

# CONSULTATION PAPER

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## Policy Consultation on Margin Requirements for Non-Centrally Cleared OTC Derivatives

MAS

Monetary Authority of Singapore

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## 1 Preface

1.1 As part of the Group of 20 (“G20”) objectives and Financial Stability Board (“FSB”) recommendations on over-the-counter (“OTC”) derivative reforms, an international Working Group on Margin Requirements (“WGMR”), established jointly by the Basel Committee on Banking Supervision (“BCBS”) and the International Organization of Securities Commissions (“IOSCO”), published its report setting out margin requirements for non-centrally cleared OTC derivative trades (“uncleared derivatives”) in September 2013.

1.2 The Monetary Authority of Singapore (“MAS”) is seeking public feedback on policy proposals to implement margin requirements for uncleared derivatives set out by WGMR. The policy proposals will subsequently be effected via new rules, which MAS will consult on after considering feedback from this consultation. Please refer to Annex A for the list of questions for public feedback.

1.3 MAS invites interested parties to provide their comments on the policy proposals.

**Please note that all submissions received will be published and attributed to the respective respondents unless they expressly request MAS not to do so. As such, if respondents would like (i) their whole submission or part of it, or (ii) their identity, or both, to be kept confidential, please expressly state so in the submission to MAS. In addition, MAS reserves the right not to publish any submission received where MAS considers it not in the public interest to do so, such as where the submission appears to be libellous or offensive.**

1.4 Please submit written comments by 1 November 2015 to –

Markets Policy & Infrastructure Department  
Monetary Authority of Singapore  
10 Shenton Way, MAS Building  
Singapore 079117  
Fax: (65) 6225 1350  
Email: [otc\\_margins@mas.gov.sg](mailto:otc_margins@mas.gov.sg)

1.5 Electronic submission is encouraged. We would appreciate that you use this suggested format for your submission to ease our collation efforts. You can access the template [here](#).

## 2 Introduction

2.1 In 2009, the G20 and FSB agreed to implement a set of reforms<sup>1</sup> to improve transparency, mitigate systemic risk, and protect against market abuse in the OTC derivative markets. The reform programme was expanded in 2011 to include margin requirements for uncleared derivatives<sup>2</sup>. Consequently, BCBS and IOSCO formed the WGMR to develop a framework for margin requirements for uncleared derivatives (“WGMR Framework”). The WGMR released its first report in September 2013, and a revised version in March 2015<sup>3</sup>.

2.2 MAS recognises that risks from uncleared derivatives, if inadequately collateralised, could potentially have an adverse impact on the stability of our financial system. While MAS intends to introduce a central clearing regime for OTC derivative contracts next year<sup>4</sup>, not all OTC derivative contracts are suitable for central clearing. To reduce the build-up of systemic risk arising from uncleared derivatives, MAS is seeking feedback on policy proposals to implement margin requirements on uncleared derivatives. The proposals will be effected via new rules, which MAS will consult on after considering feedback from this consultation.

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<sup>1</sup> The G20’s 2009 OTC derivatives reform program comprised four elements: (a) All standardised OTC derivatives should be traded on exchanges or electronic platforms, where appropriate; (b) All standardised OTC derivatives should be cleared through central counterparties (CCPs); (c) All OTC derivative contracts should be reported to trade repositories; and (d) Non-centrally cleared OTC derivatives should be subject to higher capital requirements.

<sup>2</sup> G20, *Cannes summit final declaration*:

[www.g20civil.com/documents/Cannes\\_Declaration\\_4\\_November\\_2011.pdf](http://www.g20civil.com/documents/Cannes_Declaration_4_November_2011.pdf).

<sup>3</sup> *Margin Requirements for Non-Centrally Cleared Derivatives, March 2015 (Revised)*: <http://www.bis.org/bcbs/publ/d317.pdf>. Relative to the 2013 framework, the revisions delay the beginning of the phase-in period for collecting and posting initial margin on non-centrally cleared trades from 1 December 2015 to 1 September 2016. The revisions also institute a six-month phase-in of the requirement to exchange variation margin, beginning 1 September 2016.

<sup>4</sup> MAS consultation paper on *Draft Regulations for Mandatory Clearing of Derivatives Contracts on 1 July 2015*: <http://www.mas.gov.sg/News-and-Publications/Consultation-Paper/2015/Consultation-Paper-on-Draft-Regulations-for-Mandatory-Clearing-of-Derivatives-Contracts.aspx>

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### 3 Scope of Proposed Margin Requirements

#### Product Scope

3.1 MAS proposes to subject all OTC derivative contracts<sup>5</sup> that are not centrally cleared by a qualifying central counterparty (“QCCP”)<sup>6</sup> to margin requirements.

3.2 Physically-settled foreign-exchange (“FX”) forwards and swaps shall be exempted from the margin requirements. However, entities are expected to appropriately manage the risks associated with such FX transactions<sup>7</sup>.

**Question 1.** MAS seeks comments on the proposed product scope, whether any other products should be exempted from margin requirements and the basis for such exemptions.

#### Entity Scope

3.3 MAS proposes to apply margin requirements on entities conducting regulated activities under the SFA<sup>8</sup>. Recognising that margins are not currently exchanged or collected as a common practice save for the larger banks, MAS proposes to adopt a phased-in approach to give affected entities time to operationalise the proposed margin requirements. For a start, MAS proposes to apply margin requirements only to the following entities that are conducting regulated activities under the SFA (collectively termed “MAS Covered Entities”):

- (a) banks licensed under the Banking Act;

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<sup>5</sup> The February 2015 consultation paper on draft legislative amendments to the Securities and Futures Act includes proposals to introduce simplified, principle-based definitions of derivative contracts: <http://www.mas.gov.sg/News-and-Publications/Consultation-Paper/2015/Consultation-Paper-on-Proposed-Amendments-to-the-SFA.aspx>.

<sup>6</sup> A QCCP is as defined in the BCBS Capital Requirements for Bank Exposures to Central Counterparties, July 2012: <http://www.bis.org/publ/bcbs227.pdf>.

<sup>7</sup> Entities should refer to MAS’ guidelines on risk management practices, as well as the BCBS Supervisory Guidance for Managing Risks Associated with the Settlement of FX Transactions, February 2013: <https://www.bis.org/publ/bcbs241.pdf>.

<sup>8</sup> The February 2015 consultation paper on draft legislative amendments to the SFA includes proposals to expand the scope of the SFA to regulate OTC derivative intermediaries, including the transfer of regulatory oversight of commodity derivatives from the Commodity Trading Act (“CTA”) (Cap. 48A): <http://www.mas.gov.sg/News-and-Publications/Consultation-Paper/2015/Consultation-Paper-on-Proposed-Amendments-to-the-SFA.aspx>.

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- (b) merchant banks approved as financial institutions under Section 28 of the MAS Act; and
  - (c) other licensed financial institutions<sup>9</sup>.

3.4 In order not to dis-incentivise institutions, including financial end-users who do not transact widely in uncleared derivatives, from using OTC derivatives for hedging and risk management purposes, MAS is considering a limited exemption for licensed financial institutions in paragraph 3.3(c) from margin requirements, should the exposure of their uncleared derivative transactions booked in Singapore fall below a certain threshold. Such a threshold shall be carefully calibrated to ensure that significant counterparty credit risks arising from uncleared derivatives remain subject to the risk mitigation measures set forth under the margin requirements. Notwithstanding any exemption, if introduced, MAS expects all entities conducting regulated activities under the SFA to continue managing their risk exposure in uncleared derivatives prudently<sup>10</sup>.

3.5 Counterparties such as sovereigns, central banks, public sector entities, multilateral development banks and the Bank for International Settlements pose little or no credit risks to the financial system, and have been exempted from central clearing mandates by most regulators globally, including MAS. Accordingly, MAS proposes that the margin requirements need not apply to uncleared derivatives involving such counterparties.

3.6 MAS is also considering whether to require investment funds domiciled in Singapore to comply with the proposed margin requirements, if these funds have exposure in uncleared derivatives in excess of the exemption threshold outlined in paragraph 3.4. For purposes of calculating the threshold, MAS is considering treating an investment fund as distinct and separate only if the fund is:

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<sup>9</sup> This will include entities licensed under the Finance Companies Act (“FCA”), Insurance Act (“IA”), Securities and Futures Act (“SFA”) and Trust Companies Act (“TCA”). Fund managers shall be subject to MAS’ proposed margin requirements for uncleared derivatives if they are legal counterparties to the transaction.

<sup>10</sup> For MAS’ consultation paper on proposed non-margin risk mitigation requirements, refer to: <http://www.mas.gov.sg/~media/MAS/News%20and%20Publications/Consultation%20Papers/Policy%20Consultation%20on%20Regulatory%20Framework%20for%20OTC%20Intermediaries%20ERA%20and%20Marketing%20of%20CIS%203%20Jun%202015.pdf>.

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- (a) a distinct segregated pool of assets for the purposes of fund insolvency or bankruptcy; and
  - (b) not collateralised or guaranteed by any other person.

<p><b>Question 2.</b> MAS seeks comments on the proposed entity scope, and whether there are any other types of entities that should be subject to margin requirements, and the basis for such inclusions.</p> <p><b>Question 3.</b> MAS seeks comments on the thresholds and exemptions in paragraphs 3.4 and 3.5, and the way these thresholds and exemptions should be determined.</p> <p><b>Question 4.</b> MAS seeks views on whether investment funds domiciled in Singapore should be subject to margin requirements, and the factors that should be taken into consideration in formulating the margin requirements for such investment funds.</p>
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## 4 Margin Obligations on MAS Covered Entities

4.1 MAS proposes that an MAS Covered Entity is subject to both initial margin (“IM”) and variation margin (“VM”) requirements when all of the following conditions are met<sup>11</sup>:

- (a) the MAS Covered Entity is a legal counterparty<sup>12</sup> to the transaction;
- (b) the transaction is booked in Singapore; and
- (c) the transaction is entered into with a counterparty which is either:
  - i. an MAS Covered Entity; or
  - ii. an overseas regulated financial firm (for cross-border transactions, please refer to Section 9).

4.2 MAS notes that the WGMR Framework requires an exchange of IM and VM, on a bilateral basis (“post-and-collect”). However, some industry participants have

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<sup>11</sup> Subject to a possible exemption threshold in paragraph 3.4, and the implementation schedule in Section 10.

<sup>12</sup> A legal counterparty is an entity who is a signatory to the ISDA master agreement and the collateral service agreement of the transaction.

indicated operational challenges to effecting bilateral margin exchanges for cross-border transactions, especially if there are conflicting requirements between jurisdictions (e.g. differences in collateral eligibility). To address these challenges, MAS is considering an alternative of imposing a collect-only requirement on MAS Covered Entities (in addition to the deemed compliance proposals in paragraphs 9.5 and 9.6). A collect-only regime would, in effect, achieve a bilateral exchange of margins if both counterparties are subject to margin requirements prescribed by their regulators. Given that major jurisdictions like US, Europe and Japan have consulted on and are working towards implementing their margin requirements on uncleared derivatives, a collect-only regime could be a viable alternative to achieving the same outcome of a post-and-collect regime, while minimising the associated operational challenges.

4.3 While transactions booked in foreign subsidiaries or foreign branches of locally-incorporated MAS Covered Entities are not subject to MAS' margin requirements, MAS will closely monitor the extent of risk build-up in such entities. MAS, as home regulator, maintains oversight of such operations through its consolidated supervision of local financial groups. For example, MAS engages our local banking groups regularly to ensure that appropriate policies, practices and risk controls regarding OTC derivative activities are in place. MAS would also be able to use the trade data reported to our licensed trade repositories, which includes OTC derivatives booked or traded in Singapore, to assess the risk.

4.4 MAS proposes that all MAS Covered Entities calculate their VM obligations at least on a daily basis. The full amount of VM (i.e. a zero threshold) must be exchanged (if MAS adopts a post-and-collect regime) or collected (if MAS adopts a collect-only regime) from counterparties within two business days following the execution of a new uncleared derivative contract.

4.5 MAS proposes that all MAS Covered Entities calculate the gross amount of IM obligations (i.e. no netting of IM payments between the two counterparties) at least on a sufficiently regular basis to reflect changes in risk positions and market conditions.

4.6 MAS Covered Entities are then required to ensure that the IM is exchanged or collected from their counterparties within two business days following the recalculation of the IM obligations (please refer to paragraph 5.2 for further details).

4.7 In line with the WGMR Framework, MAS proposes that the exchange or collection of IM shall only be required if the cumulative IM exposure from the counterparty exceeds S\$80 million. The threshold of S\$80 million is to be calculated at



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the group-consolidated level and is based on all uncleared derivatives between the two consolidated groups.

4.8 MAS recognises that the IM requirements would necessitate significant changes in market practices and could have an impact on market liquidity. Therefore, MAS proposes that IM requirements only apply to transactions between two entities, each belonging to a group whose aggregate gross notional uncleared derivatives exposure, including physically-settled FX forwards and swaps, exceeds the IM phase-in thresholds outlined in Section 10. At the end of the phase-in period, the minimum level of uncleared derivative activity necessary for MAS Covered Entities to be subject to IM requirements proposed in this paper shall be set at S\$13 billion. If the group aggregate exposure of MAS Covered Entities subsequently falls below the IM phase-in thresholds after entering into the uncleared derivative transaction, the collateral requirements on the IM previously exchanged or collected shall continue to apply until the transaction expires.

4.9 To ease the operational burden of transferring small amounts of margin, MAS proposes that all margin transfers be subject to a *de minimis* minimum transfer amount. This amount shall not be higher than S\$800,000.

**Question 5.** MAS seeks comments on the proposed margin obligations (including operational requirements) on MAS Covered Entities, specifically on the options of (i) a post-and-collect requirement; and (ii) a collect-only requirement, and the pros and cons for the suggested option.

**Question 6.** MAS seeks comments on the proposed thresholds set out in Section 4.

## 5 Margin Calculations and Methodologies

### Initial Margin (“IM”)

5.1 The collection of IM protects the MAS Covered Entity from the potential future exposure that could arise from future changes in the mark-to-market value of the uncleared derivative contract during the time it takes to close out and replace the position in the event that the counterparty defaults.

5.2 IM shall be exchanged or collected at the outset of a transaction, and exchanged or collected thereafter on a routine and consistent basis upon changes in the calculated potential future exposures. At a minimum, IM shall be recalculated and exchanged or collected in any of the following circumstances: a new contract is executed with a counterparty; an existing contract with a counterparty expires; the IM model is

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recalibrated due to changes in market conditions; or no IM recalculation has been performed in the last 10 days.

5.3 MAS proposes to allow the required amount of IM to be calculated by reference to either: (i) a quantitative portfolio margin model; or (ii) a standardised margin schedule. An MAS Covered Entity may opt for either approach, and not restrict itself to one approach for the entirety of its derivative activities. However, the choice between model- and schedule-based IM calculations should be made consistently over time for all transactions within the same well-defined asset class.

5.4 An MAS Covered Entity must have rigorous and robust dispute resolution procedures in place with its counterparty before the onset of a transaction. At the onset of the transaction, the two counterparties must agree in writing or other equivalent permanent electronic means on the specific margin calculation method and the quantitative model to be used (if applicable). The calibration data and parameters for calculating IM should also be agreed upon and recorded in writing or other equivalent permanent electronic means. In the event that a margin dispute arises, any non-disputed amount shall first be exchanged or collected, while all necessary and appropriate efforts, including timely initiation of dispute resolution protocols, should be taken to resolve the dispute, and to exchange or collect the remaining required amount of IM in a timely fashion<sup>13</sup>.

#### *Quantitative Portfolio Margin Model*

5.5 Any quantitative portfolio margin model must capture all material risk drivers for the derivative contracts included in the netting set. It should reflect the nature, scale and complexity of the risks inherent in the underlying contracts. Quantitative models may either be internally-developed or provided by a third party, but IM amounts are to be calculated in an appropriately risk-sensitive manner. To ensure that the use of quantitative models support robust margin requirements, the use of such models by MAS Covered Entities shall be subject to the following conditions:

- (a) any quantitative model that is used for IM purposes must be approved by MAS. Each MAS Covered Entity shall notify MAS if it is intending to use a

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<sup>13</sup> For MAS' consultation paper on proposed non-margin risk mitigation requirements, refer to: <http://www.mas.gov.sg/~media/MAS/News%20and%20Publications/Consultation%20Papers/Policy%20Consultation%20on%20Regulatory%20Framework%20for%20OTC%20Intermediaries%20ERA%20and%20Marketing%20of%20CIS%203%20Jun%202015.pdf>

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quantitative model and supply the relevant documentation. If the initially approved models cease to comply with MAS' margin requirements, the MAS Covered Entity shall notify MAS and compute the required IMs using the standardised margin schedule<sup>14</sup>;

- (b) in addition to the above, third party-provided models must be approved for use by each MAS Covered Entity seeking to use the model. There shall be no presumption that MAS' approval for one or more MAS Covered Entities imply an approval for a wider set of institutions;
- (c) quantitative models must be subject to the MAS Covered Entity's internal governance process that reviews and validates the applicability of the model to the derivatives for which it is being used. The models shall be independently validated before being used, and annually thereafter; and
- (d) quantitative models must be recalibrated at least semi-annually and be subjected to regular back-testing and stress testing programme.

5.6 For the calculation of IM, MAS proposes the following:

- (a) a one-tailed 99 per cent confidence interval over a horizon of at least 10-days<sup>15</sup> to reflect an extreme but plausible estimate of an increase in the value of the instrument;
- (b) the IM model shall be calibrated based on historical data of not more than five years, which incorporates a period of significant financial stress to ensure sufficient margins during stress. The period of financial stress used for calibration should be identified and applied separately for each broad asset class for which portfolio margining is allowed. This helps ensure sufficient margins during stress and limits the pro-cyclicality of the margins; and
- (c) data within the identified period shall be equally weighted for calibration purposes.

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<sup>14</sup> Refer to *Annex B* for the standardised initial margin schedule.

<sup>15</sup> If VM is exchanged at less than daily frequency, the minimum horizon should be set equal to 10 days plus the number of days in between VM collection.

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5.7 Quantitative IM models may account for risk on a portfolio basis. However, the following requirements apply:

- (a) IM models may consider all of the uncleared derivatives that are approved for model use that are subject to a single, legally enforceable netting agreement. However, uncleared derivatives between counterparties that are not subject to the same legally enforceable netting agreement must not be considered in the same IM model calculation. In the absence of legally enforceable netting agreements, MAS Covered Entities should calculate the IM requirement of each uncleared derivative contract using distinct IM model calculations, and each IM requirement is to be posted or collected on a gross basis;
- (b) subject to MAS' approval, IM models may account for diversification, hedging and risk offsets within well-defined asset classes such as currency/rates<sup>16</sup>, equity, credit, or commodities, provided these are within the same netting set, but not across such asset classes, and provided these instruments are covered by the same legally enforceable netting agreement. Therefore, the total IM requirements shall be a simple summation of IM requirements at each underlying asset class level within the same netting set; and
- (c) uncleared derivatives for which a firm faces zero counterparty risk require no IM to be exchanged or collected and may be excluded from the IM calculation.

#### *Standardised Margin Schedule*

5.8 While quantitative portfolio margin models could be a more risk-sensitive risk management tool if monitored and governed appropriately, MAS recognises that there could be instances where a simpler and less risk-sensitive approach may be warranted. As such, MAS is proposing a standardised IM schedule which MAS Covered Entities may use to compute the amount of IM required (refer to Annex B).

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<sup>16</sup> Currency and interest rate derivatives may be portfolio margined together as being part of a single asset class for the purposes of MAS' margin requirements.

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**Question 7.** MAS seeks comments on the proposed IM calculations and requirements, particularly, but not limited to, the recalculation frequency and requirements of IM, data history for IM calculation and the recalibration and back-testing requirements of the IM model.

### Variation Margin (“VM”)

5.9 MAS Covered Entities must post or collect the full amount of VM necessary to fully collateralise the mark-to-market exposure of the uncleared derivatives when the conditions in paragraphs 4.1 are met.

5.10 MAS Covered Entities shall calculate and post or collect VM requirements on an aggregate net basis across all uncleared derivatives that are executed under a single, legally enforceable netting agreement. In the absence of legally enforceable netting agreements, MAS Covered Entities should calculate and post or collect the VM requirements for each uncleared derivative contract on a gross basis.

5.11 The valuation of the current exposure of a derivative contract can be complex and, at times, subject to question or dispute by one or both parties. Hence, similar to the requirement for IM, MAS Covered Entities must have rigorous and robust dispute resolution procedures in place with their counterparties before the onset of a transaction. In the event that a margin dispute arises, the non-disputed amount shall first be posted or collected, while all necessary and appropriate efforts, including timely initiation of dispute resolution protocols, should be taken to resolve the dispute and post or collect the remaining required amount of VM in a timely fashion<sup>17</sup>.

**Question 8.** MAS seeks comments on the proposed VM calculations and requirements.

## **6 Eligible Collateral and Haircuts**

6.1 MAS recognises that even in cases where margin is collected in an amount sufficient to fully protect an MAS Covered Entity in the event of a counterparty default, the MAS Covered Entity may nonetheless be exposed to losses if that margin is not in a

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<sup>17</sup> For MAS’ consultation paper on proposed non-margin risk mitigation requirements, refer to: <http://www.mas.gov.sg/~media/MAS/News%20and%20Publications/Consultation%20Papers/Policy%20Consultation%20on%20Regulatory%20Framework%20for%20OTC%20Intermediaries%20ERA%20and%20Marketing%20of%20CIS%203%20Jun%202015.pdf>

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form that can be readily liquidated at full value at the time of default, particularly during a period of financial stress. As such, it is important that assets used to meet IM and VM requirements should be highly liquid, and should be able to hold their value in times of financial stress after accounting for an appropriate haircut.

6.2 While restricting eligible collateral to the most liquid, top-quality assets, such as cash and high quality sovereign debt, would best ensure that the value of the collateral held as margin could be fully realised in a period of financial stress, such a requirement could result in liquidity implications on the financial system. Hence, MAS proposes to adopt a more balanced approach to permit a broader set of eligible collateral but address the potential volatility of such assets through the application of appropriate haircuts to their valuation for margin purposes. This approach is also more consistent with central clearing practices, in which CCPs frequently accept a broader range of collateral, subject to collateral haircuts.

6.3 MAS proposes to allow the following range of eligible collateral to be used to meet IM and VM requirements:

- (a) cash;
- (b) gold;
- (c) debt securities<sup>18</sup> (AAA to BB- for central government or central bank issuers, AAA to BBB- for other issuers); and
- (d) equity securities<sup>19</sup> in a main index of a securities exchange in Singapore or a recognised Group A exchange<sup>20</sup>.

6.4 MAS proposes to align the standardised schedule-based haircuts<sup>21</sup> for permitted eligible collateral for IM and VM to the standard supervisory haircuts set out

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<sup>18</sup> These will exclude securities issued by the MAS Covered Entity or related corporations of the MAS Covered Entity.

<sup>19</sup> Similar to debt securities, these will exclude securities issued by the MAS Covered Entity or related corporations of the MAS Covered Entity.

<sup>20</sup> Group A exchanges are securities exchanges in the following countries: Australia, Austria, Belgium, Canada, France, Germany, Hong Kong, Italy, Japan, Malaysia (except Labuan), Netherlands, New Zealand, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, United Kingdom, United States.

<sup>21</sup> These are aligned with MAS' capital framework: <http://www.mas.gov.sg/regulations-and-financial-stability/regulations-guidance-and-licensing/commercial-banks/notices/2012/notice-637-notice-on-risk-based-capital-adequacy-requirements-for-banks-incorporated-in-singapore.aspx>.

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for eligible financial collateral recognised under the financial collateral comprehensive approach in MAS' capital framework for locally incorporated banks. Please refer to Annex C for the schedule of standardised schedule-based haircuts.

6.5 Schedule-based haircuts provide a simple, conservative and transparent approach to calculating haircuts that also limit pro-cyclical effects. However, in addition to schedule-based haircuts, MAS also permits the use of risk-sensitive model-based haircuts, which may be based on models that are internally-developed or provided by a third party, subject to MAS' approval. The MAS Covered Entity is to ensure that it complies with the requirements set out in paragraph 5.5 including requirements on appropriate internal governance standards as in the case of the MAS Covered Entity's use of quantitative portfolio margin models for IM calculation. MAS Covered Entities are required to consistently adopt either the schedule-based or model-based approach for all the collateral assets within the same well-defined asset class.

6.6 In the event that a dispute arises over the value of eligible collateral, the MAS Covered Entity should make all necessary and appropriate efforts, including timely initiation of dispute resolution protocols, to resolve the dispute and exchange any required margin in a timely fashion.

6.7 MAS Covered Entities are expected to establish and document internal policies and controls to ensure that the collateral collected is not overly concentrated in an individual issuer, issuer type or asset type.

6.8 MAS Covered Entities should ensure that the value of the collateral does not exhibit a significant correlation with the creditworthiness of the counterparty or the value of the underlying uncleared derivatives portfolio so that the effectiveness of the protection offered by the collateral collected to meet the margin requirements is not undermined (i.e. "wrong way risk"). As such, the MAS Covered Entity should not accept securities issued by the counterparty or its related entities as collateral.

#### Haircuts on FX Mismatch

6.9 Eligible collateral can be denominated in any currency. Where the collateral is denominated in a different currency from the currency in which payment obligations for any underlying uncleared derivatives is made ("settlement currency"), MAS proposes for an FX mismatch haircut to be applied to the value of eligible collateral, to recognise the

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inherent FX risk of such transactions. MAS proposes that the standardised schedule-based FX mismatch haircut be set at 8% for all eligible collateral as set out in the WGMR Framework. MAS Covered Entities which have been approved by MAS to use risk-sensitive model-based haircuts shall incorporate the FX risk resulting from the FX mismatch in their model-based estimates of the collateral haircuts for collateral used to meet IM and VM requirements.

6.10 MAS recognises that there may be merits to consider a different FX mismatch risk treatment for eligible collateral when cash is used to meet VM requirements, which could also be used to reduce exposure quickly in the event of default, and where the mismatch is already factored in the IM calculation. As the FX volatility, which is a key component of FX risk, of certain currencies used for cash VM may be low, this may imply a lower FX risk than the 8% level set for the standardised FX mismatch haircut, given the shorter liquidity horizon of cash VM compared to non-cash VM. However, MAS also recognises that any exemption or lowering of the FX mismatch haircut on cash VM exposes the collateral receiver to the possibility of unexpected increases in FX volatility.

**Question 9.** MAS seeks comments on the proposed range of eligible collateral and corresponding schedule-based haircuts.

**Question 10.** MAS seeks comments on the proposed application of the 8% schedule-based standardised FX mismatch haircut when cash is used to meet the VM requirements in the case of an FX mismatch (i.e. where the collateral is denominated in a different currency from the settlement currency of the underlying derivative transaction).

Specifically, MAS seeks comments on whether cash collateral denominated in certain liquid currencies (please specify currencies) should be subject to a lower FX mismatch haircut (please specify). If so, what criteria should be used in assessing the liquidity of these currencies?

MAS also seeks comments on whether there are cases where a higher than 8% FX mismatch haircut may be warranted.

## 7 Treatment of Collateral

### Safe-keeping

7.1 The manner in which IM is held by the collecting party could have a significant impact on how effective the collateral is in protecting a firm from loss in the event of the default of a counterparty. Therefore, to ensure that the collateral is sufficiently



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protected against the insolvency risk of the collateral collector, MAS proposes that MAS Covered Entities are required to safe-keep the IM collected from counterparties in a manner such as to ensure that:

- (a) the IM collected is immediately available to the collecting party in the event of the posting party's default; and
- (b) the IM collected must be subject to legally enforceable arrangements that protect the posting party to the extent possible under applicable law in the event that the collecting party enters bankruptcy.

7.2 MAS recognises that there may be different methods of operationalising the required protection for IM. MAS proposes to require IM to be safe-kept in either of the following ways:

- (a) IM collateral collected to be held with an independent third party custodian under a trust arrangement to address the insolvency risk of the collecting party; or
- (b) IM collateral collected to be held under other legally enforceable arrangements to protect the posting party in the event of default of the collecting party. Such legally enforceable arrangements shall ensure that the IM collateral collected is legally segregated from the collecting party's proprietary money and assets.

7.3 MAS proposes that the collateral arrangements used need to be legally enforceable and reviewed periodically with updated legal opinions to confirm that they continue to meet with the requirements as set out in paragraph 7.1.

**Question 11.** MAS seeks comments on the proposed safe-keeping of IM collateral.

**Question 12.** MAS seeks comments on examples of the types of legally-enforceable safe-keeping arrangements that may be put in place under paragraph 7.2 (b).

**Question 13.** MAS seeks comments on the proposal that all collateral arrangements need to be reviewed periodically with updated legal opinions to ensure that the arrangements continue to be legally enforceable.

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### Re-hypothecation, Re-Pledge and Re-Use of Collateral

7.4 The risk of the loss of IM could be further exacerbated if the collecting party re-hypothecates, re-pledges, or re-uses (henceforth “re-hypothecates”) the IM collected, which could result in third parties having legal or beneficial title over the collateral, or a merging or pooling of the collateral with assets belonging to others. This could lead to legal complications which may result in delays or failure to return re-hypothecated assets to the posting party in the event the collecting party defaults.

7.5 To limit the risk arising from re-hypothecation of IM, MAS proposes that non-cash IM shall only be re-hypothecated to a third party in accordance with the list of conditions set out in Annex D. Once non-cash IM has been re-hypothecated to a third party in accordance with Annex D, no further re-hypothecation of IM by the third party is permitted.

7.6 Cash and non-cash collateral collected as VM may be re-hypothecated without restrictions.

**Question 14.** MAS seeks comments on the proposal to permit a one-time re-hypothecation of non-cash IM collateral and the liquidity implications of such a proposal.

## **8 Treatment of Intra-Group Transactions**

8.1 MAS proposes that MAS Covered Entities may apply for exemption of intra-group transactions from the scope of margin requirements, subject to the condition that the MAS Covered Entity comes under group-wide supervision by MAS or regulators in other jurisdictions. MAS proposes that the exemption be limited to transactions between entities belonging to the same group where the financial statements of these entities<sup>22</sup> are consolidated upon preparation of the group consolidated financial statements. Such transactions do not transfer risks in or out of a corporate group and are best left to such groups to manage their group-wide risks in a manner most appropriate for their corporate structure.

**Question 15.** MAS seeks comments on the proposed treatment of intra-group transactions.

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<sup>22</sup> As a general rule, this involves management control or ownership in excess of 50% of another entity.

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## 9 Treatment of Cross-Border Transactions

9.1 MAS recognises the global nature of derivative markets. Market participants are often engaged in OTC derivatives through a variety of legal entities in different jurisdictions and frequently deal with counterparties on a cross-border basis. It is therefore important to implement margin rules in a manner that limits the risk of regulatory arbitrage, maintains a level playing field and avoids the application of duplicative or conflicting margins requirements on the same transaction.

9.2 As outlined in paragraph 4.1, an MAS Covered Entity shall be subject to MAS' margin requirements if its legal counterparty is an overseas regulated financial firm. Such entities are expected to also be subject to margin requirements prescribed by their regulators. However, this may not be the case.

9.3 MAS recognises that jurisdictions may be implementing margin requirements at different points in time. More importantly, there are also jurisdictions where netting laws are unclear, which could also give rise to legal uncertainty over collateral arrangements. If margin requirements are imposed on all cross-border trades, MAS Covered entities could face difficulties transacting with counterparties from these jurisdictions.

9.4 To manage the risk of uncleared derivatives exposure building up when transacting with counterparties from jurisdictions that have not implemented margin requirements for all regulated financial firms, have different implementation schedules or have unclear netting laws, MAS is considering the feasibility of imposing a threshold such that an MAS Covered Entity shall be subject to margin requirements only if its total exposure to counterparties from such jurisdictions exceeds a certain threshold. Notwithstanding any proposed threshold, MAS expects all entities to continue managing their risk exposure in uncleared derivatives prudently<sup>23</sup>.

9.5 Given the global nature of the OTC derivative market, it is likely that a transaction could be subject to the margin requirements of two or more jurisdictions. While efforts are underway globally for regulators to harmonise their requirements to

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<sup>23</sup> For MAS' consultation paper on proposed non-margin risk mitigation requirements, refer to: <http://www.mas.gov.sg/~media/MAS/News%20and%20Publications/Consultation%20Papers/Policy%20Consultation%20on%20Regulatory%20Framework%20for%20OTC%20Intermediaries%20ERA%20and%20Marketing%20of%20CIS%203%20Jun%202015.pdf>

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the extent possible, there may still be differences in the requirements across jurisdictions that are necessary to cater to differences in domestic market conditions. To avoid the application of duplicative or conflicting margins requirements on the same transaction, MAS proposes to deem MAS Covered Entities to have complied with MAS' margin rules ("deemed compliant") when:

- (a) an MAS Covered Entity, established under the laws of, or that has a place of business in, a foreign jurisdiction with comparable margin requirements, is required to comply and has complied with the margin requirements of that relevant foreign jurisdiction; or
- (b) an MAS Covered Entity, trading with a foreign counterparty, is required to comply with and has complied with comparable home- or host- margin requirements imposed on the foreign counterparty.

9.6 MAS proposes to adopt a comparability assessment that is outcome-based with a focus on whether the margin requirements in the foreign jurisdiction achieve the same regulatory objectives as MAS' margin requirements. This would not require the regimes to be identical nor constitute a line-by-line comparison in determining the regulatory objectives. However, MAS is considering the requirement for MAS Covered Entities to collect the types of eligible collateral and hold them in a manner consistent with MAS' rules.

**Question 16.** MAS seeks views on the proposed treatment of cross-border transactions, and whether there are other arrangements that may better address concerns of level playing field and regulatory arbitrage. Please elaborate on the rationale for the suggested option.

**Question 17.** MAS seeks views on the proposed approach for the application of deemed compliance, particularly for cross-border transactions.

## 10 Implementation Schedule

10.1 MAS recognises that both VM and IM requirements entail significant operational and system enhancements, as well as re-papering or developing of new legal documentation. As such, it is important that these changes are managed effectively to avoid unintended market disruptions and unduly large transition costs, while achieving systemic risk reductions in the market. Please refer to Annex E for the proposed phase-in implementation schedule.

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10.2 For a start, MAS proposes to apply margin requirements on banks licensed under the Banking Act and merchant banks approved under section 28 of the MAS Act, who conduct regulated activities under the SFA. MAS will review the exemption threshold and commencement date for other licensed financial institutions listed in paragraph 3.3(c) at a later stage.

### Variation Margin (“VM”)

10.3 MAS proposes to commence the VM requirements as follows:

- (a) From 1 September 2016, any bank licensed under the Banking Act who conducts regulated activities under the SFA, belonging to a group whose aggregate month-end average notional amount of uncleared derivatives for March, April, and May of 2016 exceeds S\$4.8 trillion shall be subject to VM requirements when transacting with another covered entity<sup>24</sup> (provided that its group notional exposure in uncleared derivatives exceeds the same threshold of S\$4.8 trillion). The VM requirement shall only apply to new contracts entered into after 1 September 2016. VM for other contracts shall be subject to the MAS Covered Entity’s agreement with its counterparty.
- (b) From 1 March 2017, any bank licensed under the Banking Act or any merchant bank approved under section 28 of the MAS Act who conducts regulated activities under the SFA shall be subject to collect VM requirements when transacting with another covered entity. The VM requirement shall apply to new contracts entered into after 1 March 2017. VM for other contracts shall be subject to the MAS Covered Entity’s agreement with its counterparty.

10.4 In addition, MAS proposes to provide MAS Covered Entities with a 6-month transition period from the respective VM commencement dates to provide them with sufficient time to be operationally ready for a smooth implementation of the requirements.

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<sup>24</sup> A counterparty who meets the conditions in paragraphs 4.1(c), read together with paragraphs 9.3 and 9.4.

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Initial Margin (“IM”)

10.5 MAS proposes to commence<sup>25</sup> the IM requirements as follows:

- (a) From 1 September 2016 to 28 February 2017, any bank licensed under the Banking Act who conducts regulated activities under the SFA, belonging to a group whose aggregate month-end average notional amount of uncleared derivatives for March, April, and May of 2016 exceeds S\$4.8 trillion shall be subject to the requirements when transacting with another covered entity (provided that its group notional exposure in uncleared derivatives exceeds the same threshold of S\$4.8 trillion).
- (b) From 1 March 2017 to 31 August 2017, any bank licensed under the Banking Act or any merchant bank approved under section 28 of the MAS Act who conducts regulated activities under the SFA, belonging to a group whose aggregate month-end average notional amount of uncleared derivatives for March, April, and May of 2016 exceeds S\$4.8 trillion shall be subject to the requirements when transacting with another covered entity (provided that its group notional exposure in uncleared derivatives exceeds the same threshold of S\$4.8 trillion).
- (c) From 1 September 2017 to 31 August 2018, any bank licensed under the Banking Act or any merchant bank approved under section 28 of the MAS Act who conducts regulated activities under the SFA, belonging to a group whose aggregate month-end average notional amount of uncleared derivatives for March, April, and May of 2017 exceeds S\$3.6 trillion shall be subject to the requirements when transacting with another covered entity (provided that its group notional exposure in uncleared derivatives exceeds the same threshold of S\$3.6 trillion).
- (d) From 1 September 2018 to 31 August 2019, any bank licensed under the Banking Act or any merchant bank approved under section 28 of the MAS Act who conducts regulated activities under the SFA, belonging to a group whose aggregate month-end average notional amount of uncleared

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<sup>25</sup> Refer to Annex E for the proposed phase-in implementation schedule.

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derivatives for March, April, and May of 2018 exceeds S\$2.4 trillion shall be subject to the requirements when transacting with another covered entity (provided that its group notional exposure in uncleared derivatives exceeds the same threshold of S\$2.4 trillion).

- (e) From 1 September 2019 to 31 August 2020, any bank licensed under the Banking Act or any merchant bank approved under section 28 of the MAS Act who conducts regulated activities under the SFA, belonging to a group whose aggregate month-end average notional amount of uncleared derivatives for March, April, and May of 2019 exceeds S\$1.2 trillion shall be subject to the requirements when transacting with another covered entity (provided that its group notional exposure in uncleared derivatives exceeds the same threshold of S\$1.2 trillion).
- (f) On a permanent basis (i.e. with effect from 1 September 2020), any bank licensed under the Banking Act or any merchant bank approved under section 28 of the MAS Act who conducts regulated activities under the SFA, belonging to a group whose aggregate month-end average notional amount of uncleared derivatives for March, April, and May of the year exceeds S\$13 billion shall be subject to the requirements described in this paper during the one-year period from 1 September of that year to 31 August of the following year when transacting with another covered entity (provided that its group notional exposure in uncleared derivatives exceeds the same threshold of S\$13 billion). Any bank licensed under the Banking Act or any merchant bank approved under section 28 of the MAS Act who conducts regulated activities under the SFA, belonging to a group whose aggregate month-end average notional amount of uncleared derivatives for March, April, and May of the year is less than S\$13 billion shall not be subject to the IM requirements described in this paper.

10.6 Similar to the phasing-in of VM, MAS proposes to provide a 6-month transition period from the respective IM commencement dates to provide sufficient time for MAS Covered Entities to be operationally ready for a smooth implementation of the requirements.

10.7 For the purposes of calculating the group aggregate month-end average notional amount for determining whether a covered entity shall be subject to the IM

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requirements described in this paper, all of the group's uncleared derivatives, including physically settled FX forwards and swaps, should be included.

10.8 The IM requirement shall apply to all new contracts entered into during the periods described above. IM for existing uncleared derivative contracts is not mandatory, but MAS Covered Entities are expected to prudently risk manage the risks arising from such contracts.

**Question 18.** MAS seeks comments on the proposed phase-in schedule for margin requirements to apply to MAS Covered Entities.

## 11 Impact Assessment

11.1 Given the interaction between the proposed margin requirements and liquidity requirements that have been implemented, MAS has conducted preliminary studies to assess the corresponding impact on Singapore-based financial institutions.

11.2 Participating institutions have generally reported sufficient eligible collateral to meet both the proposed margin and liquidity requirements. Where Singapore-based financial institutions reported shortfalls, such financial institutions have also indicated that collateral is managed on a centralised basis, and that resources would be made available by their respective head offices to meet any shortfall in available collateral.

11.3 To further understand the potential impact of the proposed margin rules, MAS will be engaging the industry to undertake another study of the impact of the proposed margin requirements.



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**Annex A**

**LIST OF QUESTIONS**

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- Specifically, MAS seeks comments on whether cash collateral denominated in certain liquid currencies (please specify currencies) should be subject to a lower FX mismatch

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haircut (please specify). If so, what criteria should be used in assessing the liquidity of these currencies? .....	16
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**Annex B****STANDARDISED INITIAL MARGIN SCHEDULE**

1 MAS Covered entities that have adopted the standardised method for the computation of IM shall reference the standardised margin rates in the table below and adjust the gross IM amount by an amount that relates to the net-to gross ratio (NGR) pertaining to all derivatives in the legally enforceable netting set.

<b>Asset Class</b>	<b>IM Requirement (% of Notional Exposure)</b>
Credit: 0–2 year duration	2
Credit: 2–5 year duration	5
Credit 5+ year duration	10
Commodity	15
Equity	15
Foreign exchange	6
Interest rate: 0–2 year duration	1
Interest rate: 2–5 year duration	2
Interest rate: 5+ year duration	4
Other	15

- 2 The required IM amount shall be calculated in two steps:
- The margin rate in the Annex B schedule shall be multiplied by the gross notional size of the derivative contract, and then this calculation shall be repeated for each derivative contract. This amount may be referred to as the gross standardised IM.
  - The gross standardised IM is adjusted by the ratio of the net current replacement cost to gross current replacement cost (NGR) by the following formula:

$$\text{Net standardised IM} = 0.4 * \text{Gross IM} + 0.6 * \text{NGR} * \text{Gross IM}$$

where NGR is defined as the level of net replacement cost over the level of gross replacement cost for transactions subject to legally enforceable netting agreements<sup>26</sup>.

- 3 As in the case where firms use quantitative models to calculate IM, uncleared derivatives for which a firm faces zero counterparty risk require no IM to be collected and may be excluded from the IM calculation.

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<sup>26</sup> In the absence of legally enforceable netting agreements, 2(b) does not apply. MAS Covered Entities should calculate the IM requirements using 2(a) only (i.e. on a gross basis).

## Annex C

## STANDARDISED HAIRCUT SCHEDULE

Asset Type <sup>27</sup>			Haircuts
Cash (in the same currency as the settlement currency)			0%
Gold			15%
Central bank and government issuers	Debt securities with credit ratings of AAA to AA- (or equivalent issue credit ratings) <sup>28</sup>	Residual maturity: ≤ 1 year	0.5%
		Residual maturity: > 1 year, ≤ 5 years	2%
		Residual maturity > 5 years	4%
	Debt securities with credit ratings of A+ to BBB- (or equivalent issue credit ratings) <sup>29</sup>	Residual maturity: ≤ 1 year	1%
		Residual maturity: > 1 year, ≤ 5 years	3%
		Residual maturity > 5 years	6%
Debt securities with credit ratings of BB+ to BB- (or equivalent issue credit ratings)	All maturities	15%	
Other issuers	Debt securities with credit ratings of AAA to AA- (or equivalent credit issue ratings) <sup>28</sup>	Residual maturity: ≤ 1 year	1%
		Residual maturity: > 1 year, ≤ 5 years	4%
		Residual maturity > 5 years	8%
	Debt securities with credit ratings of A+ to BBB- (or equivalent issue credit ratings) <sup>29</sup>	Residual maturity: ≤ 1 year	2%
		Residual maturity: > 1 year, ≤ 5 years	6%
		Residual maturity > 5 years	12%
Equity securities in a main index of a securities exchange in Singapore or recognised Group A <sup>30</sup> exchanges			15%
Haircut for currency mismatch between currency of the collateral and the settlement currency			8%

<sup>27</sup> Only external credit ratings from Fitch Ratings, Moody's Investors Services, and Standard and Poor's Ratings Services are recognised for the purposes of the standardised haircut schedule.

<sup>28</sup> For short-term issues, eligible credit ratings are F-1 / P-1 / A-1 for the respective credit rating agencies.

<sup>29</sup> For short-term issues, eligible credit ratings are F-2 and F-3 / P-2 and P-3 / A-2 and A-3 for the respective credit rating agencies.

<sup>30</sup> Group A exchanges are securities exchanges in the following countries: Australia, Austria, Belgium, Canada, France, Germany, Hong Kong, Italy, Japan, Malaysia (except Labuan), Netherlands, New Zealand, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, United Kingdom, United States.

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**Annex D**

**CONDITIONS FOR ONE-TIME RE-HYPOTHECATION, RE-PLEDGE AND RE-USE  
OF NON-CASH IM**

1 Cash and non-cash collateral collected as IM from a customer may be re-hypothecated, re-pledged or re-used (henceforth “re-hypothecated”) to a third party only for purposes of hedging the IM collector’s derivative positions arising out of transactions with customers for which IM was collected and it must be subject to conditions that protect the customer’s rights in the collateral, to the extent permitted by applicable national law. In this context, customers should only include “buy-side” financial firms as well as non-financial entities, but shall not include entities that regularly hold themselves out as making a market in derivatives, routinely quote bid and offer prices on derivative contracts and routinely respond to requests for bid or offer prices on derivative contracts. In any event, the customer’s collateral may be re-hypothecated only if the conditions described below are met:

- (a) The customer, as part of its contractual agreement with the IM collector and after disclosure by the IM collector of (i) its right not to permit re-hypothecation, and (ii) the risks associated with the nature of the customer’s claim to the re-hypothecated collateral in the event of the insolvency of the IM collector or the third party, gives express consent in writing to the re-hypothecation of its collateral. In addition, the IM collector must give the customer the option to individually segregate the collateral that it posts.
- (b) The IM collector is subject to regulation of liquidity risk.
- (c) Collateral collected as IM from the customer is treated as a customer asset, and is segregated from the IM collector’s proprietary assets until re-hypothecated. Once re-hypothecated, the third party must treat the collateral as a customer asset, and must segregate it from the third party’s proprietary assets. Assets returned to the IM collector after re-hypothecation must also be treated as customer assets and must be segregated from the IM collector’s proprietary assets.
- (d) The collateral of customers that have consented to the re-hypothecation of their collateral must be segregated from that of customers that have not so consented.

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- (e) Where IM has been individually segregated, the collateral must only be re-hypothecated for the purpose of hedging the IM collector's derivatives position arising out of transactions with the customer in relation to which the collateral was provided.
  - (f) Where IM has been individually segregated and subsequently re-hypothecated, the IM collector must require the third party similarly to segregate the collateral from the assets of the third party's other customers, counterparties and its proprietary assets.
  - (g) Protection is given to the customer from the risk of loss of IM in circumstances where either the IM collector or the third party becomes insolvent and where both the IM collector and the third party become insolvent.
  - (h) Where the IM collector re-hypothecates IM, the agreement with the recipient of the collateral (i.e. the third party) must prohibit the third party from further re-hypothecating the collateral.
  - (i) Where collateral is re-hypothecated, the IM collector must notify the customer of that fact. Upon request by the customer and where the customer has opted for individual segregation, the IM collector must notify the customer of the amount of cash collateral and the value of non-cash collateral that has been re-hypothecated.
  - (j) Collateral must only be re-hypothecated to, and held by, an entity that is regulated in a jurisdiction that meets all of the specific conditions contained in this section and in which the specific conditions can be enforced by the IM collector.
  - (k) The customer and the third party must not be within the same group.
  - (l) The IM collector and the third party must keep appropriate records to show that all the above conditions have been met.

3 The level and volume of re-hypothecation must be disclosed to MAS so that MAS is able to monitor any resulting risk.

## Annex E

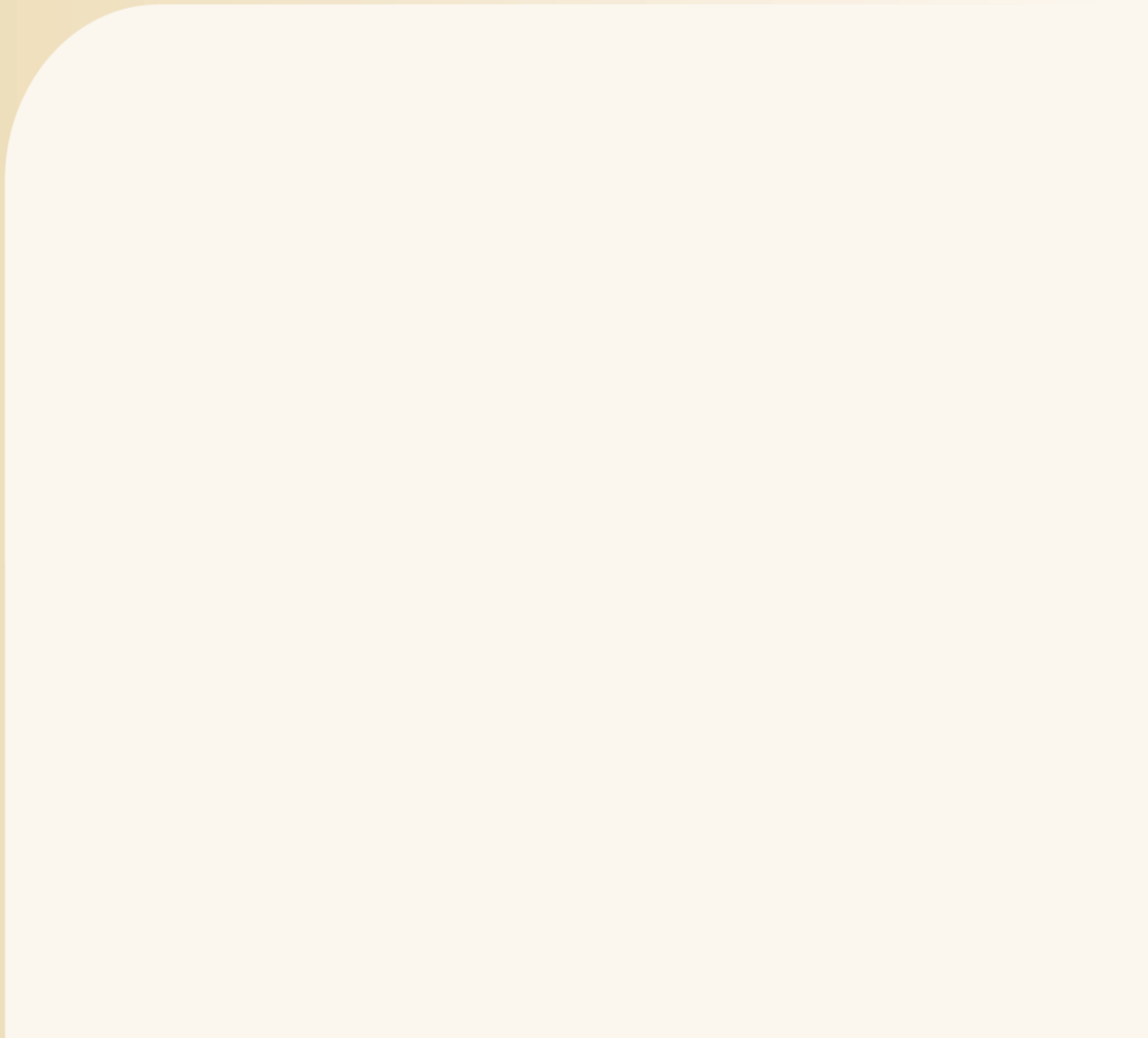
## PHASE-IN IMPLEMENTATION SCHEDULE

Obligation	MAS Covered Entity <sup>31</sup>	Belonging to Group Exceeding Phase-in Threshold	Commencement Date
Variation Margin (VM)	Commercial banks <sup>32</sup>	S\$4.8 trillion	1 Sep 2016
	All other commercial banks and merchant banks <sup>33</sup>	-	1 Mar 2017
Initial Margin (IM)	Commercial banks	S\$4.8 trillion	1 Sep 2016
	All other commercial banks and merchant banks	S\$4.8 trillion	1 Mar 2017
		S\$3.6 trillion	1 Sep 2017
		S\$2.4 trillion	1 Sep 2018
		S\$1.2 trillion	1 Sep 2019
		S\$13 billion	1 Sep 2020

<sup>31</sup> Refer to paragraph 3.3 for scope of "MAS Covered Entity". MAS will review the exemption threshold and commencement date for other licensed financial institutions listed in paragraph 3.3(c) at a later stage.

<sup>32</sup> Refers to any bank licensed under the Banking Act and conducts regulated activities under the SFA.

<sup>33</sup> Refers to any merchant bank approved under section 28 of the MAS Act who conducts regulated activities under the SFA.



Monetary Authority of Singapore