



Monetary Authority of Singapore

SECURITIES AND FUTURES ACT (CAP. 289)

**GUIDELINES ON MARGIN REQUIREMENTS FOR NON-
CENTRALLY CLEARED OTC DERIVATIVES CONTRACTS**

**GUIDELINES ON MARGIN REQUIREMENTS FOR NON-CENTRALLY CLEARED
DERIVATIVES CONTRACTS**

1 Purpose of the Guidelines

1.1 These Guidelines are issued by the Monetary Authority of Singapore (the “Authority”) pursuant to section 321 of the Securities and Futures Act (Cap. 289) (the “SFA”). The Guidelines set out the margin requirements for non-centrally cleared over-the-counter (“uncleared”) derivatives contracts.

1.2 These Guidelines take effect on 1 March 2017.

2 Definitions

2.1 For the purpose of these Guidelines, the following definitions apply:

“booked in Singapore”, in relation to an uncleared derivatives contract, means the entry of the uncleared derivatives contract on the balance sheet of a person –

- (a) who is a party to the uncleared derivatives contract; and
- (b) whose place of business for which the balance sheet relates to is in Singapore;

“local business day” means –

- (a) any day other than a Saturday, Sunday or public holiday in Singapore; or
- (b) any day within the meaning of a “business day” in the relevant agreements or contracts governing the uncleared derivatives contract;

“consolidation group” means all entities within the meaning of a consolidation group of the Singapore Financial Reporting Standards FRS 110: Consolidated Financial Statements or its equivalent accounting standards;

“derivatives contract” has the same meaning in section 2 of the SFA;¹

“exchange of margins” means –

- (a) posting and collecting of initial margin between counterparties to an uncleared derivatives contract;

¹ For avoidance of doubt, this does not include repurchase agreements and securities lending transactions.

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- (b) posting of variation margin with a counterparty to an uncleared derivatives contract; or
- (c) collecting of variation margin from a counterparty to an uncleared derivatives contract;

“securities-based derivatives contract” has the same meaning in section 2 of the SFA;

[Amended on 5 October 2018]

“Foreign Covered Entity” means a person operating outside Singapore who, if operating in Singapore, would have been a person within the meaning of an MAS Covered Entity;

“initial margin” or “IM” refers to the collateral that protects a counterparty to an uncleared derivatives contract from potential future exposure;

“netting agreement” means an arrangement where, upon a default or early termination by a party to the arrangement, the parties to the arrangement are contractually obligated to net the mark-to-market values of all uncleared derivatives contracts that are the subject of the arrangement;²

“MAS Covered Entity” means a person who is exempt from holding a capital markets services licence under section 99(1)(a) or (b)³ of the SFA;

“place of business”, in relation to a counterparty to an uncleared derivatives contract, means a head or main office, a branch, or any other office of the party;

“regulated exchange”, in relation to securities included in a stock main index, means an exchange approved, licensed or otherwise regulated by the Authority or by a financial services regulatory authority other than the Authority.

² For the avoidance of doubt, one or more credit support arrangements may support a netting agreement.

³ Section 99(1)(a) refers to any bank licensed under the Banking Act (Cap. 19) in respect of any regulated activity; and (1)(b) refers to any merchant bank approved as a financial institution under the Monetary Authority of Singapore Act (Cap. 186) in respect of any regulated activity which it is approved to carry out under that Act.

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“securitisation” means any transaction or scheme involving the tranching of credit risk associated with an exposure or a pool of exposures and which has all the following characteristics:

- (a) payments in the transaction or scheme depend on the performance of the exposure or pool of exposures;
- (b) the subordination of tranches determines the distribution of losses during the ongoing life of the transaction or scheme;
- (c) junior tranches can absorb losses without interrupting contractual payments to more senior tranches;

“uncleared derivatives contract” means a derivatives contract that is not, or is not intended to be, cleared or settled by a person operating a clearing facility through which parties to a contract substitute, through novation or otherwise, the credit of the person operating the clearing facility for the credit of the parties;

“variation margin” or “VM” refers to the collateral that protects the counterparties to an uncleared derivatives contract from current exposure.

3 Entity Scope

3.1 These Guidelines apply to MAS Covered Entities.

3.2 Subject to paragraphs 3.3 and 4.1, an MAS Covered Entity should undertake the exchange of margins with a counterparty to an uncleared derivatives contract if that counterparty is –

- (a) an MAS Covered Entity; or
- (b) a Foreign Covered Entity.

3.3 An MAS Covered Entity need not undertake exchange of margins –

- (a) if he is a person specified in Annex 1; or
- (b) if the uncleared derivatives contract is entered into with a counterparty who is –
 - (i) a person specified in Annex 1; or
 - (ii) an entity belonging to the same consolidation group as the MAS Covered Entity.

3.4 Prior to entering into an uncleared derivatives contract, an MAS Covered Entity should ensure that all the following are in place:

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- (a) confirmation from its counterparty whether it is an MAS Covered Entities or a Foreign Covered Entity⁴;
- (b) legally enforceable agreements in relation to the exchange of margins for the transactions;
- (c) appropriate policies, procedures and controls for dispute resolutions (including collateral valuation processes and escalation of material disputes to senior management, or to the Board, as may be appropriate);
- (d) rigorous and robust dispute resolution procedures as agreed with the counterparties.

4 Product Scope

4.1 Subject to paragraph 4.2, the exchange of margins applies to uncleared derivatives contracts booked in Singapore.

4.2 The exchange of margins does not apply to the following uncleared derivatives contracts:

- (a) a physically-settled foreign exchange (FX) forward or swap⁵;
- (b) a fixed physically settled FX transaction associated with the exchange of principal of a cross-currency swap⁶;
- (c) a commodity derivatives contract entered into for commercial purpose⁷;
- (d) an uncleared derivatives contract without a legally enforceable netting agreement;

⁴ An MAS Covered Entity may rely on its counterparties' declaration for this purpose, unless it has a reason to believe otherwise.

⁵ MAS Covered Entities are expected to appropriately manage the risks in accordance with the BCBS Supervisory Guidance for Managing Risks Associated with the Settlement of FX Transactions, February 2013 (<http://www.bis.org/publ/bcbs241.pdf>).

⁶ A cross-currency swap refers to a swap in which one party exchanges with another party principal and interest rate payments in one currency for principal and interest rate payments in another currency.

⁷ This refers to a derivatives contract with all of the following characteristics:

- (a) the contract is for the sale and purchase of one or more commodities for the purpose of fulfilling the needs of the day to day operations of the business of one or more of the parties of the contract, whether or not the contract contains some form of cash-settle option of a portion of the contract in specific agreed circumstances (referred to as the "settlement option");
- (b) subject to the settlement option, the seller of the underlying commodity has, under the terms of the contract, an obligation to deliver the underlying commodity;
- (c) subject to the settlement option, the buyer of the underlying commodity has, under the terms of the contract, an obligation to take physical delivery of the underlying commodity.

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- (e) an uncleared derivatives contract without a legally enforceable collateral arrangement as set out in paragraph 8.3; and
- (f) a securities-based derivatives contract⁸.

[Amended on 5 October 2018]

4.3 For the purpose of sub-paragraphs 4.2(d) and (e), an MAS Covered Entity should undertake a legal review and document the basis of determining a netting agreement⁹ or collateral arrangement as non-legally enforceable. Before determining that a collateral arrangement is not legally enforceable, the MAS Covered Entity should explore alternative arrangements to safeguard IM collateral, taking into account the legal constraints and the market practices of each relevant jurisdiction.

4.4 Notwithstanding the exclusions in paragraph 4.2, an MAS Covered Entity should appropriately manage its risk exposure in uncleared derivatives contracts in accordance with the Guidelines on Risk Management Practices.¹⁰

5 Exchange of Margins

5.1 In undertaking the exchange of margins, an MAS Covered Entity should exchange IM on a gross basis (i.e. no netting of IM amounts owing between counterparties).

5.2 An MAS Covered Entity may apply the following exclusions when undertaking the exchange of margins:

- (a) IM threshold of not more than \$80,000,000. This threshold is applied at the level of the consolidation group and is based on uncleared derivatives contracts subject to the provisions of these Guidelines between the two consolidation groups of the MAS Covered Entity and its counterparty respectively;

⁸ Until 31 August 2019.

⁹ The outcome and basis to be used for the purpose of these Guidelines should be consistent with the assessment by the MAS Covered Entity with respect to non-netting jurisdictions for regulatory capital purpose.

¹⁰ Financial institutions supervised by MAS are expected to establish a comprehensive risk management framework and adopt the practices set out in the Risk Management Guidelines (<http://www.mas.gov.sg/Regulations-and-Financial-Stability/Regulatory-and-Supervisory-Framework/Risk-Management.aspx>).

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- (b) De-minimis transfer amount of not more than \$800,000 for all margin (combination of IM and VM) transfers. If the de-minimis transfer amount is exceeded, the entire margin amount should be transferred.

5.3 An MAS Covered Entity should adhere to the following timings when undertaking the exchange of margins:

- (a) margin calls should be made at the earliest time possible after the transaction date (“T”) or margin recalculation date (“R”), but no later than the end of the next local business day (“T+1” or “R+1”);
- (b) the exchange of margins should take place within the standard settlement cycle for the relevant collateral type but no later than three local business days from the transaction date (“T+3”) or from the day that margins have to be recalculated (“R+3”).

6 Margin Calculations and Methodologies

Initial Margin (IM)

6.1 The amount of IM to be exchanged should be calculated by reference to either –

- (a) a quantitative portfolio margin model; or
- (b) a standardised margin schedule outlined in Annex 2.

6.2 An MAS Covered Entity may opt for either approach, and not restrict itself to one approach for all its uncleared derivatives contracts. However, the MAS Covered Entity should be consistent in its approach for all contracts within the same well-defined asset class, and reasons for the approach should be based on fundamental considerations, such as differing models approved in foreign jurisdictions or the inability of certain counterparties to use certain models or approaches.

6.3 IM should be exchanged on a routine and consistent basis upon changes in measured potential future exposure. At a minimum, IM should be calculated and exchanged in each of the following circumstance:

- (a) a new contract is executed with a counterparty;
- (b) an existing contract with a counterparty terminates or expires;
- (c) occurrence of a significant market disruption;
- (d) the IM model (if applicable) is recalibrated;
- (e) changes to the asset classification of existing trades (if they are computed under the standardised approach);

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- (f) no IM recalculation has been performed in the last 10 local business days.
- 6.4 Prior to execution of the transaction, the MAS Covered Entity should agree with its counterparty, in writing or other equivalent permanent electronic means, the specific margin calculation method and if applicable, the quantitative portfolio margin model to be used.
- 6.5 In the event that a margin dispute arises, any non-disputed amount should first be exchanged, while disputes are investigated, documented, and all necessary and appropriate efforts, including timely initiation of dispute resolution protocols, are taken to resolve the dispute and collect the remaining required amount of IM in a timely fashion.
- 6.6 Quantitative portfolio margin models may either be internally-developed or developed by a third party. Where third-party models are being used, the responsibility for ensuring compliance with these Guidelines remains with the MAS Covered Entity.
- 6.7 Any quantitative portfolio margin model should be appropriately risk-sensitive, capture all material risk drivers and reflect the nature, scale and complexity of the risks inherent in the underlying derivatives for which IM is being calculated. Such risks should include, where applicable, material drivers arising from correlation risks, basis risks, idiosyncratic risk for credit underlying and main non-linear dependencies. The model should also account for, in a conservative manner, the risk arising from illiquid positions or positions with limited price transparency.
- 6.8 MAS Covered Entities should adhere to the conditions set out below.

Notification to MAS

- (a) Before using a quantitative portfolio margin model, an MAS Covered Entity should provide to MAS the relevant documentation, which includes the model methodology, model specifications and validation reports, to demonstrate that the model satisfies all model standards in these Guidelines. MAS may stipulate further testing or improvements to the model for continued usage of the model.
- (b) Before making any subsequent material changes to an existing model, an MAS Covered Entity should provide to MAS relevant

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documentation to show that the revised model would continue to comply with these Guidelines.

- (c) If a model ceases to comply with these Guidelines, an MAS Covered Entity should notify MAS that it will compute the required IM amount using the standardised schedule outlined in Annex 2;

Internal Governance Process

- (d) An MAS Covered Entity should subject a quantitative portfolio margin model to independent validation before use (and annually thereafter).
- (e) An MAS Covered Entity should undertake continual assessment on a model's compliance with these Guidelines, including assessing the value of the model's risk assessments and validating the applicability of the model to the uncleared derivatives contracts for which it is being used.
- (f) An MAS Covered Entity should subject a model to a regular back-testing programme – testing the model's assessments against realised data and experience – to monitor the performance of the model. Adequate documentation of the back-testing should be maintained, which should include the back-testing methodology, back-testing results, and policies for remediation of the model.
- (g) An MAS Covered Entity should recalibrate a quantitative margin model at least annually. There should be written recalibration policies which include circumstances that would trigger an earlier recalibration, such as changing market conditions.
- (h) Senior management of an MAS Covered Entity should ensure ongoing compliance of a model with these Guidelines, review the back-testing and validation of the model at least once a year, and decide the course of action that would be taken to address model compliance issues.

6.9 IM calculated under the quantitative portfolio margin model should meet all the following standards:

- (a) a one-tailed 99 per cent confidence interval over a margin period of risk (MPOR) of at least 10 days¹¹ to reflect an extreme but plausible

¹¹ 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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estimate of an increase in the value of the uncleared derivatives contracts;

- (b) the MPOR of a netting set for the calculation of IM using an IM model should include –
 - (i) the period that may elapse from the last margin exchange to the default of the counterparty; and
 - (ii) the estimated period needed to replace the derivatives contracts or hedge the risks taking into account the level of liquidity, the total volume of the derivatives contracts, and the number of participants in that market where that type of contracts or risks are traded;
- (c) the IM model should be calibrated based on historical data of not more than five years, which incorporates a period of significant financial stress to ensure sufficient margin during stress; the period of financial stress should be identified and applied separately for each broad asset class for which portfolio margining is allowed;
- (d) data within the identified period should be equally weighted for calibration purposes.

6.10 Quantitative IM models may account for risk on a portfolio basis subject to the following conditions:

- (a) IM models may consider all uncleared derivatives contracts that are agreed for model use and are subject to the same legally enforceable netting agreement;
- (b) IM models may account for diversification, hedging and risk offsets within well-defined asset classes such as currency/rates¹², equity, credit, or commodities, but not across such asset classes, and provided these instruments are covered by the same legally enforceable netting agreement (i.e. the total IM amount required is a simple summation of IM requirements at each underlying asset class);

¹² Currency and interest rate derivatives contracts may be portfolio margined together as being part of a single asset class for the purposes of MAS' margin requirements.

¹³ For the avoidance of doubt, securitisations are not included in the scope of debt securities for the purposes of eligible collateral.

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- (c) uncleared derivatives contracts for which a firm faces zero counterparty risk require no IM to be collected and may be excluded from the IM calculation.

Variation Margin (VM)

- 6.11 VM should be posted or collected to fully collateralise the changes in the mark-to-market exposure of the uncleared derivatives contracts entered into by an MAS Covered Entity. In the event that the exposures cannot be marked-to-market due to market conditions, MAS Covered Entities may use an alternative process or approach.
- 6.12 VM should be calculated and collected on an aggregate net basis across all uncleared derivatives contracts, subject to the provisions of these Guidelines, that are executed under a single, legally enforceable netting agreement.
- 6.13 In the event that a margin dispute arises, MAS Covered Entities should first collect the non-disputed amount while taking all necessary and appropriate efforts, including timely initiation of dispute resolution protocols to resolve the dispute and collect the remaining VM amount in a timely fashion.

7 Eligible Collateral and Haircuts

Eligible Collateral

- 7.1 For the purpose of these Guidelines, the following are eligible collateral to meet IM and VM requirements:
 - (a) cash;
 - (b) gold;
 - (c) any debt securities – ¹³
 - (i) with an original maturity of one year or less that has a credit quality grade of “III” or better as set out in Table 4 in Annex 3; or
 - (ii) with an original maturity of more than one year that has a credit quality grade of “4” or better as set out in Table 3 in Annex 3 if it is issued by a central government or central bank, or a credit quality grade of “3” or better as set out in Table 3 in Annex 3 if it is issued by any other entity;

¹³ For the avoidance of doubt, securitisations are not included in the scope of debt securities for the purposes of eligible collateral.

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- (d) any equity security (including convertible bonds) included in a main stock index of a regulated exchange;
- (e) any unit in a collective investment scheme where –
 - (i) a price for the units is publicly quoted daily; and
 - (ii) the collective investment scheme is limited to investing in the instruments listed in this paragraph.

7.2 An MAS Covered Entity should determine whether a stock index qualifies as a main stock index for the purpose of sub-paragraph 7.1(d). In making this determination, the MAS Covered Entity should ensure that equities included in the stock index are highly liquid and able to hold their value in a time of financial stress, after accounting for collateral haircuts. The MAS Covered Entity should be able to liquidate such equity collateral within a reasonable amount of time and the proceeds should sufficiently protect the MAS Covered Entity from losses on uncleared derivatives contracts in the event of a counterparty default.

7.3 Notwithstanding the list of eligible collateral set out in paragraph 7.1, an MAS Covered Entity should not include specific types of collateral as eligible collateral in cases where –

- (a) the MAS Covered Entity determines that it would not be able to liquidate such collateral in a timely manner in case of default of the posting counterparty; or
- (b) the securities are issued by the MAS Covered Entity (or its related entities¹⁴) or a counterparty (or its related entities).

Haircuts

7.4 An MAS Covered Entity should perform daily valuation of collateral exchanged to meet IM and VM requirements and apply haircuts to the value of the eligible collateral, to account for the fact that certain collateral may not be readily liquidated at full value at the time of counterparty default (or

¹⁴ Related entities refer to –

- (a) for an MAS Covered Entity incorporated in Singapore – entities within the same consolidation group for the purpose of Singapore Financial Reporting Standards FRS 110: Consolidated Financial Statements; and
- (b) for an MAS Covered Entity incorporated outside Singapore – entities within the same consolidation group based on the applicable accounting standards in the place of its incorporation, formation or establishment.¹⁵ This refers to the applicable individual derivatives contract, a legally enforceable master netting agreement, or a credit support agreement.

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termination of contracts or any other specified events), particularly during a period of financial stress.

7.5 An MAS Covered Entity should apply standardised schedule-based haircuts (set out in Annex 4), based on the type of collateral posted or received, to the value of eligible collateral for the purpose of meeting margin requirements. Internal or third party quantitative model-based haircuts should not be used for determining the haircuts to be applied to the value of eligible collateral.

7.6 For the purpose of meeting VM requirements, an MAS Covered Entity should apply an additive currency mismatch haircut of 8% to all non-cash collateral that is posted or received in a currency other than the ones agreed in the relevant contract.¹⁵

[Amended on 5 October 2018]

7.7 For the purpose of meeting IM requirements, an MAS Covered Entity should apply an additive currency mismatch haircut of 8% to all cash and non-cash collateral that is posted or received in a currency other than the termination currency that the counterparty which has posted the collateral has designated in the relevant contract.¹⁴ Each counterparty may specify one termination currency, such that there should be a maximum of two termination currencies between both counterparties.

8 Managing Collateral Risks

8.1 To manage risks associated with collateral exchanged to meet IM and VM requirements, an MAS Covered Entity should ensure that –

- (a) 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 is not undermined (i.e. “wrong way risk”);
- (b) policies, procedures and controls are established to ensure that the collateral collected is reasonably diversified, and is not overly concentrated in an individual issuer, issuer type or asset type; and
- (c) in the event of a dispute over the value of eligible collateral, any undisputed amount should first be exchanged while all necessary and

¹⁵ This refers to the applicable individual derivatives contract, a legally enforceable master netting agreement, or a credit support agreement.

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appropriate efforts are being undertaken (including timely initiation of dispute resolution protocols) to resolve the dispute and exchange the disputed margin in a timely fashion.

- 8.2 An MAS Covered Entity may substitute the collateral that has been posted or received for IM or VM purposes, subject to meeting the following conditions:
- (a) consent from its counterparty is obtained and is supported by the relevant contracts;
 - (b) the substituted collateral meets all the requirements (including the applicable haircuts) set out in these Guidelines.

Safekeeping of IM

- 8.3 Subject to conditions as set out in Annex 5, an MAS Covered Entity should ensure that the IM collected from counterparties is maintained in a manner such that –
- (a) IM collected is available to the collecting party on a timely basis, where legally possible,¹⁶ following a default or early termination by the posting party;
 - (b) IM collected is segregated from the proprietary moneys and assets of the collecting party (or held with an independent third party custodian) under trust or custody account arrangement to address the insolvency risk of the collecting party; and
 - (c) IM collected is subject to legally enforceable collateral arrangements that protect the posting party to the extent possible under applicable law in the event that the collecting party enters insolvency or bankruptcy.

[Amended on 5 October 2018]

- 8.4 An MAS Covered Entity may re-hypothecate, re-pledge or re-use the non-cash IM collected from counterparties subject to meeting the conditions as set out in Annex 5.
- 8.5 Subject to the prior written consent of the counterparty, the MAS Covered Entity may re-invest cash IM collected from the counterparty into eligible

¹⁶ There may be jurisdictions where a resolution authority has powers to impose a stay on termination rights or other restrictions on collateral held in relation to an uncleared derivatives contract, such that it becomes not legally possible to make the IM available to a collecting party. Where such legal limitations exist, the IM should be made available to the collecting party as soon as the relevant restriction is lifted by the authority.

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collateral provided that the re-invested cash IM (after application of the relevant haircuts) meets the provisions set out in these Guidelines and Annex 5.

9 Deemed Compliance

- 9.1 An MAS Covered Entity, or its cross-border derivatives transactions, may be subject to margin requirements in a foreign jurisdiction. The Authority may deem that an MAS Covered Entity is in compliance with the requirements in these Guidelines if –
- (a) the margin requirements in the foreign jurisdiction are assessed to be comparable to the requirements in these Guidelines; and
 - (b) the MAS Covered Entity can demonstrate that it has complied with the margin requirements of that foreign jurisdiction.

- 9.2 In considering whether the margin requirements in a foreign jurisdiction are comparable, the Authority would have regard to whether the framework in the foreign jurisdiction is implemented in line with the policy framework on Margin Requirements for Non-Centrally Cleared Derivatives issued by the Basel Committee for Banking Supervision (BCBS) and International Organization of Securities Commissions (IOSCO). The Authority may impose additional conditions to be met by an MAS Covered Entity intending to comply with the margin requirements of specific foreign jurisdictions.

10 Implementation Schedule

Commencement of Exchange of Variation Margin

- 10.1 An MAS Covered Entity should commence the exchange of VM in respect of uncleared derivatives contracts transacted with a counterparty that is an MAS Covered Entity or a Foreign Covered Entity from 1 March 2017.

Commencement of Exchange of Initial Margin

- 10.2 An MAS Covered Entity should commence the exchange of IM in respect of uncleared derivatives contracts entered into with a counterparty that is an MAS Covered Entity or a Foreign Covered Entity from the phase-in dates specified in Table 1. The exchange of IM applies from each phase-in date where both the MAS Covered Entity and the counterparty each belong to a

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consolidation group whose aggregate notional amount of uncleared derivatives contracts exceeds the respective thresholds.¹⁷

Table 1: Phased-in schedule for the exchange of IM

Threshold	Phase-in Date
\$4.8 trillion	1 March 2017
\$3.6 trillion	1 September 2017
\$2.4 trillion	1 September 2018
\$1.2 trillion	1 September 2019
\$13.0 billion	From 1 September 2020 for each subsequent 12-month period

10.3 For the purpose of paragraphs 10.1 and 10.2 –

- (a) these Guidelines should apply to new uncleared derivatives contracts^{18, 19} entered into after the respective phase-in date that applies to an MAS Covered Entity. For the avoidance of doubt, the MAS Covered Entity is not required to exchange VM and IM for other contracts²⁰ entered into prior to the commencement of the scheduled phase-in date; and
- (b) computation of the average aggregate notional amount of uncleared derivatives contracts is –
 - (i) the total uncleared derivatives exposure of all entities within a consolidation group, excluding intra-group transactions;
 - (ii) a simple average of the outstanding total month-end gross notional amount of uncleared derivatives exposure for March, April and May preceding the commencement from each phase-in date;
 - (iii) including the uncleared derivatives contracts with any person referred to in Annex 1; and

¹⁷ The exchange of IM is not required if either the MAS Covered Entity or the counterparty does not exceed the threshold during the phase-in date.

¹⁸ Genuine amendments to existing derivatives contracts do not qualify as a new derivatives contract. These include transactions arising from portfolio compression of existing derivatives contracts entered into before the commencement of these Guidelines.

¹⁹ Where a new uncleared derivatives contract is subject to the provisions of these Guidelines at inception, the provisions should apply until the expiry or termination of the contract.

²⁰ An MAS Covered Entity is expected to prudently manage the relevant risks arising from uncleared derivatives contracts for which the MAS Covered Entity is not required to exchange VM and IM.

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- (iv) including the uncleared derivatives contracts in paragraph 4.2 of these Guidelines.

11 Keeping of Books and Other Information

11.1 An MAS Covered Entity should ensure that all relevant books, and all transaction information and related information for the purposes of these Guidelines, are kept –

- (a) in the case of any relevant book, until at least five years after the last date of the expiry or termination of a contract, an agreement or a transaction to which the book relates; or
- (b) in the case of any transaction information or related information, until at least five years after the date of the expiry or termination of the contract, agreement or transaction to which the information relates.

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Annex 1

1. The Government
2. Any statutory board established under any written law
3. Any central bank in a jurisdiction other than Singapore
4. Any central government in a jurisdiction other than Singapore
5. Any agency (of a central government in a jurisdiction other than Singapore) that is incorporated or established, in a jurisdiction other than Singapore, for non-commercial purposes
6. Any of the following multilateral agencies, organisations or entities:
 - (a) the African Development Bank
 - (b) the Asian Development Bank
 - (c) the Asian Infrastructure Investment Bank
 - (d) the Bank for International Settlements
 - (e) the Caribbean Development Bank
 - (f) the Council of Europe Development Bank
 - (g) the European Bank for Reconstruction and Development
 - (h) the European Economic Community
 - (i) the European Investment Bank
 - (j) the European Investment Fund
 - (k) the Inter-American Development Bank
 - (l) the International Finance Facility for Immunisation
 - (m) the International Monetary Fund
 - (n) the Islamic Development Bank
 - (o) the Nordic Investment Bank
 - (p) the World Bank Group, including the International Bank for Reconstruction and Development, the International Finance Corporation and the Multilateral Investment Guarantee Agency

[Amended on 5 October 2018]

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7. Any MAS Covered Entity or Foreign Covered Entity whose aggregate month-end average notional amount of uncleared derivatives contracts booked in Singapore for March, April and May of the year does not exceed \$5,000,000,000. In the event that the aggregate month-end average of either the MAS Covered Entity or Foreign Covered Entity for the three months is \$5,000,000,000 and above, an MAS Covered Entity should, in accordance with these Guidelines, commence the exchange of margins for new uncleared derivatives contracts entered into from 1 September of the year.²¹ For the avoidance of doubt, all outstanding uncleared derivatives transactions (including intragroup transactions) that are not subject to the provisions of these Guidelines should be included in the calculation of the threshold.

[Amended on 5 October 2018]

²¹ Footnotes 16 and 17 apply.

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Annex 2

Calculation of Initial Margin

1. The *net standardised IM* amount calculated is set out in the paragraphs below.
2. For each netting agreement, the required initial margin amount should be calculated in the following steps:

Step 1: For each derivatives contract of the asset class, the gross notional size of the derivatives contract should be multiplied by the margin rate in Table 2.

Step 2: This amount is then summed across all asset classes in the same netting agreement to obtain the *gross standardised IM* amount. Simple netting of notional amounts where contracts are matched by the same underlying and maturity is allowed²².

Step 3: The gross standardised IM amount is then adjusted by the ratio of the net replacement cost to gross replacement cost (NGR). This is expressed through the following formula:

$$\text{Net standardised IM} = (0.4 + 0.6 \times \text{NGR}) \times \text{gross standardised IM}$$

3. The net replacement cost is the sum of all positive and negative mark-to-market values of all derivatives contracts in the same netting agreement. The net replacement cost is floored at zero.
4. The gross replacement cost is the sum of the mark-to-market values of all derivatives contracts with a positive mark to-market value in the same netting agreement.

²² As an example, a pay-fixed-interest-rate swap with a maturity of three years and a notional of \$100,000,000 could be netted against another pay-floating-interest-rate swap with a maturity of three years and a notional of \$50,000,000 to arrive at a single notional of \$50,000,000, to which the appropriate margin rate would be applied. Derivatives with different fundamental characteristics such as the underlying, maturity etc. may not be netted against each other.

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Table 2: Standardised Initial Margin Schedule

Asset Class		Initial Margin Requirement (% of Notional Exposure)
Credit	Residual maturity: 0 - 2 year	2
	Residual maturity: 2 - 5 years	5
	Residual maturity: > 5 years	10
Commodity		15
Equity		15
Foreign Exchange		6
Interest rate	Residual maturity: 0 - 2 year	1
	Residual maturity: 2 - 5 years	2
	Residual maturity: > 5 years	4
Others		15

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Annex 3

Credit Quality Grades
Table 3: Credit Quality Grades and External Credit Assessment Institution (ECAIs) for Debt Securities with Original Maturities Exceeding One Year

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

Table 4: Credit Quality Grades and ECAIs for Debt Securities with Original Maturities of One Year or Less

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

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Standardised Haircut Schedule

Asset Type		Haircuts		
Cash		0%		
Gold		15%		
Issued by Central Governments or Central Banks	Debt securities with a credit quality grade of "1" or short-term credit quality grade of "1"	Residual maturity: ≤ 1 year	0.5%	
		Residual maturity: > 1 year, ≤ 5 years	2%	
		Residual maturity: > 5 years	4%	
	Debt securities with a credit quality grade of "2" or "3" or short-term credit quality grade of "II" or "III"	Residual maturity: ≤ 1 year	1%	
		Residual maturity: > 1 year, ≤ 5 years	3%	
		Residual maturity: > 5 years	6%	
	Debt securities with a credit quality grade of "4"	All maturities	15%	
	Issued by Financial Institutions ²³	Debt securities with a credit quality grade of "1", "2" or "3" or short-term credit quality grade of "I", "II" or "III"	All maturities	20%
		Equity securities (including convertible bonds) in a main stock index of a regulated exchange		35%
Issued by Other issuers	Debt securities with a credit quality grade of "1" or short-term credit quality grade of "I"	Residual maturity: ≤ 1 year	1%	
		Residual maturity: > 1 year, ≤ 5 years	4%	
		Residual maturity: > 5 years	8%	
	Debt securities with a credit quality grade of "2" or "3" or short-term credit quality grade of "II" or "III"	Residual maturity: ≤ 1 year	2%	
		Residual maturity: > 1 year, ≤ 5 years	6%	
		Residual maturity: > 5 years	12%	
Equity securities (including convertible bonds) included in a main stock index of a regulated exchange		15%		
Any unit in a collective investment scheme		Higher of 25% or the highest haircut applicable to any security in which the fund can invest		
Additive haircut for currency mismatch between currency of the collateral and the currencies as agreed in the relevant contract, including termination currencies (does not apply to cash variation margin)		8%		

²³ Debt and equity securities issued by financial institutions are subject to higher haircuts to address the possible wrong way risk associated with such entities.

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- 4.1 Where a debt security has two external credit ratings that map into different credit quality grades, an MAS Covered Entity should use the higher of the haircuts associated with the two credit quality grades. Where a debt security has three external credit ratings which map into two or more different credit quality grades, an MAS Covered Entity should use the higher of the two lowest haircuts associated with the applicable credit quality grades.
- 4.2 For the purpose of this Annex, “financial institution” means an entity the principal activity of which is to carry on business in one or more of the following activities:^{24,25}
- (a) banking business;
 - (b) insurance business;
 - (c) dealing or trading in securities, exchange-traded derivatives, or OTC derivatives, whether as an agent or on a proprietary basis;
 - (d) foreign exchange trading and leveraged foreign exchange trading, whether as an agent or on a proprietary basis;
 - (e) advising on corporate finance;
 - (f) fund management;
 - (g) real estate investment trust management;
 - (h) securities financing;
 - (i) providing custodial services;
 - (j) operating an exchange, trading system or market;
 - (k) providing central counterparty services;
 - (l) operating a payment system, securities depository, securities settlement system or trade repository;
 - (m) providing financial advisory services;
 - (n) insurance broking;
 - (o) trust business;
 - (p) money broking;
 - (q) money-changing business;
 - (r) remittance business;
 - (s) lending;
 - (t) factoring;
 - (u) leasing;

²⁴ This includes a financial holding company which is a non-operating company that holds as a subsidiary, a banking institution or an insurance subsidiary.

²⁵ For avoidance of doubt, this includes any entity that is approved, licensed, registered or otherwise regulated by the Authority, or any foreign entity that carries out activities which, if carried out in Singapore, would have to be approved, licensed, registered or otherwise regulated by the Authority.

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- (v) provision of credit enhancements;
- (w) securitisation;
- (x) such other business that the Authority may specify from time-to-time.

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Annex 5

Treatment of IM Collected

1 IM collected for uncleared derivatives contracts

1.1 The MAS Covered Entity should treat and deal with the IM collected as belonging to that counterparty who posted it. In particular, the MAS Covered Entity should –

- (a) ensure that the IM collected is held in a trust or custody account or in any other account directed by the counterparty that addresses insolvency risks of the collecting party; and
- (b) not commingle the IM received with its own moneys or assets, or use the IM as margin or guarantee for, or to secure any transaction of, or to extend the credit of, any person other than that counterparty.

1.2 The MAS Covered Entity should provide a counterparty with the option to segregate their IM collected from the moneys and assets of all the other counterparties. For the avoidance of doubt, IM collected from a counterparty may be operationally commingled with other customers but segregated from the MAS Covered Entity's own moneys and assets as a safeguard against the collecting party's insolvency risk.

2 Maintenance of trust account or custody account to deposit IM collected

2.1 The MAS Covered Entity should maintain the IM collected in a trust account or custody account with any of the following financial institutions, as the case may be:

- (a) a bank licensed under the Banking Act (Cap. 19);
- (b) a merchant bank approved as a financial institution under the Monetary Authority of Singapore Act (Cap. 186);
- (c) a finance company licensed under the Finance Companies Act (Cap. 108);

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- (d) a depository agent within the meaning of section 81SF of the SFA for the custody of securities listed for quotation or quoted on the Singapore Exchange Securities Trading Limited or deposited with The Central Depository (Pte) Ltd;
 - (e) an approved trustee for a collective investment scheme within the meaning of section 289 of the SFA;
 - (f) any person licensed under the SFA to provide custodial services for securities;
 - (g) any person which is licensed, registered or authorised to conduct banking or custodian business in the country or territory (other than Singapore) where the account is maintained.
- 2.2 The MAS Covered Entity should conduct due diligence on the specified financial institution in paragraph 2.1 of this Annex where the IM collected is held before opening the trust account or custody account and on a periodic basis. In its due diligence, the MAS Covered Entity should assess the specified financial institution's suitability to safekeep the IM collected, including whether all IM deposited in the trust account are held on trust or custody for its counterparty and the specified financial institution cannot exercise any right of set-off against the IM for any debt owed by the MAS Covered Entity to the specified financial institution. The MAS Covered Entity should maintain records and documentation of the due diligence assessments.

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3 Withdrawal of IM collected from trust account or custody account

3.1 The MAS Covered Entity should not withdraw any IM from a trust account or custody account except in any of the following circumstance:

- (a) making a payment or delivery to any person entitled thereto;
- (b) making a payment to meet an obligation of a counterparty whose IM is deposited in that account, being an obligation that arises from any uncleared derivatives contracts trading by the MAS Covered Entity for the counterparty;
- (c) making a payment or delivery to any other person or account in accordance with the written direction of the counterparty;
- (d) making a payment or withdrawal to any other person that is authorised by law.

4 Interest arising from trust account or custody account, etc.

4.1 Subject to any agreement between the MAS Covered Entity and its counterparty, all interest earned or distributions received from the IM collected in a trust account or custody account should accrue to the counterparty.

4.2 The MAS Covered Entity should take all reasonable steps to ensure that the interest and distributions accrued to the counterparty in paragraph 4.1 of this Annex are paid to or held for the benefit of the counterparty, as the case may be.

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5 Re-hypothecate, re-pledge, or re-use of non-cash IM collected from counterparty

5.1 The MAS Covered Entity may re-hypothecate, re-pledge, or re-use (collectively referred to “re-hypothecate”) non-cash IM collected from a counterparty to a third party provided that all the following conditions are fulfilled:

- (a) the counterparty is a buy side financial firm or non-financial entity but is not an entity that regularly holds itself out as making a market in derivatives, routinely quote bid and offer prices on derivatives contracts and routinely respond to requests for bid or offer prices on derivatives contracts;
- (b) the counterparty, as part of its contractual agreement with the MAS Covered Entity and after disclosure by the MAS Covered Entity of (i) its right not to permit re-hypothecation, and (ii) the risks associated with the nature of the counterparty’s claim to the re-hypothecated collateral in the event of the insolvency of the MAS Covered Entity or the third party, gives express consent in writing to the re-hypothecation of its collateral. In addition, the MAS Covered Entity should give the counterparty the option to individually segregate the collateral that it posts;
- (c) the MAS Covered Entity is subject to the regulatory requirements of MAS Notice 649 or MAS Notice 1015;
- (d) IM collected from the counterparty is treated as a customer asset, and is segregated from the MAS Covered Entity’s proprietary assets until re-hypothecated. The MAS Covered Entity, should ensure that, once re-hypothecated, the third party should treat the collateral as a customer asset, and should segregate it from the third party’s proprietary assets. Assets returned to the MAS Covered Entity after re-hypothecation should also be treated as customer assets and should be segregated from the MAS Covered Entity’s proprietary assets;
- (e) the IM of counterparties that have consented to the re-hypothecation of their collateral should be segregated from that of counterparties that have not so consented;
- (f) where IM has been individually segregated, the collateral should only be re-hypothecated for the purpose of hedging the MAS Covered

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Entity's derivatives position arising out of transactions with the counterparty in relation to which the collateral was provided;

- (g) where IM has been individually segregated and subsequently re-hypothecated, the MAS Covered Entity should require the third party similarly to segregate the collateral from the assets of the third party's other customers, counterparties and its proprietary assets;
- (h) protection is given to the counterparty from the risk of loss of IM in circumstances where either the MAS Covered Entity or the third party becomes insolvent or where both the MAS Covered Entity and the third party become insolvent;
- (i) where the MAS Covered Entity re-hypothecates IM, the agreement with the recipient of the collateral (i.e. the third party) should prohibit the third party from further re-hypothecating the collateral;
- (j) where collateral is re-hypothecated, the MAS Covered Entity should notify the counterparty of that fact. Upon request by the counterparty and where the counterparty has opted for individual segregation, the MAS Covered Entity should notify the counterparty of the value of non-cash collateral that has been re-hypothecated;
- (k) collateral should 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 Annex and in which the specific conditions can be enforced by the MAS Covered Entity;
- (l) the counterparty and the third party should not be within the same group;
- (m) the MAS Covered Entity, counterparty and the third party should keep appropriate records to show that all the above conditions have been met.

5.2 The MAS Covered Entity should notify the Authority before re-hypothecating the IM collected, and provide a confirmation that all the conditions in paragraph 5.1 of this Annex have been met.

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5.3 The MAS Covered Entity should document and maintain information relating to the re-hypothecation²⁶, and monitor and manage the risks associated with such activities. The MAS Covered Entity should also engage an independent party to review the fulfilment of the conditions in paragraph 5.1 of this Annex, and accuracy of the records to be maintained in this paragraph, at least on an annual basis.

6 Re-investing of cash IM collected

6.1 The MAS Covered Entity may re-hypothecate the re-invested cash IM subject to the conditions set out in paragraph 5.1 of this Annex.

²⁶ For example, identity of counterparty that has consented to the re-hypothecation of his collateral, type and amount of collateral collected from each counterparty, type and amount of collateral consented for re-hypothecation from each counterparty, type and amount of collateral re-hypothecated, date of collateral re-hypothecation performed, identity of third-party to whom each counterparty's collateral is re-hypothecated, balance of each counterparty's collateral type/amount available for future one-time re-hypothecation, last desktop/full valuation (of collateral) review date, etc.