indirectly transacted through the CCP, or by the CCP, should the clearing member default or become insolvent; and allow for the Reporting Bank's positions and collateral placed with the CCP to be

⁴⁰⁶ The Reporting Bank shall be able to provide to the Authority, if requested, an independent, written and reasoned legal opinion that concludes that, in the event of legal challenge, the relevant courts and administrative authorities would find that the Reporting Bank would bear no losses on account of the insolvency of an intermediary clearing member or any of other clients of such intermediary under the following relevant laws:

- (i) the law of the jurisdiction(s) of the Reporting Bank, clearing member and CCP;
- (ii) if the foreign branch of the Reporting Bank, clearing member or CCP are involved, then also under the law of the jurisdiction(s) in which the branch(es) are located;
- (iii) the law that governs the individual transactions and collateral; and
- (iv) the law that governs any contract or agreement necessary to meet the condition set out in paragraph 2.5(a).

⁴⁰⁷ That is, upon the insolvency of the clearing member, there is no legal impediment (other than the need to obtain a court order to which the Reporting Bank, as a client of the clearing member, is entitled) to the transfer of the collateral belonging to clients of a defaulting clearing member to the CCP, to one or more other surviving clearing members or to the Reporting Bank or the Reporting Bank's nominee. The Reporting Bank should consult the Authority to determine if this is achieved based on particular facts.

transferred at market value unless the Reporting Bank requests to close out at market value.

2.6 Notwithstanding paragraph 2.5 above, a Reporting Bank shall calculate the RWA for CCP trade exposures as 4% of E or EAD, whichever is applicable, of the CCP trade exposures calculated in accordance with paragraphs 2.2 to 2.4 if all conditions set out in paragraph 2.5 are met except for paragraph 2.5(a)(iii).

2.7 Where a Reporting Bank is a client of a clearing member and the conditions set out in paragraphs 2.5 or 2.6 are not met, a Reporting Bank shall calculate the RWA for such exposures in accordance with Subdivision 3 or Subdivision 4 of Division 1 of this Part and calculate CVA RWA for such exposures in accordance with Annex 7AI of this Part.

Treatment of Collateral Posted

2.8 Where a Reporting Bank acts as a clearing member of a CCP, the Reporting Bank shall not be subject to a capital requirement for counterparty credit risk to a custodian for collateral⁴⁰⁸ posted by the Reporting Bank that is held by a custodian⁴⁰⁹ and is bankruptcy remote from the CCP.

2.9 Where a Reporting Bank acts as a clearing member of a CCP, and posts collateral with the CCP that meets the definition of CCP trade exposure⁴¹⁰, is held at the CCP and is not held in a bankruptcy remote manner, the Reporting Bank shall calculate the CCP RWA for such CCP trade exposures as 2% of E or EAD, whichever is applicable, of the collateral posted.

2.10 Where a Reporting Bank posts collateral as a client of a clearing member of a CCP and the collateral is held by a custodian and is bankruptcy remote from the CCP, the clearing member and other clients, the Reporting Bank shall not be subject to a capital requirement for counterparty credit risk for the collateral posted.

2.11 Where a Reporting Bank posts collateral as a client of a clearing member of the CCP and the collateral is held at the CCP on the Reporting Bank's behalf and is not held on a bankruptcy remote basis, the Reporting Bank shall calculate the RWA for such CCP trade exposures as –

- (a) 2% of E or EAD, whichever is applicable, of the collateral posted if the conditions set out in paragraph 2.5 are met; or

⁴⁰⁸ Collateral may include cash, securities, other pledged assets, and excess initial or variation margin (or overcollateralisation).

⁴⁰⁹ Custodian may include a trustee, agent, pledgee, secured creditor or any other person that holds property in a way that does not give such person a beneficial interest in such property and will not result in such property being subject to legally-enforceable claims by the creditors of such persons, or to a court-ordered stay of the return of such property, should such person become insolvent or bankrupt.

⁴¹⁰ Where a Reporting Bank posts collateral with a CCP that does not meet the definition of CCP trade exposure or the definition of default fund, the Reporting Bank shall include such exposure to the CCP in the calculation of SA(CR) RWA or IRBA RWA, whichever is applicable, and shall calculate the RWA for such exposures to the CCP in accordance with Subdivision 3 or Subdivision 4 of Division 1 of this Part based on the creditworthiness of the CCP.

- (b) 4% of E or EAD, whichever is applicable, of the collateral posted if all conditions set out in paragraph 2.5 are met except for paragraph 2.5(a)(iii).

2.12 Where a Reporting Bank posts collateral as a client of a clearing member of the CCP and the collateral is held at the clearing member and is not held on a bankruptcy remote basis, a Reporting Bank shall calculate the CCP RWA for such exposures to the clearing member by applying the steps set out in Subdivision 3 or Subdivision 4 of Division 1 of this Part⁴¹¹ based on the creditworthiness of the clearing member, to recognise credit risk based upon the collateral being exposed to risk of loss.

2.13 Notwithstanding paragraphs 2.8 to 2.12, for any asset posted as collateral by a Reporting Bank under paragraphs 2.8 to 2.12, the Reporting Bank shall apply the appropriate capital treatment that applies to such asset under this Notice.

Clearing Member Exposures to Clients

2.14 For the avoidance of doubt, a Reporting Bank that is a clearing member of a CCP shall capitalise its exposures to clients in accordance with Subdivision 3 or Subdivision 4 of Division 1 of this Part and calculate CVA RWA for such exposures in accordance with Annex 7AI of this Part, irrespective of whether the Reporting Bank guarantees the trade or acts as a financial intermediary between its client and a CCP. To recognise the shorter close-out period for cleared transactions, a Reporting Bank that is a clearing member of a CCP may capitalise its exposure to its clients applying a margin period of risk of at least 5 days (if the Reporting Bank adopts the CCR Internal Models Method), or multiplying E or EAD, whichever is applicable, by a scalar of no less than 0.71⁴¹² (if the Reporting Bank adopts either the current exposure method or CCR standardised method).

Section 3: Default Fund Exposures

3.1 A Reporting Bank shall calculate its capital requirement for default fund exposures to a qualifying CCP in accordance with either Method 1 set out in paragraphs 3.5 to 3.11 or Method 2 set out in paragraph 3.12.

3.2 A Reporting Bank applying Method 1 or Method 2 shall ensure that the following requirements are met in relation to the calculation of the hypothetical capital requirement of a CCP (" K_{CCP} "), the total prefunded default fund contributions from all clearing members (" DF_{CM} ") and the CCP's prefunded own funds which are required to be used to cover the CCP's losses before the default fund contributions of the CCP's clearing members (" DF_{CCP} ") –

⁴¹¹ For the avoidance of doubt, the RWA for such CCP trade exposures shall not be included within the SA(CR) RWA or IRBA RWA of the Reporting Bank.

⁴¹² The risk reduction in case the margin period of risk is greater than 5 days is as follows: 6 days – scalar=0.77; 7 days – scalar=0.84; 8 days – scalar=0.89; 9 days – scalar=0.95; 10 days – scalar=1.

- (a) The CCP, the financial services regulatory authority supervising the CCP or any other entity with access to the required data calculates K_{CCP} , DF_{CM} and DF_{CCP} , and where the calculation is performed by the CCP or any other entity, the CCP or any other entity confirms to the Reporting Bank that the calculation is performed in a manner to permit the financial services regulatory authority supervising the CCP to oversee the calculation;
- (b) The CCP, the financial services regulatory authority supervising the CCP or any other entity performing the calculations shall make available sufficient information of the results of the calculations to the Reporting Bank to permit the Reporting Bank to calculate its capital requirement for default fund exposures to a CCP ($K_{CM(Bank)}$) and to permit the Authority to review and confirm such calculations;
- (c) The CCP, the financial services regulatory authority supervising the CCP or any other entity performing the calculations shall calculate K_{CCP} , DF_{CM} and DF_{CCP} quarterly at a minimum, or more frequently if so required by the Authority in case of material changes (such as the clearing of a new product by the CCP);
- (d) The CCP, the financial services regulatory authority supervising the CCP or any other entity performing the calculations shall make available to the Authority sufficient aggregate information about the composition of the CCP's exposures to its clearing members and the information provided to the clearing member for the purposes of the calculation of K_{CCP} , DF_{CM} and DF_{CCP} , at least quarterly or more frequently if the Authority so requires; and
- (e) The CCP, the financial services regulatory authority supervising the CCP or any other entity performing the calculations shall calculate K_{CCP} , DF_{CM} and DF_{CCP} and $K_{CM(Bank)}$ at least quarterly, and also when there are material changes to the number or exposures of transactions cleared by the CCP or material changes to the financial resources of the CCP.

3.3 Where a default fund of a CCP is shared between products or types of business with settlement risk only (for example, equities and bonds) and products or types of business which give rise to CCR (i.e. OTC derivatives, exchange traded derivatives or SFTs), a Reporting Bank shall calculate the capital requirement for all default fund exposures of the Reporting Bank to the CCP in accordance with paragraphs 3.5 to 3.12, without apportioning to the different classes or types of business or products.

3.4 Where the contributions from clearing members to a default fund of a CCP are segregated by product types and only accessible for specific product types, a Reporting Bank shall calculate the capital requirement for the default fund exposures of the Reporting Bank to the CCP in accordance with paragraphs 3.5 to 3.12 for each specific product giving rise to CCR. A Reporting Bank shall obtain a confirmation from the CCP, the financial services regulatory authority supervising the CCP or any other

entity performing the calculations of K_{CCP} , DF_{CM} and DF_{CCP} that in the case where the CCP's prefunded own resources are shared among the specific product types, the CCP has allocated those funds to each of the calculations of K_{CCP} , DF_{CM} and DF_{CCP} , in proportion to the respective product-specific EAD.

Method 1

3.5 The calculation of a Reporting Bank's capital requirement for default fund exposures to a CCP, $K_{CM(Bank)}$, under Method 1 using the formulae in paragraphs 3.6 to 3.11 may be performed by the CCP, the financial services regulatory authority supervising the CCP or any other entity with access to the required data, provided that the requirements in paragraph 3.2 are met.

Calculation of the CCP's Hypothetical Capital Requirement

3.6 K_{CCP} shall be calculated in accordance with the following formula:

$$K_{CCP} = \sum_i \max (EBRM_i - IM_i - DF_i; 0) \times 20\%^{413} \times 8\%$$

where –

- (a) K_{CCP} is the hypothetical capital requirement of the CCP due to its counterparty credit risk exposures to all its clearing members⁴¹⁴;
- (b) $\max (EBRM_i - IM_i - DF_i; 0)$ is the exposure amount of the CCP to clearing member 'i', with all values relating to the valuation at the end of the day before the margin called on the final margin call of that day is exchanged, calculated in accordance with paragraph 3.7;
- (c) $EBRM_i$ is the exposure value to clearing member 'i', before risk mitigation, where for the purposes of this calculation, variation margin that has been exchanged (before the margin called on the final margin call of that day) enters into the mark-to-market value of the transactions;
- (d) IM_i is the initial margin posted by the clearing member 'i' with the CCP; and
- (e) DF_i is the prefunded default fund contribution by the clearing member 'i' that will be applied upon the default of clearing member 'i', either

⁴¹³ The Authority may from time to time, specify a risk weight higher than 20% taking into account, among other things, the creditworthiness of the clearing members of the CCP. An increase in such risk weight may be considered if, for example, the clearing members in a CCP are not highly rated. A Reporting Bank shall communicate any such increase in risk weight to the CCP, the financial services regulatory authority supervising the CCP or any other entity performing the calculation of K_{CCP} .

⁴¹⁴ K_{CCP} is calculated on a consistent basis for the sole purpose of determining the capitalisation of clearing member default fund contributions; it does not represent the actual capital requirements for a CCP which may be determined by a CCP and its supervisor.

along with or immediately following the initial margin of the clearing member 'i', to reduce the CCP loss.

3.7 For the purpose of paragraph 3.6, $EBRM_i - IM_i - DF_i$ is the CCR exposure amount a CCP has to clearing member 'i', calculated as a bilateral trade exposure –

- (a) in accordance with paragraph 1.2 and 1.8 of Annex 7O of this Part for OTC derivative transactions and long settlement transactions; or
- (b) in accordance with paragraphs 1.2 and 1.3, and applying the standard supervisory haircuts in paragraphs 2.1 and 2.4, in Annex 7J of this Part for SFTs. The minimum holding periods for SFTs as set out in paragraph 4.1 of Annex 7J of this Part shall apply, with the exception that in the case of netting sets where the number of trades exceeds 5000 at any point in a quarter, the minimum holding period set at the margin period of risk floored at 20 business days set out in paragraph 6.5 of Annex 7Q of this Part shall not apply.

3.8 For the calculation in sub-paragraph 3.7(a), the following shall apply-

- (a) the formula for calculating A_{NET} set out in paragraph 1.2(b) of Annex 7O of this Part shall be replaced with the following formula -

$$A_{NET} = 0.15 \times A_{GROSS} + 0.85 \times NGR \times A_{GROSS}$$

For the avoidance of doubt, the numerator of the NGR is the net current replacement cost, without the add-on set out in the paragraph 1.1(b) of Annex 7O of this Part, and the denominator is the gross replacement cost, of transactions to a counterparty⁴¹⁵. NGR shall be calculated on a counterparty by counterparty basis;

- (b) if the NGR cannot be calculated in accordance with paragraph 1.2(b)(ii) of Annex 7O of this Part, a transitional default NGR value of 0.3 shall be applied until 31 March 2013, after which the capital requirement for default fund exposures of the Reporting Bank to a CCP shall be calculated in accordance with paragraph 1.4(b);
- (c) the potential future exposure for options and swaptions that are transacted through a CCP shall be calculated by multiplying the notional amount of the option contract or swaption contract by the absolute value of the option's or swaption's delta, i.e. the risk position calculated in accordance with paragraphs 4.1(d), 4.1(e) and 4.2 of Annex 7P of this Part; and

⁴¹⁵ If the minimum variation margin settlement frequency is daily, but a CCP calls margin intraday, then NGR is to be calculated just before margin is actually exchanged at the end of the day. NGR is expected to be non-zero.

- (d) the requirements set out in paragraph 2.4 relating to the netting of transactions shall apply. For unregulated clearing members, the netting rules of the CCP notified to its clearing members shall apply⁴¹⁶.

Calculation of the Aggregate Capital Requirement of the CCP's Clearing Members

3.9 The aggregate capital requirement for default fund exposures of all clearing members of the CCP prior to application of the granularity and concentration adjustment, (" K_{CM}^* "), assuming a scenario where two average clearing members default and their default fund contributions are not available to mutualise losses, shall be calculated in accordance with the following formula:

$$K_{CM}^* = \begin{cases} c_2 \times \mu \times (K_{CCP} - DF') + c_2 \times DF'_{CM} & \text{if } DF' < K_{CCP} & (i) \text{ }^{417} \\ c_2 \times (K_{CCP} - DF_{CCP}) + c_1 \times (DF' - K_{CCP}) & \text{if } DF_{CCP} < K_{CCP} \leq DF' & (ii) \\ c_1 \times DF'_{CM} & \text{if } K_{CCP} \leq DF_{CCP} & (iii) \end{cases}$$

where –

- (a) DF_{CCP} is the CCP's prefunded own resources (for example, contributed capital or retained earnings) which are required to be used by CCP to cover its losses before clearing members' default fund contributions are used to cover losses;
- (b) DF'_{CM} is the prefunded default fund contributions from surviving clearing members available to mutualise losses under a scenario assuming the default of two averaged sized clearing members, as represented by the following formula:

$$DF'_{CM} = DF_{CM} - 2 \times (\text{Average Clearing Member Default Fund Contribution})$$

where DF_{CM} ⁴¹⁸ is the total prefunded default fund contributions from all clearing members;

- (c) DF' is the total prefunded default fund contributions available to mutualise losses under a scenario assuming the default of two

⁴¹⁶ The Authority may require more granular netting sets than those prescribed under the netting rules of the CCP.

⁴¹⁷ Where the total prefunded default fund contributions of a CCP (DF') are not sufficient to cover the CCP's hypothetical capital requirements (K_{CCP}), and clearing members do not have an obligation to contribute more default funds to offset a shortfall in the CCP's loss-absorbing resources, such clearing members shall still be subject to the additional capital charges under equation (i) of this paragraph. The reason is that the exposures of such clearing members to such a CCP would be riskier than if the CCP had access to adequate resources to cover its hypothetical capital requirements (K_{CCP}).

⁴¹⁸ Any other member contributed financial resources that are available to bear mutualised CCP losses may also be included within DF_{CM} .

averaged sized clearing members, specifically $DF' = DF_{CCP} + DF'_{CM}$ ⁴¹⁹,

- (d) c_1 is the capital factor, between 0.16% and 1.6%, calculated in accordance with the following formula:

$$c_1 = \text{Max} \left\{ \frac{1.6\%}{\left(\frac{DF'}{K_{CCP}}\right)^{0.3}}; 0.16\% \right\}$$

- (e) c_2 is a factor of 100%; and

- (f) μ is a scalar of 1.2.

Calculation of the Capital Requirement for each of the CCP's Clearing Members

3.10 The Reporting Bank's capital requirement for default fund exposures to a CCP, taking into account the granularity and concentration adjustment, shall be calculated in accordance with the following formula⁴²⁰:

$$K_{CM(Bank)} = \left(1 + \beta \times \frac{N}{N - 2} \right) \times \frac{DF_{CM(Bank)}}{DF_{CM}} \times K_{CM}^*$$

where –

- (a) $K_{CM(Bank)}$ is the Reporting Bank's capital requirement for default fund exposures to the CCP;
- (b) β is calculated in accordance with the following formula –

$$\beta = \frac{A_{NET,CM1} + A_{NET,CM2}}{A_{NET,TOTAL}}$$

⁴¹⁹ In the calculation of DF_{CCP} , the CCP's own resources shall be used before DF_{CM} in the waterfall, for the amount to be included in DF_{CCP} . If that is not the case and a part of CCP's own financial resources is used in combination, on a pro rata or formulaic basis, with DF_{CM} to cover CCP losses, then equation (ii) of this paragraph needs to be adapted, in consultation with the Authority, such that this part of CCP contribution is treated similarly as a clearing member's default fund contribution. If a part of the CCP's own resources available to cover losses is used after all clearing members' default fund contributions, DF_{CM} , are used, this part of the CCP's contribution shall not be included in DF_{CCP} , but included in DF' .

⁴²⁰ The formula assumes that losses are allocated in a manner proportionate to the prefunded default fund contributions of the clearing members of a CCP. If the practice of a CCP does not allocate losses in such a manner, the Reporting Bank shall consult with the Authority on the appropriate treatment to be applied to calculate its capital requirement for default fund exposures to of a CCP.

where the subscripts CM1 and CM2 denote the clearing members of the CCP with the two largest A_{NET} potential future exposure values, and $A_{NET,TOTAL}$ is the total A_{NET} of all clearing members. For OTC derivative transactions, A_{NET} shall be computed as in paragraph 3.8(a) (i.e. $A_{NET} = 0.15 * A_{GROSS} + 0.85 * NGR * A_{GROSS}$). For SFTs, A_{NET} shall be computed as $(E \text{ or } EAD) * H_e + C * (H_c + H_{fx})$, where H_e , C , H_c and H_{fx} are as set out in Annex 7J of this Part;

- (c) N is the total number of clearing members of the CCP;
- (d) $DF_{CM(Bank)}$ is the prefunded default fund contribution of the Reporting Bank; and
- (e) DF_{CM} is the total prefunded default fund contributions from all clearing members of the CCP⁴²¹.

3.11 Where it is not possible to apply the method of calculation specified in paragraph 3.10 due to the absence of prefunded default fund contributions at a CCP, the Reporting Bank's capital requirement for default fund exposures to a CCP shall be calculated as –

- (a) $\left(1 + \beta * \frac{N}{N-2}\right) * \frac{L_{Bank}}{L_{Total}} * K_{CM}^*$, where L_{Bank} is the liability for default fund calls (or the unfunded default fund commitment) of the Reporting Bank and L_{Total} is the liability for default fund calls of all clearing members of the CCP; or
- (b) if it is not possible to apply paragraph 3.11(a), $\left(1 + \beta * \frac{N}{N-2}\right) * \frac{IM_{Bank}}{IM_{Total}} * K_{CM}^*$, where IM_{Bank} is the size of initial margins posted by the Reporting Bank with the CCP and IM_{Total} is the size of initial margins posted by all clearing members of the CCP.

Method 2

3.12 A Reporting Bank applying Method 2 shall apply a risk-weight of 1250% to the default fund exposures of the Reporting Bank to a CCP, subject to an overall cap on the RWA from all its exposures to the CCP (i.e. including trade exposures) equal to 20% of CCP trade exposures to the CCP. A Reporting Bank shall calculate the RWA for both the Reporting Bank's trade and default fund exposures to a CCP as⁴²² –

$$\text{Min}\{(2\% * TE_{CM(Bank)} + 1250\% * DF_{CM(Bank)}); (20\% * TE_{CM(Bank)})\}$$

where –

⁴²¹ Any other member contributed financial resources that are available to bear mutualised CCP losses may also be included within DF_{CM} .

⁴²² Under this approach the 2% risk weight on trade exposures given by paragraph 2.1 does not apply as it is included in the equation in paragraph 3.12.

- (a) $TE_{CM(Bank)}$ is E or EAD of the Reporting Bank's CCP trade exposure to the CCP, as measured by the Reporting Bank according to paragraph 2.1 to 2.4; and
- (b) $DF_{CM(Bank)}$ is the Reporting Bank's pre-funded contribution to the CCP's default fund.

EXPOSURES TO CCPs

Name of the Reporting Bank:

Statement as at:

Scope of Reporting:

(In S\$ million)

1 Exposures to CCPs calculated in accordance with paragraph 1.3 of Annex 7AJ

(a) CCP Trade Exposures

E/EAD

CCP RWA

(i) CCP Trade Exposures where a Reporting Bank is a Clearing Member of a CCP
 (Exclude trade exposures used in Method 2 below if adopted)

(ii) Exposures to CCPs where a Reporting Bank is a Client of a Clearing Member and
 all conditions in paragraph 2.5 of Annex 7AJ are met

(iii) Exposures to CCPs where a Reporting Bank is a Client of a Clearing Member and
 all conditions in paragraph 2.5, except paragraph 2.5(a)(iii) of Annex 7AJ are met

(iv) Exposures arising from collateral posted

(b) Default Fund Exposures

Method 1

**Notional Amounts of
 Default Fund
 Exposures**

**Capital
 Requirements**

CCP RWA

CCP 1	
CCP 2	
CCP 3	
.	
.	
.	

Sub-Total

Method 2 (in accordance with paragraph 3.12 of Annex 7AJ)

**E/EAD of Trade
 Exposures**

**Notional Amounts of
 Default Fund Exposures**

**CCP RWA (subject to a
 cap of 20% of total trade
 exposures)**

CCP 1	
CCP 2	
CCP 3	
.	
.	
.	

Sub-Total

2 Exposures to CCPs calculated in accordance with paragraph 1.4 of Annex 7AJ

a. Trade exposures

E/EAD

CCP RWA

b. Exposures arising from contribution to default funds

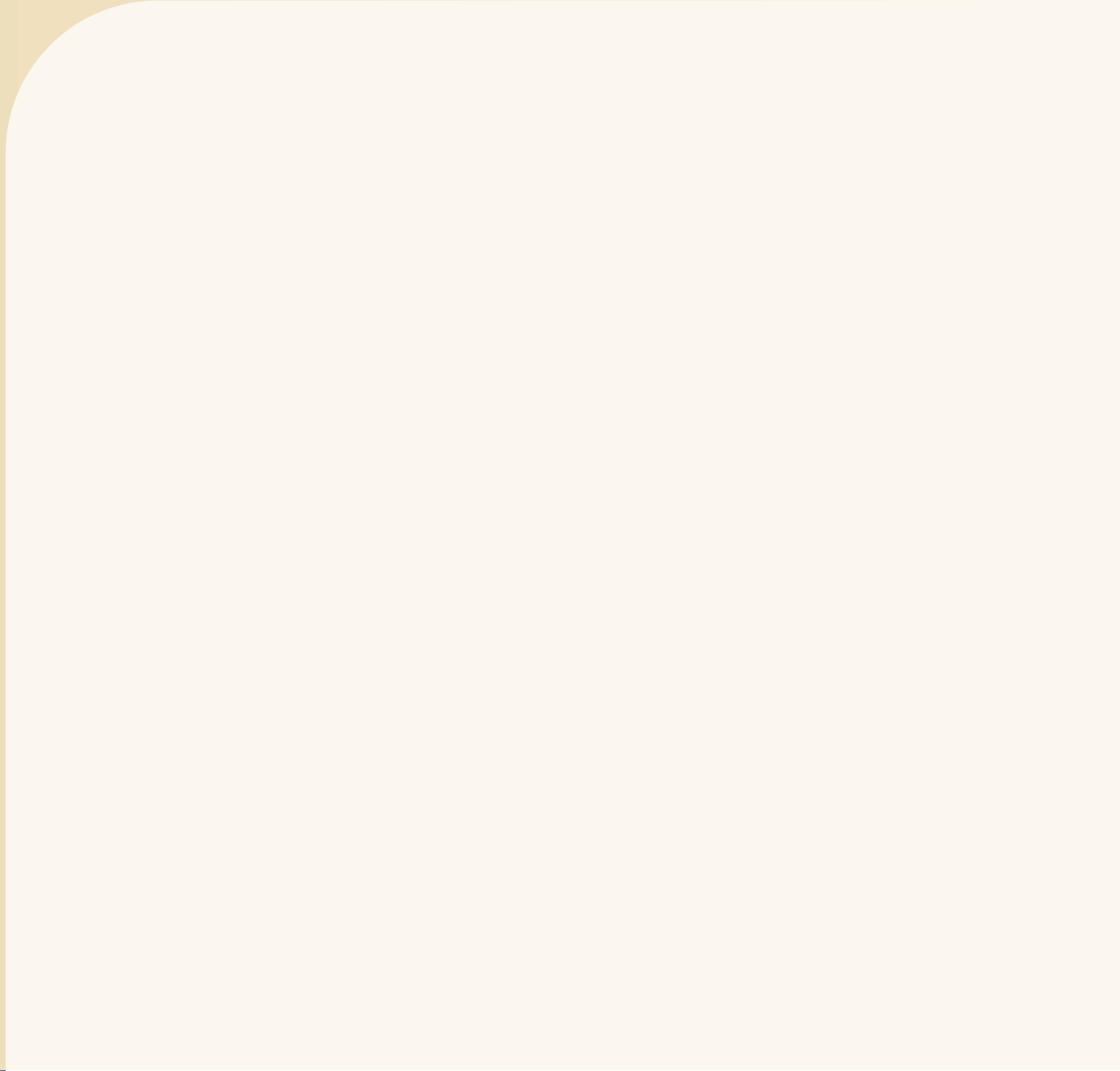
Funded Contributions

Unfunded Contributions

CCP 1	
CCP 2	
CCP 3	
.	
.	
.	

Sub-Total

3 Total CCP RWA



Monetary Authority of Singapore