HONG KONG MONETARY AUTHORITY
香港金融管理局

Supervisory Policy Manual		
CR-G-14	**Non-centrally Cleared OTC Derivatives Transactions – Margin and Other Risk Mitigation Standards**	V.2 – 11.09.20

This module should be read in conjunction with the Introduction and Glossary. The Glossary contains an explanation of abbreviations and other terms used in this Manual. If reading on-line, click on blue underlined headings to activate hyperlinks to the relevant module.

Purpose

To set out minimum standards that the HKMA expects AIs to adopt in relation to margin and other risk mitigation techniques for non-centrally cleared over-the-counter (OTC) derivatives transactions.

Classification

A statutory guideline issued by the MA under §7(3) of the Banking Ordinance.

Previous guidelines superseded

CR-G-14 "Non-centrally Cleared OTC Derivatives Transactions – Margin and Other Risk Mitigation Standards" (V.1) dated 27.01.2017.

Application

To all AIs.

Structure

1. Introduction

1.1 Terminology

1.1.1 For the purposes of this module, the following definitions apply:

Definition of entities

Covered entity means a financial counterparty, a significant non-financial counterparty, or another entity designated by the MA[1], but excludes a sovereign[2], central bank[3], public sector entity[4], multilateral development bank[5], and the Bank for International Settlements.

Financial counterparty refers to any entity for a one-year period from 1 September each year to 31 August of the following year, if the entity itself or the group to which it belongs has an average aggregate notional amount of non-centrally cleared derivatives exceeding HKD 15 billion (calculated pursuant to paragraph 2.4.9) and means

(i) an authorized institution (AI);

(ii) a corporation licensed by the Securities and Futures Commission (SFC) under the Securities and Futures Ordinance (Cap 571) for any of the following types of regulated activities:

- Type 1: Dealing in securities
- Type 2: Dealing in futures contracts
- Type 3: Leveraged foreign exchange trading
- Type 4: Advising on securities
- Type 5: Advising on futures contracts
- Type 6: Advising on corporate finance

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[1] The MA may designate an entity as a covered entity if the MA considers it reasonably necessary in order to ensure that the objectives of this module are fulfilled or that its provisions are not circumvented.

[2] Sovereign means the central government of a country.

[3] Central bank means the central bank of a country or an authority of a country which performs in the country functions similar to the functions performed by the Monetary Authority.

[4] As defined by section 2 of the Banking (Capital) Rules. Otherwise, the entity in question will be treated as a covered entity for the purposes of this module if it is a financial or significant non-financial counterparty.

[5] As specified by the MA by notice published in the Gazette pursuant to section 2(19) of the Banking Ordinance. Otherwise, the entity in question will be treated as a covered entity for the purposes of this module.

- Type 8: Securities margin financing
- Type 9: Asset management
- Type 11: Dealing in OTC derivative products or advising on OTC derivative products
- Type 12: providing client clearing services for OTC derivatives transactions

(iii) a provident fund scheme registered under the Mandatory Provident Fund Schemes Ordinance (Cap 485), or its constituent fund as defined in section 2(1) of that Ordinance;

(iv) an occupational retirement scheme as defined in section 2(1) of the Occupational Retirement Schemes Ordinance (Cap 426);

(v) an insurer authorised under the Insurance Ordinance (Cap 41);

(vi) a licensed money service operator as defined in section 1, Part 2 of Schedule 1 of the Anti-Money Laundering and Counter-Terrorist Financing Ordinance (Cap 615);

(vii) a money lender licensed under the Money Lenders Ordinance (Cap 163);

(viii) a special purpose entity as defined in section 227 of the Banking (Capital) Rules (BCR), except where and to the extent that the special purpose entity enters into non-centrally cleared derivatives transactions for the sole purpose of hedging;

(ix) a collective investment scheme as defined in section 1, Part 1 of Schedule 1 of the Securities and Futures Ordinance (Cap 571);

(x) a private equity fund;

(xi) an entity that carries on a business outside Hong Kong and is engaged predominantly in any one or more of the following activities[6]:

[6] For the avoidance of doubt, this would include (but is not limited to) foreign deposit-taking institutions, hedge funds, pension funds and asset managers.

- Banking;
- Securities or derivatives business;
- Management of retirement fund schemes;
- Insurance business;
- Operation of a remittance or money changing service;
- Lending;
- Securitisation (except where and to the extent that the related special purpose entity enters into non-centrally cleared derivatives transactions for the sole purpose of hedging);
- Portfolio management (including asset management and funds management); and
- Activities that are ancillary to the conduct of these activities.

Significant non-financial counterparty refers to any entity other than a financial counterparty for a one-year period from 1 September each year to 31 August of the following year, if the entity itself or the group to which it belongs has an average aggregate notional amount of non-centrally cleared derivatives exceeding HKD 60 billion (calculated pursuant to paragraph 2.4.9).

Other definitions

Exchange of margin means the posting and collecting of margin between two covered entities.

Group of companies means a group of entities for which consolidated financial statements are prepared (“consolidated group”).

Initial margin (IM) means the collateral that protects the parties to non-centrally cleared derivatives from the potential future exposure that could arise from future changes in the mark-to-market value of the derivatives during the time it takes to close out and replace the position in the event of a counterparty default. The amount of initial margin reflects the size of the potential future exposure.

Netting set means a group of transactions between two covered entities that are subject to a legally enforceable netting agreement in respect of which the conditions (a) to (g) required to qualify as a "valid bilateral netting agreement", as defined in section 2 of the BCR, are fulfilled.

Non-centrally cleared derivative refers to an over-the-counter (OTC) derivative product that is not cleared through a central counterparty as defined in section 2 of the BCR.

OTC derivative product as defined in section 1B, Part 1 of Schedule 1 of the Securities and Futures Ordinance.

Variation margin (VM) means the collateral that protects the parties to non-centrally cleared derivatives from the current exposure that has already been incurred by one of the parties from changes in the mark-to-market value of the derivatives after the transaction has been executed. The amount of variation margin reflects the size of this current exposure, which can change over time depending on the mark-to-market value of the derivatives at any point in time.

1.2 Background

1.2.1 The global financial crisis in 2008 exposed structural weaknesses in the OTC derivatives market and, inter alia, highlighted how the interconnectedness across financial institutions engaged in trading OTC derivatives led to contagion and heightened systemic risk.

1.2.2 The Group of Twenty (G20) Leaders committed in 2009 to reform the OTC derivatives market by implementing the following:

- mandatory clearing of standardised OTC derivatives through central counterparties;
- mandatory trading of standardised OTC derivatives on exchanges or electronic trading platforms, where appropriate;
- mandatory reporting of OTC derivatives to trade repositories; and

- imposition of higher capital requirements for OTC derivatives that are not centrally cleared.

1.2.3 In 2011, the G20 Leaders further agreed to add margin requirements for non-centrally cleared derivatives to the reform agenda. The final policy framework for margin requirements was issued in September 2013 by the Basel Committee on Banking Supervision (BCBS) and the International Organization of Securities Commissions (IOSCO), in consultation with the Committee on Payment and Settlement Systems (CPSS) and the Committee on the Global Financial System. The implementation schedule was subsequently updated in March 2015, July 2019 and April 2020.[7]

1.2.4 In January 2015, IOSCO, in consultation with the BCBS and the Committee on Payments and Market Infrastructures (CPMI)[8], issued global standards on risk mitigation techniques for non-centrally cleared OTC derivatives[9]. These qualitative standards (covering trading relationship documentation and trade confirmation, process and/or methodology for determining valuation, portfolio reconciliation and compression, and dispute resolution) complement the BCBS-IOSCO quantitative margin requirements.

1.2.5 This module, which reflects the BCBS-IOSCO margin framework and IOSCO's standards for risk mitigation techniques for non-centrally cleared OTC derivatives, sets out the minimum standards that the MA expects AIs to adopt in respect of margin and other risk mitigation standards for non-centrally cleared OTC derivatives transactions.

1.3 Objectives

1.3.1 As noted above, one of the key components of the G20 reform programme has been to encourage the central clearing of standardised OTC derivatives. However, a

[7] The updated BCBS/IOSCO document issued in April 2020 can be found at: https://www.bis.org/bcbs/publ/d499.pdf

[8] CPSS was renamed as CPMI.

[9] http://www.iosco.org/library/pubdocs/pdf/IOSCOPD469.pdf

substantial proportion of OTC derivatives are not standardised and hence not suitable for central clearing. Nonetheless, these non-centrally cleared OTC derivatives can pose the same type of systemic contagion and spillover risks that materialised in the financial crisis.

1.3.2 Margin standards for non-centrally cleared OTC derivatives are designed to reduce counterparty credit risk and limit contagion by ensuring that collateral is available to offset losses following the default of a derivatives counterparty. Exchanging margin also helps to internalise the cost of risk-taking, thereby creating an incentive for counterparties not to take on excessive risk when entering into derivatives transactions. On an aggregate level, margin requirements help reduce contagion and spillover effects when a major market participant defaults, thereby reducing systemic risk.

1.3.3 The risk mitigation standards for non-centrally cleared OTC derivatives encourage the adoption of sound risk mitigation techniques to promote legal certainty over the terms of non-centrally cleared OTC derivatives transactions, to foster effective management of counterparty credit risk and to facilitate timely resolution of disputes.

1.4 Legal framework and responsibilities

1.4.1 Section 7 of the Banking Ordinance provides that the MA shall, amongst other things, promote sound and prudent business practices amongst AIs. Schedule 7 to the Banking Ordinance, which sets out the criteria which AIs must meet in order to retain their authorized status, provides that the MA must be satisfied that an AI has adequate systems of control and is carrying on its business with integrity and prudence. The MA therefore has an interest in ensuring that an AI's margining practices are sound and prudent and do not pose risk to the AI's safety and soundness.

1.4.2 It should be noted, however, that the Board of directors and senior management of an AI have the ultimate responsibility for ensuring compliance with the margin and risk mitigation standards in this module. Material deficiencies may raise questions about whether the AI continues to comply with the authorization criteria set out in Schedule 7 to the Banking Ordinance.

2. Scope and phase-in schedule

2.1 Scope of application – margin standards

Covered products - derivatives instruments

2.1.1 Subject to paragraph 2.1.2, the provisions relating to margin in this module (margin provisions) apply to all non-centrally cleared derivatives transactions.[10]

2.1.2 The margin provisions in this module do not apply to:

(i) other transactions, such as repurchase agreements and securities lending transactions, that are not themselves derivatives but share some attributes with derivatives;

(ii) indirectly cleared derivatives that are intermediated through a clearing member on behalf of a non-member customer or a non-member customer's client where

- the non-member customer or the non-member customer and its client are subject to the margin requirements of the clearing house; or
- the non-member customer or the non-member customer and its client provide margin consistent with the relevant corresponding clearing house's margin requirements;

(iii) physically settled FX forwards and FX swaps, and the "FX transactions" embedded in cross-currency swaps[11] associated with the exchange of principal[12];

[10] For the avoidance of doubt, the margin provisions in this module do not apply to any exchange of margin over and above that expected pursuant to the standards in this module.

[11] Cross-currency swap means 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, and the exchange of principal occurs upon the inception of the swap, with a reversal of the exchange of principal at a later date that is agreed upon at the inception of the swap.

[12] To avoid doubt, all other payments or cash flows that occur during the life of the cross-currency swap must be considered in the margin calculation, i.e. the only payments that may be excluded from the

(iv) physically settled commodity forwards;

(v) non-centrally cleared single-stock options, equity basket options and equity index options.[13]

Locally incorporated AIs

2.1.3 The margin provisions in this module apply to a locally incorporated AI:

(i) in respect of non-centrally cleared derivatives it enters into with a covered entity[14];

(ii) on a legal entity basis, i.e. overseas branches are recognised as part of the same legal entity (i.e. the AI) and hence treated in the same manner as the AI of which they form part as regards the application of the margin provisions.

2.1.4 The margin provisions in this module do not apply to a foreign incorporated banking subsidiary of a locally incorporated AI. Nonetheless, the MA might consider it necessary for the locally incorporated AI to ensure that any of its foreign incorporated banking subsidiaries applies the margin provisions in this module as if it were a locally incorporated AI if the subsidiary:

(i) transacts in non-centrally cleared derivatives of a significant amount relative to the AI as a whole; [15] and

(ii) is not subject to effective margin standards in the jurisdiction where it is incorporated.[16]

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calculation of margin are the fixed physically settled FX transactions associated with the exchange of principal.

[13] In light of the different approaches currently adopted by other jurisdictions on equity options, the HKMA extends the exemption of these products from margin requirements until further notice.

[14] A covered entity as defined in Sub-section 1.1 can be a financial counterparty or a significant non-financial counterparty that is incorporated locally or overseas.

[15] The MA will determine on a case-by-case basis if the non-centrally cleared derivatives amount of a foreign banking subsidiary is significant relative to the AI as a whole, taking into account the level (and rate of growth) of all non-centrally cleared derivatives of the foreign banking subsidiary in relation to its parent bank.

[16] A foreign banking subsidiary is considered to be subject to "effective margin standards" if (i) the MA has issued a positive comparability determination with respect to the margin standards to which it is subject or (ii) the subsidiary is subject to the margin framework of a deemed comparable jurisdiction (applies only until the MA has completed a comparability determination).

In this case, the HKMA will notify both the AI and the relevant foreign incorporated banking subsidiary in advance of its intention to apply the "extension" in this paragraph 2.1.4 to the overseas subsidiary.

2.1.5 Non-centrally cleared derivatives transactions between a locally incorporated AI and a covered entity are eligible for "substituted compliance" treatment (see paragraph 2.1.6) if the covered entity is required to comply with the margin requirements of a foreign jurisdiction for which the MA has issued a comparability determination or which is a deemed comparable jurisdiction according to Sub-section 2.3.[17]

2.1.6 Substituted compliance means that a locally incorporated AI may follow the margin requirements applicable to its counterparty in their entirety instead of the margin provisions in this module.

AIs incorporated outside Hong Kong

2.1.7 The margin provisions in this module apply to an AI incorporated outside Hong Kong in respect of non-centrally cleared derivatives, which the AI enters into with a covered entity[18], that are booked in its Hong Kong branch.[19]

2.1.8 For those transactions mentioned in paragraph 2.1.7, the AI may apply substituted compliance if its counterparty which is a covered entity is required to comply with the margin standards of a foreign jurisdiction for which the MA has issued a comparability determination or which is a deemed comparable jurisdiction according to Sub-section 2.3.[20] This means that the AI may follow the margin

[17] The same treatment applies if a covered entity is subject to the margin requirements of an authority other than the MA in Hong Kong.

[18] A covered entity as defined in Sub-section 1.1 can be a financial counterparty or a significant non-financial counterparty that is incorporated locally or overseas.

[19] Subject to paragraphs 2.1.16 and 2.1.17, the margin provisions in this module do not apply to intragroup transactions.

[20] The same treatment applies if a covered entity is subject to the margin requirements of an authority other than the MA in Hong Kong.

requirements applicable to its counterparty in their entirety instead of the provisions of this module.

2.1.9 Substituted compliance with respect to the AI's home jurisdiction is also available if the MA has issued a comparability determination in respect of that home jurisdiction or that home jurisdiction is a deemed comparable jurisdiction according to Sub-section 2.3. This means that the AI may follow the margin standards of its home jurisdiction in their entirety instead of the provisions in this module.[21]

2.1.10 In justified cases (i.e. where driven by e.g. genuine business presence and client base and not by opportunity for regulatory arbitrage of margin requirements), an AI may substitute compliance with the margin standards (in their entirety) of a foreign jurisdiction, other than its home jurisdiction, for the compliance which would otherwise be required with the margin standards in this module where:

(i) the margin standards of the relevant foreign jurisdiction have been accepted as comparable by both the MA (either through positive determination or the "deemed comparable" treatment) and the AI's home authority as a substitute with which the AI may comply; and

(ii) the AI is able to substantiate how and the extent to which the foreign standards are relevant to the AI's situation. This information should be made available to the HKMA upon request.

2.1.11 In the case where an AI intends to (i) follow primarily the margin standards of its home jurisdiction or of another jurisdiction as referred to in paragraph 2.1.10 instead of the standards in this module or (ii) follow primarily the margin standards of its home jurisdiction and use an IM model that is already in use by its headquarters, it should notify[22] its usual contact in the HKMA as soon as

[21] The margin standards of the AI's home jurisdiction should be at least applied to the AI's non-centrally cleared derivatives set out in paragraph 2.1.7 of this module if a different scope of transactions is defined in the margin standards of the AI's home jurisdiction.

[22] Such a notification can be made in respect of all transactions subject to the substituted compliance that will use that IM model and in respect of all members of the AI's group.

practicable and in any event before it applies the respective foreign standards.[23]

Netting and segregation

2.1.12 VM and IM need not be exchanged in circumstances where there is reasonable doubt as to the enforceability of the netting agreement upon insolvency or bankruptcy of a counterparty.[24]

(i) The AI should have undertaken an assessment on the enforceability of the netting agreement which should be supported by a legal opinion pursuant to paragraph 2.1.14, taking into consideration relevant jurisdiction(s) and counterparty type. In its assessment, the AI should consider the conditions required to qualify as a "valid bilateral netting agreement", as defined in Section 2 of the BCR. In particular, VM and IM need not be exchanged where the relevant netting arrangement does not fulfil all the conditions, which are beyond the control of the AI, required to qualify as a valid bilateral netting agreement;

(ii) The AI should be able to demonstrate the relevant legal uncertainty associated with the exchange of margin. This information, as well as information about the AI's assessment process, should be made available to the HKMA upon request; and

(iii) The AI should put in place appropriate internal limits and risk management policies and procedures, commensurate to its risk appetite, as to monitor and control the risks of relevant exposures.

2.1.13 IM need not be exchanged in circumstances where arrangements for the protection of posted collateral are questionable or not legally enforceable upon default of a counterparty.

(i) The AI should have undertaken an assessment of the collateral arrangements which should be supported by a

[23] A single notification suffices to cover all relevant transactions.

[24] To avoid doubt, paragraph 2.1.12 also applies to non-centrally cleared derivatives transactions of a locally incorporated AI booked in an overseas branch that is located in a jurisdiction where there is doubt as to the enforceability of the netting agreement upon insolvency or bankruptcy of a counterparty.

legal opinion pursuant to paragraph 2.1.14, taking into consideration relevant jurisdiction(s) and counterparty type;

(ii) The AI should be able to demonstrate the relevant legal uncertainty associated with the segregation of margin. This information, as well as information about the AI's assessment process, should be made available to the HKMA upon request; and

(iii) The AI should put in place appropriate internal limits and risk management policies and procedures, commensurate to its risk appetite, as to monitor and control the risks of relevant exposures.

2.1.14 The legal opinion referred to in paragraphs 2.1.12(i) and 2.1.13(i)

(i) needs to be a formal legal opinion in written form; and

(ii) may be obtained from an independent internal unit or an external independent legal counsel.

Jurisdictional opinions obtained on an industry-wide basis by industry associations from external independent legal counsel are acceptable for this purpose.

2.1.15 An AI should start exchanging the relevant type(s) of margin with covered entities as soon as practicable in cases where the conditions referred to in paragraphs 2.1.12 or 2.1.13 or both are no longer applicable.

Intragroup transactions

2.1.16 Subject to paragraphs 2.1.17 and 2.1.18, the margin provisions in this module do not apply to non-centrally cleared derivatives transactions between an AI and an entity in the consolidated group to which the AI belongs ("affiliate") that is a covered entity under this module, provided that:

(i) the AI and the affiliate are accounted for on a full basis in the consolidated financial statements of the holding company of the group of companies to which they belong, for the purposes of and in compliance with the Hong Kong Financial Reporting Standards issued by the Hong Kong

Institute of Certified Public Accountants, the International Financial Reporting Standards issued by the International Accounting Standards Board, or the standards of accounting practices applicable to the holding company in the place in which it is incorporated;

(ii) the risk evaluation, measurement and control procedures applicable to the AI and the affiliate are centrally overseen and managed within the group of companies to which they belong; and

(iii) the AI and the affiliate have internal risk management policies and procedures which are prudent, effective and consistent with the level of complexity of the intragroup transactions. The MA may review these policies and procedures during its ongoing supervisory process.

2.1.17 The MA may consider adding additional criteria to those specified in paragraph 2.1.16 if the MA considers it reasonably necessary in order to ensure that the objectives of this module are fulfilled or that its provisions are not circumvented.

2.1.18 Where paragraph 2.1.16 is applicable, an AI should be in a position to:

(i) describe the risk management policies and controls and how they are centrally defined and applied;

(ii) demonstrate that senior management is responsible for risk management and that risk measurement is regularly reviewed;

(iii) demonstrate that regular and transparent communication mechanisms are established within the organisation, so that the management body, senior management, business lines, the risk management function and other control functions can all share information about risk measurement, analysis and monitoring;

(iv) demonstrate that internal procedures and information systems are consistent throughout the institution and reliable so that all sources of relevant risks can be identified, measured, and monitored on an aggregated basis and also, to the extent necessary, by entity, business line, and portfolio; and

(v) demonstrate that key risk information is regularly reported to the central risk management function to enable appropriate centralised evaluation, measurement and control of risk across the relevant group entities.

2.1.19 The MA may request the AI to describe and demonstrate the matters mentioned in paragraph 2.1.18 as appropriate.

2.2 Scope of application – risk mitigation standards

2.2.1 The risk mitigation standards (RMS) set out in this module complement the margin provisions. These standards seek to promote legal certainty, reduce risk and improve efficiency. To maximise the reduction of systemic risk, the RMS set out in this module should be applied in a proportionate manner depending on the level of risk concentration or activity undertaken by an AI.

2.2.2 The RMS set out in Section 4 of this module primarily apply to an AI with respect to all its outstanding non-centrally cleared derivatives transactions with a covered entity, including intragroup transactions.[25] However, the RMS do not apply to transactions specified in paragraph 2.1.2(i) and (ii).

2.2.3 AIs are, however, encouraged to adopt the RMS in this module in relation to other derivatives counterparties to the extent practicable, taking into account the nature of the transaction and counterparty.

2.2.4 A locally incorporated AI may follow the RMS of its counterparty's jurisdiction in lieu of the RMS set out in Section 4 of this module where the MA has issued a comparability determination in respect of that counterparty's jurisdiction or it is a deemed comparable jurisdiction according to Sub-section 2.3.

2.2.5 An AI incorporated outside Hong Kong may follow either the RMS of its home or its counterparty's jurisdiction in lieu of the RMS set out in Section 4 of this module where the MA has issued a comparability determination in respect of that home or counterparty jurisdiction or it is a

[25] Where the AI is incorporated outside Hong Kong, the RMS in this module only apply to its non-centrally cleared derivatives booked in its Hong Kong branch.

deemed comparable jurisdiction according to Sub-section 2.3.[26]

2.2.6 An AI may employ a third-party service provider to undertake the risk mitigation processes provided in this module. If so, the AI should conduct proper due diligence, both at the outset and on a periodic basis, to assess the capability and reliability of the service provider as well as any risks arising from the use of such service provider. The ultimate responsibility for meeting the RMS cannot be delegated. An AI should follow the guidance set out in SPM SA-2 on Outsourcing in relation to the engagement of any service provider for the purposes referred to in this paragraph.

2.3 Comparability assessment

2.3.1 Substituted compliance is available for those transactions in non-centrally cleared derivatives outlined in Sub-sections 2.1 and 2.2 if the MA has issued a comparability determination or the respective foreign jurisdiction is deemed comparable pursuant to paragraph 2.3.2. This Sub-section outlines the MA's approach for determining the comparability of a jurisdiction's margin and risk mitigation standards with the provisions in this module.

2.3.2 The margin and risk mitigation standards of WGMR member jurisdictions[27] are deemed as comparable from the day the respective standards have entered into force in such jurisdictions until the MA has completed a comparability assessment ("deemed comparable jurisdiction").[28]

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[26] The RMS of the AI's home jurisdiction should be at least applied to the AI's non-centrally cleared derivatives set out in paragraph 2.2.2 of this module if a different scope of transactions is defined in the RMS of the AI's home jurisdiction.

[27] WGMR member jurisdictions comprise Australia, Brazil, Canada, the European Union, Hong Kong, India, Japan, Republic of Korea, Russia, Singapore, Switzerland, the United Kingdom and the United States. To avoid doubt, the deemed comparable status is applicable to the margin rules issued by all relevant authorities in a deemed jurisdiction.

[28] To avoid doubt, substituted compliance would not be available if the respective margin standards have not entered into force in a deemed comparable jurisdiction.

2.3.3 An AI, the Hong Kong Association of Banks, the DTC Association or a supervisory authority may submit to the MA a written request for a comparability assessment of either or both of the margin and risk mitigation standards of a jurisdiction other than those referred to in paragraph 2.3.2.[29]

2.3.4 After completion of a comparability assessment on a particular jurisdiction, the MA will inform the industry associations in writing about its determination. This determination is deemed applicable to all requests for a comparability assessment on that jurisdiction. A comparability determination has continuous effect until withdrawn.

2.3.5 The MA will make the following information publicly available:

(i) outstanding requests for comparability assessments;

(ii) completed comparability determinations; and

(iii) where additional terms and conditions are attached to a comparability determination, the MA's considerations for doing so.

2.3.6 In its assessment the MA will adopt an outcome-based approach, meaning that the result of a comparability assessment should be positive if the other jurisdiction's margin standards lead to outcomes which are comparable to those sought in this module.

2.3.7 In its evaluation process for margin standards, the MA will determine whether the assessed framework incorporates margin standards that adequately reflect the BCBS-IOSCO Margin Requirements for Non-centrally Cleared Derivatives. The MA will evaluate the other jurisdiction's margin standards against the key principles set out in the BCBS-IOSCO margin framework.

2.3.8 In its evaluation process for RMS, the MA will determine whether the assessed framework incorporates risk mitigation standards that adequately reflect the IOSCO

[29] In case of jurisdictions with more than one set of margin or risk mitigation standards or both, the request should identify the relevant set of standards for a comparability assessment. Also, priorities should be assigned to relevant standards to be assessed in requests for more than one comparability assessment.

Risk Mitigation Standards for Non-centrally Cleared OTC Derivatives. The MA will evaluate the other jurisdiction's risk mitigation standards against the standards set out in the IOSCO Risk Mitigation Standards for Non-centrally Cleared OTC Derivatives.

2.3.9 The MA may impose additional terms and conditions as the MA deems appropriate, even when a positive comparability determination is made, to bring about outcomes sought in this module. In such a case, market participants will be consulted and given sufficient notice before a related comparability determination is formally issued.

2.3.10 Subject to Sub-section 2.1 and paragraph 2.3.12, if the MA has issued a comparability determination for a jurisdiction's margin standards which are relevant to the non-centrally cleared derivatives transactions of the AI, the AI may comply with that jurisdiction's margin standards (in their entirety) in lieu of the provisions set out in this module. Accordingly, in such situations, failure to comply with the relevant jurisdiction's margin standards will be interpreted as non-compliance with the provisions in this module.

2.3.11 Subject to Sub-section 2.2 and paragraph 2.3.12, if the MA has issued a comparability determination for a jurisdiction's RMS which are relevant to the non-centrally cleared derivatives transactions of the AI, the AI may comply with that jurisdiction's risk mitigation standards (in their entirety) in lieu of the standards set out in this module. Accordingly, in such situations, failure to comply with the relevant jurisdiction's RMS will be interpreted as non-compliance with the standards in this module.

2.3.12 An AI is required to comply with the following provisions in this module while it applies substituted compliance in respect of the margin standards according to paragraph 2.1.5, 2.1.8, 2.1.9 or 2.1.10, and/or the risk mitigation standards according to paragraph 2.2.4 or 2.2.5:

(i) retaining trading relationship documentation and any modification thereof (as detailed in paragraph 4.1.2);

(ii) maintaining records of transactions that remain unconfirmed (as detailed in paragraph 4.2.6);[30]

(iii) reporting to the MA material disputes not resolved (as detailed in paragraph 4.6.2);[31]

(iv) seeking formal approval from the MA before using an internally developed IM model (as detailed in paragraph B.1.1);

(v) notifying the MA of its intent to use an industry-wide standard IM model (as detailed in paragraph B.1.3);

(vi) notifying the MA at least 60 days in advance before making any subsequent material changes to an approved IM model (as detailed in paragraph B.1.7); and

(vii) notifying the MA as soon as it becomes aware of any material problems with the IM model after a validation (as detailed in paragraph B.4.7).

2.4 Effective date and phase-in schedule[32]

2.4.1 Subject to Sub-section 2.5, an AI should exchange VM for all relevant non-centrally cleared derivatives entered into with a covered entity from 1 March 2017.

2.4.2 Subject to Sub-section 2.5, the exchange of IM by an AI in respect of non-centrally cleared derivatives entered into with a covered entity will be phased-in as follows. The exchange of IM by an AI applies in a one-year period (i.e. from 1 September of each year to 31 August of the

[30] An AI may, however, maintain records of transactions that remain unconfirmed for a period that is specified in the risk mitigation standards of the foreign jurisdiction which is adopted by the AI under substituted compliance, unless additional terms and conditions are imposed by the MA. If there is no specification of the unconfirmed period in the risk mitigation standards of the foreign jurisdiction, the AI should maintain the relevant records according to paragraph 4.2.6.

[31] An AI may, however, follow the reporting threshold that is specified in the risk mitigation standards of the foreign jurisdiction adopted by the AI under substituted compliance, unless additional terms and conditions are imposed by the MA. If there is no specification of the reporting threshold in the risk mitigation standards of the foreign jurisdiction, the AI should report disputes based on the threshold set out in paragraph 4.6.2.

[32] For the purposes of paragraphs 2.4.1 to 2.4.4, “AI” or “covered entity” means the group of entities to which the AI or the covered entity belongs.

following year)[33] where both the AI and the covered entity have an average aggregate notional amount of non-centrally cleared derivatives, calculated according to paragraph 2.4.9, exceeding the respective threshold:

	Period	Threshold
Phase-in	1 March 2017 to 31 August 2017	HKD 24 trillion
	1 September 2017 to 31 August 2018	HKD 18 trillion
	1 September 2018 to 31 August 2019	HKD 12 trillion
	1 September 2019 to 31 August 2021	HKD 6 trillion
	1 September 2021 to 31 August 2022	HKD 375 billion
Permanent	on a permanent basis from 1 September 2022 for each subsequent 12-month period	HKD 60 billion

2.4.3 Subject to Sub-section 2.5, the adoption of RMS in respect of non-centrally cleared derivatives entered into with a covered entity will be phased-in as follows. The RMS apply in a one-year period (i.e. from 1 September of each year to 31 August of the following year)[34] where both the AI and the covered entity have an average aggregate notional amount of non-centrally cleared derivatives, calculated according to paragraph 2.4.9, exceeding the respective threshold:

[33] By way of derogation from paragraph 2.4.2, the exchange of IM by an AI in the first phase (1 March 2017 to 31 August 2017) applies in a 6-month period. It applies to the fourth phase (1 September 2019 to 31 August 2021) in a two-year period.

[34] By way of derogation from paragraph 2.4.3, the RMS apply in the first phase (1 March 2017 to 31 August 2017) in a 6-month period, and in the fourth phase (1 September 2019 to 31 August 2021) in a two-year period.

	Period	Threshold
Phase-in	1 March 2017 to 31 August 2017	HKD 24 trillion
	1 September 2017 to 31 August 2018	HKD 18 trillion
	1 September 2018 to 31 August 2019	HKD 12 trillion
	1 September 2019 to 31 August 2021	HKD 6 trillion
	1 September 2021 to 31 August 2022	HKD 375 billion
	1 September 2022 to 31 August 2023	HKD 60 billion
Permanent	on a permanent basis from 1 September 2023 for each subsequent 12-month period	Zero (no threshold)

2.4.4 To avoid doubt, both the AI and the covered entity have to exceed the respective threshold for the RMS and/or IM provisions to apply in any one-year period from 1 September of that year to 31 August of the following year. This means that non-centrally cleared derivatives will not be subject to the RMS and/or provision of IM:

(i) if either the AI or the covered entity does not exceed the threshold with respect to a given one-year period. However, the AI will need to confirm its position and that of its covered entity counterparty against the threshold applicable to the following one-year period again in good time. The RMS provisions should be applied and/or IM should be provided if the threshold is exceeded in the following one-year period (i.e. from 1 September of that year to 31 August of the following year), i.e. both the AI and the covered entity have an aggregate notional amount above the threshold;

(ii) the counterparty is not a covered entity.

2.4.5 Where an AI's counterparty

(i) becomes subject to margin provisions or higher margin provisions in any one-year period from 1 September of that year to 31 August of the following year (such that VM and/or IM provisions apply), the AI should comply with such margin provisions only for those transactions entered into with that counterparty after the counterparty changes its status (i.e. from 1 September of that year);

(ii) ceases to be subject to margin provisions or becomes subject to lower margin provisions in any one-year period from 1 September of that year to 31 August of the following year (such that VM and/or IM provisions no longer apply), the AI may cease to comply with the margin provisions or may comply with the lower margin provisions for transactions entered into with that counterparty after the counterparty changes its status (i.e. from 1 September of that year) as well as for any outstanding transactions entered into since the beginning of the applicable phase-in period set out in paragraphs 2.4.1 and 2.4.2.

2.4.6 Subject to paragraphs 2.4.5 and 2.5.1, the treatment of non-centrally cleared derivatives entered into before ("legacy contracts") and after ("new contracts") the relevant effective date is as follows:

(i) VM and IM provisions will apply to all new contracts entered into during the periods described in paragraphs 2.4.1 and 2.4.2 once the relevant thresholds are exceeded;

(ii) VM and IM need not be exchanged in respect of legacy derivatives contracts. However, an AI may include legacy contracts in its margin calculations. If an AI decides to exercise this option, it would need to do so on a continuous basis;

(iii) VM and IM need not be exchanged in respect of new contracts resulting from portfolio compression or post-trade risk reduction exercises ("replacement trades") as long as the portfolio on which such exercise is performed consists exclusively of legacy contracts;[35]

(iv) The RMS generally apply to legacy contracts. However, the RMS do not need to be applied retrospectively (e.g. the trade documentation for legacy contracts may not be revised).

2.4.7 Genuine and non-material amendments to legacy contracts do not qualify as a new contract.[36] Any amendment that substantially changes the terms and conditions of a non-centrally cleared derivatives contract ("material amendment") needs to be considered as a new contract. Moreover, any amendment that extends a legacy contract for the purpose of avoiding the margin provisions in this module needs to be considered as a new contract. An AI should be able to produce the relevant transaction records associated with the amendments upon request by the MA.

2.4.8 Material changes in the EUR/HKD exchange rate will result in a review of the thresholds expressed in HKD in this module.

2.4.9 The average aggregate notional amount referred to in this Sub-section:

(i) is calculated as the average of the total gross notional amount of month-end positions of non-centrally cleared derivatives for March, April and May preceding the 1 September starting date in a relevant year.[37] Month-end positions should be converted into HKD using

[35] For example, replacement trades resulting from any such exercise entered into after the initial implementation date are not subject to margin standards (if otherwise applicable) in cases where the portfolio on which the exercise is performed consists exclusively of derivatives entered into in 2015. On the other hand, VM and IM provisions apply to replacement trades resulting from any such exercise on portfolios comprising legacy and new trades.

[36] For example, genuine amendments to existing derivatives contracts which are made to give effect to benchmark reforms (not limited to interest rate benchmark reforms), such as i) the inclusion of fallbacks that would apply upon the permanent discontinuation of an existing benchmark or the non-representativeness of the benchmark as determined by the benchmark administrator or the relevant authority in a jurisdiction; and ii) the replacement of an existing benchmark with the alternative benchmark solely for the purpose of addressing the benchmark reform, will not be considered new contracts from the perspective of the HKMA's margin requirements.

[37] For the period from 1 September 2019 to 31 August 2021, the calculation of average aggregate notional amount is based on the average of the total gross notional amount of month-end positions of non-centrally cleared derivatives for March, April and May 2019.

corresponding month-end spot rates, before calculating the average position;

(ii) includes the gross notional amount of all non-centrally cleared derivatives, including non-centrally cleared derivatives mentioned in paragraph 2.1.2(iii), (iv) and (v);

(iii) is calculated on a group level by including all non-centrally cleared derivatives of all entities within the group of companies;[38, 39]

(iv) includes all the non-centrally cleared derivatives that entities within the group have entered into with each other, counting each of them once.

2.4.10 The MA expects an AI to inform its counterparties whether it is subject to margin provisions (VM and IM) and RMS prior to entering into transactions with such counterparties. Further, the MA expects an AI to have an appropriate process in place which allows the AI to identify whether or not its counterparties are covered entities.[40]

2.5 Transitional arrangements

2.5.1 The margin provisions and RMS in this module are subject to an initial 6-month transition period (i.e. 1 March to 31 August 2017).

2.5.2 An AI is expected to start exchanging margin and applying the RMS as soon as possible after the commencement date and make reasonable and continuous progress

[38] To avoid doubt, non-centrally cleared derivatives (i) for which an AI faces no counterparty risk; or (ii) that are entered into with a sovereign, central bank, public sector entity, multilateral development bank or the Bank for International Settlements should be included.

[39] An investment fund managed by an investment advisor will be considered a separate entity for the purpose of applying the average aggregate notional amount as long as the fund is a distinct segregated pool of assets (i) that would be treated as such for the purposes of the fund's insolvency or bankruptcy and upon the insolvency or bankruptcy of the investment advisor and (ii) that is not collateralised by or otherwise guaranteed or supported by any other investment fund managed by the investment advisor or by the investment advisor.

[40] An AI may rely in good faith on representations made by its counterparties (including those made in industry-standard self-disclosure documents) as long as the AI has no reason to doubt the correctness of the information provided. An AI is not required to independently substantiate the information provided by its counterparties in the absence of any such doubt. An AI should regard the margin provisions as applicable to transactions with a counterparty (i) if it has information or evidence which demonstrates that the information provided by the counterparty is incorrect; or (ii) if the counterparty failed to provide relevant information.

during the transitional period in order to achieve full compliance by the end of the period. An AI should maintain adequate documentary evidence to demonstrate its progress which should be made available to the MA upon request.

3. Margin standards

3.1 Variation margin

3.1.1 Subject to Section 2 of this module, an AI should exchange VM with a covered entity for non-centrally cleared derivatives.[41] The VM amount to be exchanged should fully collateralise the current exposure of the non-centrally cleared derivatives.

3.1.2 The methodologies for calculating VM that serve as the baseline for margin collected from a covered entity should (i) be consistent in the sense that the VM amount should reflect the current exposure associated with the particular portfolio of non-centrally cleared derivatives and (ii) ensure that all counterparty risk exposures are covered fully with a high degree of confidence.

3.1.3 Where market conditions prevent marking-to-market, use of an alternative process or approach by which an AI and a covered entity determine the value of a non-centrally cleared derivative, subject to the conditions in paragraph 4.3.6, is acceptable.

3.1.4 To reduce adverse liquidity shocks and in order to effectively mitigate counterparty credit risk, VM should be calculated and exchanged for non-centrally cleared derivatives subject to a single, legally enforceable netting agreement.[42]

3.1.5 The valuation of a derivative's current exposure can be complex and, at times, become subject to questions or disputes by one or both parties. In the case of

[41] The use of third-party providers for calculating VM is not precluded, as long as the objectives set out in Sub-section 3.1 are met.

[42] A legally enforceable netting agreement means a "valid bilateral netting agreement" as defined in Section 2 of the BCR. More than one credit support arrangement under the same netting agreement is permissible.

non-centrally cleared derivatives, these instruments are likely to be relatively illiquid. The associated lack of price transparency further complicates the process of agreeing on current exposure amounts for VM purposes.

3.1.6 To address valuation uncertainty, an AI should have, and should agree with its counterparty on, rigorous and robust dispute resolution procedures before the initiation of a transaction in non-centrally cleared derivatives. In the event that a margin dispute arises, all necessary and appropriate efforts should be made, including timely initiation of dispute resolution protocols, to resolve the dispute and exchange VM in a timely fashion.

3.1.7 An AI may agree with its counterparty to include non-centrally cleared derivatives that are otherwise out of scope (from the margin standards to which either the AI or its counterparty is subject) within the in-scope portfolio for the purpose of calculating VM, as long as this is done consistently and on an ongoing basis. Netting within this broad product set is permitted to the same extent that is allowed for netting of covered instruments pursuant to paragraphs 2.1.1 and 2.1.2.

3.1.8 An AI may elect not to exchange VM with a significant non-financial counterparty that predominantly uses non-centrally cleared derivatives transactions for hedging purposes, provided that:

(i) the AI has put in place appropriate internal limits and risk management policies and procedures, commensurate to its risk appetite, as to monitor and control the risks of relevant exposures; and

(ii) the AI has obtained a declaration from the significant non-financial counterparty that it predominantly uses the non-centrally cleared derivatives for hedging purposes.

3.1.9 An AI may also elect not to exchange VM with a covered entity that primarily provides financing to facilitate the purchase or lease of products manufactured by the entity's parent company or fellow subsidiaries and predominantly uses non-centrally cleared derivatives transactions for hedging purposes, provided that:

(i) the AI has put in place appropriate internal limits and risk management policies and procedures, commensurate to its risk appetite, as to monitor and control the risks of relevant exposures; and

(ii) the AI has obtained a declaration from the entity that it predominantly uses the non-centrally cleared derivatives for hedging purposes.

3.2 Initial margin

3.2.1 Subject to Section 2 of this module, an AI should exchange IM with a covered entity for non-centrally cleared derivatives. There should be no netting of IM amounts owed by the two counterparties.

3.2.2 The methodologies for calculating IM that serve as the baseline for margin collected from a covered entity should (i) be consistent in the sense that the IM amount should reflect the potential future exposure associated with the particular portfolio of non-centrally cleared derivatives and (ii) ensure that all counterparty risk exposures are covered fully with a high degree of confidence.

3.2.3 The amount of IM which should be posted or collected for a given asset class may be calculated by reference to either a standardised margin schedule (“standardised approach”) or a quantitative portfolio margin model (“internal model approach”). An AI should only use both the standardised approach and the internal model approach to calculate IM for non-centrally cleared derivatives in the same netting set where this results in a better reflection of the risks or is required to comply with foreign margin requirements in the case of an offshore branch of a locally incorporated AI.

3.2.4 The choice between the standardised approach and the internal model approach should be made consistently over time for non-centrally cleared derivatives.[43] This however does not preclude an AI from changing its

[43] The specific method and parameters that will be used by each party to calculate IM should be agreed and recorded at the onset of the transaction to reduce potential disputes.

approach for an asset class for legitimate reasons. After such a change, an AI is expected to use the new approach consistently over time for non-centrally cleared derivatives within that asset class.

3.2.5 An AI should follow the steps outlined in Appendix A to calculate IM amounts under the standardised approach.

3.2.6 An AI should follow the steps outlined in Appendix B to calculate IM amounts under the internal model approach.

3.2.7 An AI may agree with its counterparty to include non-centrally cleared derivatives that are otherwise out of scope (from the margin standards to which either the AI or its counterparty is subject) within the in-scope portfolio for the purpose of calculating IM, as long as this is done consistently and on an ongoing basis. Netting within this broad product set is permitted to the same extent that is allowed for netting of covered instruments pursuant to paragraphs 2.1.1 and 2.1.2.

3.2.8 An AI should have, and should agree with its counterparty on, rigorous and robust dispute resolution procedures before the initiation of a transaction in non-centrally cleared derivatives. In the event that a margin dispute arises, all necessary and appropriate efforts should be made, including timely initiation of dispute resolution protocols, to resolve the dispute and exchange IM in a timely fashion.

3.2.9 An AI may elect not to exchange IM with a significant non-financial counterparty that predominantly uses non-centrally cleared derivatives transactions for hedging purposes, provided that:

(i) the AI has put in place appropriate internal limits and risk management policies and procedures, commensurate to its risk appetite, as to monitor and control the risks of relevant exposures; and

(ii) the AI has obtained a declaration from the significant non-financial counterparty that it predominantly uses the non-centrally cleared derivatives for hedging purposes.

3.2.10 An AI may elect not to exchange IM with a covered entity that primarily provides financing to facilitate the purchase or lease of products manufactured by the entity's parent company or fellow subsidiaries and predominantly uses non-centrally cleared derivatives transactions for hedging purposes, provided that:

(i) the AI has put in place appropriate internal limits and risk management policies and procedures, commensurate to its risk appetite, as to monitor and control the risks of relevant exposures; and

(ii) the AI has obtained a declaration from the entity that it predominantly uses the non-centrally cleared derivatives for hedging purposes.

3.3 IM threshold

3.3.1 An AI may agree with a covered entity not to exchange IM if the amount due is equal to or lower than HKD 375 million ("IM threshold").

3.3.2 The threshold, which is applied at the level of the respective consolidated groups to which the AI and the covered entity belong, is based on all non-centrally cleared derivatives outstanding between the two consolidated groups.[44]

3.3.3 If the total IM amount exceeds the IM threshold, an amount that is at least as large as the difference between the total IM amount and the IM threshold needs to be exchanged between the two consolidated groups. In practice, the amount of the IM threshold (i.e. HKD 375 million) may be allocated to one or more entities within the consolidated group. In this case, an AI should coordinate with a covered entity on the application of the IM threshold and the exchange of IM at the entity level.

3.3.4 Where the consolidated group to which an AI belongs allocates the IM threshold amount to individual group entities, adequate and appropriate systems and controls should be in place to ensure that the respective allocated amounts are not exceeded and that any breach of the IM

[44] An investment fund managed by an investment advisor will be considered a separate entity for the purpose of applying the IM threshold as long as the fund is a distinct segregated pool of assets (i) that would be treated as such for the purposes of the fund's insolvency or bankruptcy and upon the insolvency or bankruptcy of the investment advisor and (ii) that is not collateralised by or otherwise guaranteed or supported by any other investment fund managed by the investment advisor or by the investment advisor.

threshold at the consolidated group level vis-à-vis a particular covered entity and the consolidated group to which it belongs is identified and rectified promptly. The AI should be able to substantiate at the request of the MA that such systems and controls are in place and operating in an effective manner.

3.4 Treatment of IM collected

3.4.1 An AI should ensure, and should endeavour to make sure that a covered entity ensures, that IM collected is subject to appropriate collateral arrangements and held in a manner as described in this Sub-section.

3.4.2 Appropriate collateral arrangements, including credit support arrangements, should be in place which are effective under the laws of the jurisdiction of the collecting party in the event that that party becomes subject to insolvency proceedings.

3.4.3 IM collected is held in such a way that:

(i) it is available in a timely manner to the collecting party in case the posting party enters insolvency[45]; and

(ii) it is subject to arrangements that protect the posting party to the extent possible under applicable law in the event that the collecting party enters insolvency.

3.4.4 IM collected should be segregated from the IM collector's proprietary assets by either placing the IM with a third party custodian or through other legally effective arrangements to protect the IM from the default or insolvency of the collecting party.

3.4.5 If a third-party custodian is used, the AI should ensure that:

(i) the custodian is not a group member of the collecting or posting party;

[45] Stays or other restrictions as well as potential delays with collateral held at third party custodians could make this provision difficult to comply with. These and similar situations are therefore deemed to be in compliance with this module so long as the collateral is available to the surviving counterparty as soon as legally possible.

(ii) the financial condition and credit standing of the custodian are regularly monitored.

3.4.6 The IM collector should provide the posting party with the option to have the IM that it posts segregated from the IM posted to the IM collector by other counterparties (though the posting party may elect not to opt for individual segregation). Omnibus account arrangements are acceptable, as long as the option of individual segregation from the assets of other posting counterparties is provided.

3.4.7 IM collected in the form of cash and maintained by an AI

(i) should be deposited with a third-party custodian in the name of the posting party, subject to the conditions in paragraph 3.4.5, or with a central bank, provided that:

- the funds are recorded and held in a separate account in the name of the posting party that is secured to the benefit of the collecting party in the case of the posting party's default; and
- the posting party cannot unilaterally withdraw the funds without the consent of the collecting party.

(ii) may be reinvested, at the direction of the collecting counterparty, provided that:

- the securities obtained are properly segregated;
- the funds are reinvested only in assets that conform to the collateral eligibility criteria specified in Sub-section 3.7;
- the re-investment is based on an agreement between the counterparties.

3.4.8 Subject to paragraph 3.4.7, rehypothecation, repledging or any kind of reuse of IM collected is prohibited under the terms of the relevant contracts. Where applicable, the relevant custodian agreement should include provisions to this effect, which should be designed to remain valid, so far as legally possible, during the insolvency of the collecting party.

3.4.9 Verification that the segregation arrangements for IM meet the standards in this Sub-section, such that the IM posted can be returned in a timely manner in the event of the insolvency of a counterparty, should be provided by an independent legal review. Such legal review may be conducted by an independent internal unit, or by an external independent third party either for an AI or for a service provider involved in the segregation arrangement or may take the form of a legal opinion obtained on an industry-wide basis by market participants.

3.4.10 Documentation of, or relating to, the policies and procedures adopted by an AI with respect to the treatment of IM should be made available to, and accessible by, the MA when requested.

3.5 Minimum transfer amount

3.5.1 To reduce operational costs, an AI may agree with a covered entity not to exchange margin if the amount due (combined VM and IM) since the last exchange of margin is equal to or lower than a certain amount agreed by the AI and the covered entity ("minimum transfer amount"). This amount should not be higher than HKD 3.75 million.

3.5.2 The full margin amount needs to be transferred if the minimum transfer amount is exceeded, i.e. without deduction of the minimum transfer amount.

3.5.3 For example, an AI and a covered entity agreed on a minimum transfer amount of HKD 3.75 million. If the AI posted HKD 100 million on Wednesday and the required margin increased to HKD 103 million the next day it would not be required to actually transfer the additional HKD 3 million that day (Thursday) because the increase would be less than the agreed minimum transfer amount. However, if the margin requirement increased by another HKD 3 million on Friday, the AI would have to transfer the full additional amount of HKD 6 million.

3.6 Timing for exchange of margin

3.6.1 Timely exchange of margin significantly reduces counterparty risk. However, operational difficulties may arise if two counterparties are located in different parts of the world, such as Asia and the United States.

3.6.2 Subject to paragraph 3.6.6, VM should be calculated at least on a daily basis and be called at the earliest time possible after the trade date ("T") but no later than the end of the following business day[46] ("T+1"), i.e. before 11:59pm Hong Kong time.

3.6.3 VM should be collected within the standard settlement cycle for the relevant collateral type but no later than two business days after VM has been called.

3.6.4 Subject to paragraph 3.6.6, IM should be called at the earliest time possible after either execution of a transaction or any of the following events if the updated IM amount differs from the IM amount held but no later than the end of the following business day ("T+1"), i.e. before 11:59pm Hong Kong time:

(i) the relevant netting set changes (e.g. new transactions are conducted, existing transactions are terminated or expire);

(ii) for AIs using the internal model approach, changes to the internal IM model are made which affect IM amounts;

(iii) for AIs using the standardised approach, changes are made to the classification of an existing contract to a specific asset category outlined in Appendix A.

3.6.5 IM should be collected within the standard settlement cycle for the relevant collateral type but no later than two business days after IM has been called.

3.6.6 For cross-border transactions, the trade date ("T") is determined by reference to the calendar day of the time zone that is closer to the Asian side of the International Date Line and which is a business day for both parties. Thus if time zones are defined as UTC + x hours, where

[46] As long as the overall principle of timely exchange of margin is upheld, counterparties may agree upon the definition of a business day (e.g. the definition agreed upon in the relevant credit support arrangement may be referred to).

$-12 \leq x \leq 14$, reference should be made to the date of the time zone with the larger value for x.[47, 48]

3.6.7 The IM amount for a given counterparty has to be recalculated at least every ten business days.

3.6.8 An AI should continue to hold IM from a counterparty that is a covered entity until the corresponding derivative contract is terminated or expires unless the total IM amount, calculated according to Sub-section 3.2, falls below the IM threshold under paragraph 3.3.1.

3.6.9 If margin cannot be calculated within the timeframe set in this Sub-section it should be called on the earliest date on which margin can be calculated. In such cases, an AI should document these exceptional circumstances and undertake appropriate and timely measures to ensure the timeframe set in this Sub-section is followed.

3.7 Eligible assets for VM and IM

3.7.1 Subject to 3.7.2 and 3.7.5, the following collateral instruments are eligible as margin under the provisions in this module (both VM and IM):

(i) Cash funds (money credited to an account or similar claims for the repayment of money) in any currency;

(ii) Marketable debt securities issued or fully guaranteed by a sovereign[49];

(iii) Marketable debt securities issued or fully guaranteed by a multilateral development bank;

(iv) Marketable debt securities issued or fully guaranteed by a public sector entity;

[47] UTC+14 hours is the first and UTC-12 hours the last time zone to start a new day.

[48] As an example, consider an AI and a covered entity that is located in the United States enter into a non-centrally cleared derivative. Suppose that it is a different calendar day at the location of each party (say 19 May in New York, 20 May in Hong Kong). In this case, the trade date (T) refers to the Hong Kong calendar day because Hong Kong's time zone (UTC+8 hours) is closer to the Asian side of the International Date Line than New York's time zone (UTC-5 hours) (i.e. 8 being larger in value than -5). Taking 20 May as T, the AI should then follow through the margin call and margin collection processes based on the Hong Kong calendar, i.e. to call margin before 21 May 11:59pm Hong Kong time and collect margin before 23 May 11:59pm Hong Kong time.

[49] For the purposes of this Sub-section, sovereign and credit quality grade have the meaning as defined in section 2 of the BCR.

(v) Other marketable debt securities;

(vi) Gold;

(vii) Publicly traded equities included in the Hang Seng Index or any other main index as specified in Section 51 of the BCR.

3.7.2 The following instruments are not eligible for VM or IM:

(i) securities issued by AIs or foreign banks[50];

(ii) securities whose value exhibits a significant correlation with the creditworthiness of the counterparty or the value of the underlying non-centrally cleared derivatives portfolio in such a way that would undermine the effectiveness of the protection offered by the margin ("wrong way risk"). Specifically, eligible collateral should not include securities issued by the posting counterparty or entities which are part of the same group as the posting counterparty.

3.7.3 An AI should ensure that the collateral collected as VM or IM is not overly concentrated in terms of an individual issuer, issuer type and asset type. In this regard, an AI should have appropriate policies and procedures in place to monitor and manage the concentration risk that may arise from the assets collected as collateral. In particular, an AI is expected to determine appropriate limits as part of its overall risk management process.

3.7.4 Policies and procedures under paragraph 3.7.3 should be evaluated by the internal audit function in accordance with the internal review cycle for counterparty credit risk. The MA may assess on a case-by-case basis if concentration risk is adequately addressed and, if not, whether additive haircuts should be applied to the margin collateral collected to account for this risk.

3.7.5 Assets referred to in paragraph 3.7.1(ii), (iv) and (v) are only eligible as margin under the provisions in this module if they are associated with a credit quality grade 3 or above. The collecting AI should assess the credit quality

[50] To avoid doubt, shares issued by an AI or a foreign bank that are publicly traded and included in the Hang Seng Index or any other main index as specified in Section 51 of the BCR are not eligible for VM or IM.

of these assets by using one or more of the following approaches:

(i) internal ratings (where the AI is authorised to use the Internal Ratings Based (IRB) approach for calculation of regulatory capital);

(ii) internal ratings assigned by its counterparty (where the counterparty is subject to laws applying regulatory capital requirements equivalent to those applied in Hong Kong); or

(iii) external ratings provided by recognised external credit assessment institutions (ECAIs).

3.7.6 The approach referred to in paragraph 3.7.5 should be used consistently over time for specific categories of assets.

3.7.7 Where an internal rating is used to determine the eligibility of a debt security, the internal rating needs to be mapped to the credit quality grade that most closely reflects the same, or substantially similar, probability of default.

3.7.8 An AI should have appropriate policies and procedures in place for the case where the credit quality of the collateral falls below credit quality grade 3. The relevant policies and procedures should:

(i) ensure the counterparties do not accept additional collateral assets which are no longer associated with a credit quality grade 3 or above;

(ii) define a schedule by which already accepted collateral is to be replaced over a period of time not exceeding two months;

(iii) set a credit quality step level that is below credit quality grade 3, which, when exceeded, requires immediate replacement;

(iv) enable counterparties to increase the haircuts on the relevant collateral over the period set out in point (ii).

3.8 Haircut

3.8.1 The market value of eligible collateral is subject to market, foreign exchange and other risks. To address this, as well as the procyclicality and volatility of market values of collateral in times of financial stress, an AI should apply the haircuts set out in Appendix C to the market value of eligible collateral for margin purposes.

3.8.2 A currency mismatch arises whenever the eligible collateral posted (as either VM or IM) is denominated in a currency other than the currencies agreed by the contracting parties in the relevant contract.

3.8.3 For the purpose of exchanging IM, each party may designate (agree) only one currency ("termination currency") in the relevant contract (individual derivatives contract, governing qualifying master netting agreement or the credit support arrangement).

3.8.4 In the case of a currency mismatch, an additive haircut of 8 % ("FX-haircut") should be applied to the market value of non-cash VM collateral and any IM collateral (cash IM collateral and non-cash IM collateral). The FX-haircut does not apply to the market value of cash VM collateral.

3.8.5 To avoid doubt, the FX-haircut does not apply as long as collateral is exchanged in a currency agreed by the contracting parties in the relevant contract or in cases where VM is settled in cash (any currency).

3.8.6 If the relevant contract does not identify relevant currencies as described in paragraphs 3.8.2 and 3.8.3 the FX-haircut would apply to the market value of all collateral for margin purposes, except cash VM collateral.

4. Risk mitigation standards

4.1 Trading relationship documentation

4.1.1 An AI should establish and implement policies and procedures to execute written trading relationship documentation with its counterparties prior to, or contemporaneously with, executing a non-centrally cleared derivative transaction. The policies should include the minimum standards and minimum retention period for the trading relationship documentation (see paragraph 4.1.3). The relevant policies and procedures should be approved by the Board or, if the Board decides to delegate such authority, a designated committee and should be subject to independent internal or external review periodically.

4.1.2 The retention period for the trading relationship documentation and any modification thereof should be for a minimum of 5 years after the termination, maturity or assignment of any non-centrally cleared derivative which is subject to such documentation.

4.1.3 Trading relationship documentation should:

- provide legal certainty for non-centrally cleared derivatives;
- include all material rights and obligations of counterparties concerning their trading relationship with regard to non-centrally cleared derivatives (see paragraph 4.1.4). Such rights and obligations of the counterparties may be incorporated by reference to other documents in which they are specified;
- be executed in writing or through other equivalent non-rewritable, non-erasable electronic means (without prejudice to the second sentence of the preceding bullet);
- be consistent with any applicable law or regulation.

4.1.4 The material rights and obligations referred to in the second bullet of paragraph 4.1.3 should include but are not limited to those with respect to:

- payment obligations;
- netting of payments;
- events of default or other termination events;
- calculation and netting of obligations upon termination;
- transfer of rights and obligations;
- governing law;
- processes for valuation, portfolio reconciliation

and dispute resolution, where applicable;

- matters contained in credit support arrangements, where applicable: VM and IM standards, types of assets that may be used for satisfying such margin standards and any asset valuation haircuts, investment and rehypothecation terms for assets posted to satisfy such margin standards, guarantees, and custodial arrangements for margin assets, including whether margin assets are to be segregated with a third party custodian.

4.1.5 In the case of one-off transactions, trading relationship documentation could take the form of a trade confirmation that includes all material rights and obligations of the counterparties to the non-centrally cleared OTC derivatives transaction. [51]

4.2 Trade confirmation

4.2.1 An AI should establish and implement policies and procedures designed to ensure the material terms of its non-centrally cleared derivatives transactions are confirmed as soon as practicable after the transactions are executed. Material terms confirmed should include terms necessary to promote legal certainty to the transaction, including incorporating by reference, the trading relationship documentation or any other documents that govern or otherwise form part of the trading relationship agreement. A list of possible material terms is set out in Appendix D. In the case of one-off transactions, a confirmation that includes all of the material rights and obligations of the counterparties to the transaction (see paragraph 4.1.4) and all of the material terms of the transaction would meet the requirements for trading relationship documentation and trade confirmation.

[51] Trading relationship documentation in the form of long-form confirmations in the case of one-off transactions executed within the timeframe set out in paragraph 4.2.3 is deemed to be "contemporaneous" under paragraph 4.1.1.

4.2.2 The relevant confirmation should be in writing via non-rewritable, non-erasable automated methods and executed electronically where it is reasonably practicable for the relevant counterparties to the transaction to do so. Otherwise confirmation should be given in writing via manual means (e.g. fax) or other non-rewritable, non-erasable electronic methods (e.g. email).

4.2.3 Trade confirmation should be completed as soon as practicable, depending on the type of non-centrally cleared derivative entered into.[52] An AI should implement appropriate policies and procedures designed to ensure a confirmation is executed by the following timelines:

- For interest rate swaps, cross-currency swaps and credit default swaps[53]: by T+1 from and after 1 March 2017;
- For other product types: by T+2 from 1 September 2017 to 28 February 2018; and by T+1 from and after 1 March 2018.

An AI may use one-way confirmation instead of two-way confirmation, as long as (i) both parties to the transaction have agreed in advance on this process; (ii) one-way confirmation is not prohibited under the applicable laws and regulations which govern the non-centrally cleared derivative transaction that is to be confirmed; and (iii) the outcome of the confirmation is legally binding on both parties. In this case, an AI should provide an acknowledgement[54] within the relevant timeframe set out above, and give a deadline for the counterparty to object.

[52] The trade confirmation provisions do not apply to an AI acting as OTC derivatives intermediary in cases where it acts as an agent without obligations to prepare or sign any trade confirmations.

[53] An interest rate swap is defined as a non-centrally cleared derivative transaction under the terms and conditions of which: (a) the two counterparties to the transaction agree to exchange interest rate cash flows at specified intervals while the transaction is still outstanding; and (b) the payments are to be calculated by reference to (i) a notional amount that is denominated in a single currency; and (ii) agreed interest rates or interest rate indexes. A credit default swap is defined as a contract, which commits two counterparties to exchange a periodic fee for a payment contingent on a default event or any other agreed change in the credit quality of a reference asset for an agreed period of time.

[54] An acknowledgement refers to a written or electronic record of all of the terms of an OTC derivative transaction, signed and sent by one counterparty to the other.

4.2.4 For transactions concluded after 4:00 p.m. Hong Kong time, or with a counterparty located in a different time zone which does not allow for confirmation by the set deadline, the confirmation should take place as soon as practicable and, at the latest, one business day following the otherwise applicable deadline in paragraph 4.2.3.

4.2.5 Confirmation is required upon entering into a transaction, including as a result of novation. An AI should also consider adopting policies and procedures to confirm material changes to the legal terms of, or rights and obligations under, the transaction. Such changes may include termination prior to scheduled maturity date, assignment, novation, amendment or extinguishing of rights or obligations.

4.2.6 An AI should maintain records of transactions that remain unconfirmed after 5 business days from the execution date of the transactions. The records should be made available to the MA upon request.[55]

4.3 Valuation with counterparties

4.3.1 An AI should agree with its counterparties on, and clearly document in writing, the process that will be relied upon for determining the value of non-centrally cleared derivatives in a predictable and objective manner at any time from the execution of the transaction to the termination, maturity, or expiration thereof, for the purpose of exchanging margin.

4.3.2 The valuation determinations should be based on economically similar transactions or other objective criteria.[56] The valuation may be computed internally or provided by third parties.

4.3.3 The general process for valuation to be agreed on should cover the approach, the key parameters or the data sources for such parameters.

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[55] Before 1 September 2017, paragraph 4.2.6 only applies to interest rate swaps, cross-currency swaps and credit default swaps.

[56] No OTC derivative market participant should, however, be required to disclose to its counterparty confidential and/or proprietary information about, or used in, any model it may use to value an OTC derivative.

4.3.4 All agreements on the valuation process should be documented in the trading relationship documentation or trade confirmation. A process for determining the valuation should be in place for the entire duration of non-centrally cleared derivatives transactions.

4.3.5 An AI should perform periodic review of the agreed-upon valuation process to take into account any changes in market conditions. Where changes are made as a result of the review, the relevant documentation must be updated to reflect such changes.

4.3.6 The inability to agree on the value of non-centrally cleared derivatives became especially acute during the 2007-2009 financial crisis when there was widespread failure of the market inputs needed to value many transactions. Therefore, valuation documentation should include an alternative process or approach by which an AI and its counterparty will determine the value of a non-centrally cleared derivative in the event of the unavailability, or other failure, of any inputs required to value the transaction. An AI and its counterparty may agree on changes or procedures for modifying or amending the valuation process or approach at any time so long as the agreements remain consistent with applicable law.

4.3.7 An AI should also agree with its counterparties and document how disputes on valuation should be resolved should they arise (see Sub-section 4.6).

4.4 Portfolio reconciliation

4.4.1 An AI should establish and implement policies and procedures to ensure that the material terms and valuations of all outstanding transactions (both collateralised and uncollateralised) in a non-centrally cleared derivatives portfolio are reconciled with counterparties at regular intervals.

4.4.2 The process or method of portfolio reconciliation should be agreed upon by an AI and its counterparties. It should be designed to ensure an accurate record of the material terms and valuations of the non-centrally cleared derivatives in the portfolio, and to identify and resolve discrepancies in the material terms and valuations in a timely manner. In case of a discrepancy in valuation, a difference between the lower valuation and the higher valuation of more than 10 percent of the higher valuation needs to be reconciled. Portfolio reconciliation should encompass all transactions in the portfolio.[57]

4.4.3 An AI should have policies and procedures in place to agree on and undertake portfolio reconciliation:

- where the other counterparty is a financial or significant non-financial counterparty: (i) each business day when the AI and the counterparty have 500 or more outstanding non-centrally cleared derivatives with each other; or (ii) once per week when the AI and the counterparty have between 51 and 499 outstanding non-centrally cleared derivatives with each other at any time during the week; or (iii) once per quarter when the AI and the counterparty have 50 or less outstanding non-centrally cleared derivatives with each other at any time during the quarter;
- subject to paragraph 2.2.3, for all other counterparties: (i) once per quarter when the AI and the counterparty have more than 100 outstanding non-centrally cleared derivatives with each other at any time during the quarter; or (ii) once per year when the AI and the counterparty have 100 or less outstanding non-centrally cleared derivatives with each other.

[57] The valuation reconciliation threshold of 10% could be applied at the netting set level. Once the 10% threshold is exceeded, all the transactions in the netting set portfolio need to be reconciled. Nevertheless, this does not preclude an AI from applying a reconciliation threshold at the transaction level which is agreed with its counterparty taking into account the risk profile of the portfolio.

As to the material terms of outstanding transactions in a non-centrally cleared derivatives portfolio, they should be reconciled at the transaction level.

4.5 Portfolio compression

4.5.1 To reduce operational risk and counterparty credit risk exposure, an AI should establish and implement policies and procedures to regularly assess and, to the extent appropriate, engage in portfolio compression by replacing economically-equivalent transactions by decreasing the number of transactions and/or notional value of a portfolio of non-centrally cleared derivatives transactions.

4.5.2 Portfolio compression may be performed on a bilateral or multilateral basis.

4.6 Dispute resolution

4.6.1 An AI should agree with its counterparties on, and document, the mechanism or process for determining when discrepancies in material terms or valuations of non-centrally cleared derivatives should be considered disputes, as well as how such disputes should be resolved as soon as practicable, with a specific process for those disputes that remain unresolved within five business days. Such mechanism or process should provide for the escalation of material disputes to an appropriate level of senior management at the AI.

4.6.2 To facilitate early identification of disputes relating to material terms by the MA, an AI should report to the MA any material disputes in excess of HKD 100 million (or its equivalent in any other currency) if not resolved within 15 business days.[58]

4.6.3 An AI and its counterparties should have in place agreed detailed procedures and processes in relation to the identification, recording, and monitoring of disputes relating to the recognition or valuation of derivatives contracts and to the exchange of margin between counterparties.[59] Sufficient records should be kept to

[58] With respect to the exchange of margin, the HKD 100 million threshold is applied to the AI's disputes with its counterparty on VM and IM (separately).

[59] See paragraphs 3.1.6 (in relation to VM) and 3.2.8 (in relation to IM) and 5.1.7(i) (in relation to the exchange of margin in the event of a dispute).

facilitate the reporting of material disputes, as discussed in paragraph 4.6.2.

5. Supervisory approach

5.1 General

5.1.1 The MA may devise and issue reporting requirements for AIs to submit data relating to the margin exchanged for non-centrally cleared derivatives. Any such reporting requirements will be subject to industry consultation before implementation.

5.1.2 The MA will monitor an AI's compliance with the margin and risk mitigation standards in this module through its ongoing risk-based supervisory approach for the AI (see SA-1 Risk-based Supervisory Approach).

5.1.3 Where appropriate, the MA may require an AI to submit its margin policies for non-centrally cleared derivatives for review. It is expected that an AI should be able to provide information in relation to its margining practices as soon as practicable upon request.

5.1.4 The MA will consider any non-compliance by an AI with the standards in this module on a case-by-case basis to determine whether any supervisory action is warranted to address any identified risk. Such actions may include requiring the AI to submit a report under section 59(2) of the BO to identify the root causes of any deficiency in margining or risk mitigation practices for future rectification and issuing directions under section 52 of the BO to the AI to strengthen its internal control systems. Significant instances of non-compliance with the standards in this module may cause the MA to undertake a review of whether the AI remains in compliance with the authorization criteria in the 7th Schedule to the BO.

5.1.5 Adherence to this module will be reflected in an AI's CAMEL rating and/or supervisory review process assessment.

5.1.6 An AI is expected not to enter into a non-centrally cleared derivatives transaction if it is aware prior to entering into the transaction that the standards in this module will not be met.

5.1.7 An AI will be considered to be in compliance with paragraphs 3.1.1 and 3.2.1 if,

(i) in the event of a dispute over the margin amount, the counterparty fails to accept or post the required margin and the AI collects or posts at least the undisputed amount; or

(ii) in the event the counterparty fails to accept the margin, the AI has made an attempt to post the margin and delivers a notice to its counterparty, in accordance with the timeframe specified in Sub-section 3.6, informing the counterparty about the AI's failed attempt to post margin and that the counterparty has the right to call for margin.

5.1.8 The MA will closely communicate with the home consolidated supervisor or host supervisors of an AI to ensure that it can be verified whether a group has exceeded any of the thresholds in this module with its counterparties.

5.2 Governance

5.2.1 For locally incorporated AIs, the Board of directors has the ultimate responsibility for ensuring that an AI has adequate and effective internal control systems and procedures to ensure compliance with the margin provisions and RMS in this module.

5.2.2 For all AIs, senior management is responsible for the establishment of the internal control systems and procedures to ensure compliance with the standards in this module.

5.2.3 A written policy should be established for the purpose of margining standards. It is acceptable for an AI to adopt its group margin policy. At a minimum, the policy should cover:

(i) procedures for identifying relevant transactions that are subject to the standards of this module;

(ii) information exchange within the group for purposes of calculating the consolidated average aggregate notional amount referred to in paragraph 2.4.9 and the IM threshold referred to in Sub-section 3.3;

(iii) approaches used for calculating VM and IM according to Sub-sections 3.1 and 3.2 and processes implemented which ensure that counterparties agree on these approaches before entering into non-centrally cleared derivatives;

(iv) collateral accepted according to Sub-section 3.7 by the AI for margin purposes and haircuts applied according to Sub-section 3.8;

(v) procedures to monitor and manage concentration risk according to paragraph 3.7.3;

(vi) procedures to ensure the timely settlement of margin according to Sub-section 3.6;

(vii) procedures to ensure proper treatment and segregation of IM collected according to Sub-section 3.4;

(viii) procedures to resolve disputes with counterparties in a timely manner;

(ix) where applicable, the mechanism to ensure that adequate margin, in line with this module, is exchanged on behalf of the Hong Kong branch by the headquarters of an overseas incorporated AI.

5.2.4 A written policy should be established for complying with the RMS referred to in this module. It is acceptable for an AI to adopt its group risk mitigation policy. At a minimum, the policy should cover:

(i) trading relationship documentation (see Sub-section 4.1);

(ii) trade confirmation (see Sub-section 4.2);

(iii) valuation with counterparties (see Sub-section 4.3);

(iv) portfolio reconciliation (see Sub-section 4.4);

(v) portfolio compression (see Sub-section 4.5);

(vi) dispute resolution (see Sub-section 4.6).

5.2.5 The internal control systems and procedures to implement margin provisions and RMS should be subject to periodical review by an AI's internal audit function.

Appendix A

Standardised approach for calculating IM

A.1 Calculation

A.1.1 The total amount of IM required on a portfolio according to the standardised margin schedule should be computed by referencing the standardised margin rates below and by adjusting the gross IM amount by an amount that relates to the net-to-gross ratio pertaining to all derivatives in the legally enforceable netting set. The IM amount would be calculated in two steps. First, the margin rate in Table A.1 would be multiplied by the gross notional size for each derivatives contract, and then this calculation would be repeated for each derivatives contract to arrive at the gross IM. Second, the gross IM amount is adjusted by the ratio of the net current replacement cost to gross current replacement cost (NGR). This is expressed through the following formula:

***Net Standardised IM** = 0.4 * Gross IM + 0.6 * NGR * 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. Net replacement cost is the sum of positive and negative market values of all derivative contracts in the netting set. The value is set to zero if the sum is negative. Gross replacement cost is the sum of the positive market values of derivative contracts in the netting set.

A.1.2 The total amount of IM for a portfolio according to the standardised margin schedule is the net standardised IM amount.

A.1.3 No IM has to be collected in relation to non-centrally cleared derivatives for which an AI faces no (i.e. zero) counterparty risk and these may be excluded from the IM calculation.[60]

Table A.1

Asset class	IM (% of notional exposure)
Interest rate:[61] - 0–2 year duration - 2–5 year duration - 5+ year duration	 1 2 4
Foreign exchange	6
Commodity[62]	15
Equity	15
Credit: - 0–2 year duration - 2–5 year duration - 5+ year duration	 2 5 10
Other	15

[60] As an example, consider a European call option on a single stock. Suppose that an AI agrees to sell a fixed number of shares to another party, the option buyer, at a predetermined price at some specific future date (the contract's expiry) and the option buyer wishes to buy the shares. Suppose further that the option buyer makes a payment to the AI at the outset of the transaction that fully compensates the option writer for the possibility that it will have to sell shares at contract expiry at the predetermined price. In this case, the AI faces zero counterparty risk while the option buyer faces counterparty risk. The AI has received the full value of the option at the outset of the transaction. The option buyer, on the other hand, faces counterparty risk since the AI may not be willing or able to sell shares to the option buyer at the predetermined price at the expiry of the contract. In this case, the AI would not be obliged to collect any IM from the option buyer and the call option could be excluded from the IM calculation. Since the option buyer faces counterparty risk, the option buyer needs to collect IM from the option writer in a manner consistent with the standards in this module.

[61] Inflation swaps, which transfer inflation risk between counterparties, are to be considered as part of the interest rate asset class.

[62] This includes gold and other precious metals such as silver and platinum.

Appendix B

Internal model approach for calculating IM

B.1 Supervisory requirements

B.1.1 An AI should seek formal approval from the MA before using an internally developed IM model.

B.1.2 In the approval process the applicant will need to demonstrate that the relevant IM model satisfies all of the criteria in this Appendix on an ongoing basis. In addition, if the AI decides to make use of the option to incorporate risk-offsetting features according to B.3.5 it will need to demonstrate that the hedging benefits are adequately and reasonably modelled and measured.

B.1.3 An AI may use an industry-wide standard IM model after it has notified the MA of its intent of doing so. The MA may request further information from an AI implementing such a model or the relevant model provider and, as the case may be, will indicate any need for amendments to the model as appropriate.[63]

B.1.4 Responsibility for ensuring the compliance of an industry-wide standard IM model with the standards in this module remains with the AI. As part of its on-site examination process, the MA will conduct post-implementation reviews of the model and its implementation against the criteria set out in this Appendix.

B.1.5 Modifications made to an industry-wide standard IM model required by regulators of "comparable" jurisdictions and centrally performed model recalibrations are not subject to prior approval. Where an AI becomes aware of any such modification or centrally performed recalibration it should notify the MA as soon as practicable. Notification by an industry association or the

[63] The MA encourages AIs, if applicable, to submit the notifications under paragraphs 2.1.11 and B.1.3 in a single letter.

relevant entity or committee performing the modification or recalibration on behalf of AIs is acceptable.

B.1.6 An IM model other than an industry-wide standard model sourced from a third-party is considered as internally developed for the purposes of paragraph B.1.1. To avoid doubt, an AI planning to use a third-party model other than an industry-wide standard IM model should seek formal approval from the MA in accordance with paragraph B.1.1 even if that third-party model is already in use by another AI. Responsibility for ensuring compliance with the standards in this module, however, remains with the AI.

B.1.7 An AI should notify the MA at least 60 days in advance before making any subsequent material changes to an approved model. The notification should substantiate that the model will continue to comply with all the criteria in this Appendix. The MA may not approve any changes to the approved model if the changes are inconsistent with the criteria in this Appendix or the information provided is insufficient. The 60-day prior notification requirement does not apply to model recalibration as a result of backtesting. In this case, a subsequent notification should be provided to the MA as soon as practicable.

B.1.8 The MA may consider that an AI using an internal model should collect a greater amount of IM than that determined by the AI's model if additional collateral is appropriate due to the structure, complexity or other features of the AI's non-centrally cleared derivatives portfolio.

B.2 Modelling standards and calculation

B.2.1 An AI's IM model should be conceptually sound and designed to calculate IM in an appropriately risk-sensitive manner.

B.2.2 The level of sophistication of the modelling approach should reflect the nature, scale and complexity of the risks inherent in the derivative contracts it is applied to.

B.2.3 The IM model should calculate a conservative estimate of the potential future exposure of non-centrally cleared derivatives, reflecting a variation in value of the instrument that is based on a one-tailed 99% confidence interval over a 10-day horizon. The maturity of a derivative contract may be used instead of the 10-day requirement if it is shorter than 10 days.[64]

B.2.4 The IM model should be calibrated based on historical data in the most recent continuous period prior to the calibration date for no less than 3 years and no more than 5 years.

B.2.5 At least 25% of the data used for calibration should be representative of a period of significant financial stress, identified and applied separately at least for each asset class, that is appropriate to the derivatives to which the IM model is applied. If the most recent data period does not contain at least 25% stressed data, the least recent data in the time series should be replaced by data from a period of significant financial stress, until the overall proportion of stressed data is at least 25% of the overall data set.

B.2.6 The data within each of the identified periods should be equally weighted for calibration purposes.

B.2.7 Only non-centrally cleared derivatives subject to a single legally enforceable netting set within the same asset class referred to in paragraph B.3.5 should be included in the same calculation. Derivatives that are not subject to the same netting set should not be considered in the same IM model calculation.

B.2.8 When calculating the IM for cross-currency swaps, the model need not incorporate the risk associated with the exchange of principal under fixed physically settled FX transactions. All other payments or cash flows that occur during the life of the swap should be accounted for in the calculation.

B.2.9 No IM has to be collected in relation to non-centrally cleared derivatives for which an AI faces no (i.e. zero)

[64] If VM is exchanged at less than daily frequency, the number of days in between VM collection should be added to the 10-day horizon. In case VM is exchanged at varying frequency between the calculation of IM amounts, the number of days to be added to the 10-day horizon should be the maximum number of days in between VM collections within this period.

counterparty risk and these may be excluded from the IM calculation.[65]

B.3 Model elements

B.3.1 The IM model should capture all relevant risk factors which materially influence the non-centrally cleared derivatives contracts in a netting set. As a minimum, risk factors should include foreign exchange or interest rate risk, equity risk, credit risk and commodity risk.

B.3.2 The model should appropriately assess other risks if material, arising from imperfect correlations, idiosyncratic risk for credit underlying, market liquidity, and main non-linear dependencies.

B.3.3 The yield curve should be divided into a sufficient number of buckets for capturing interest-rate risk to adequately account for different conditions along the yield curve.

B.3.4 If data is insufficient to capture certain risks accurately an AI may use proxies or approximations in its IM model, provided they are sufficiently conservative.

B.3.5 An IM model may incorporate diversification, hedging, and risk offsets for non-centrally cleared derivatives in the same legally enforceable netting set within one of the following asset classes:

- interest rates and currency[66];
- equity;
- credit;

[65] As an example, consider a European call option on a single stock. Suppose that an AI agrees to sell a fixed number of shares to another party, the option buyer, at a predetermined price at some specific future date (the contract's expiry) and the option buyer wishes to buy the shares. Suppose further that the option buyer makes a payment to the AI at the outset of the transaction that fully compensates the option writer for the possibility that it will have to sell shares at contract expiry at the predetermined price. In this case, the AI faces zero counterparty risk while the option buyer faces counterparty risk. The AI has received the full value of the option at the outset of the transaction. The option buyer, on the other hand, faces counterparty risk since the AI may not be willing or able to sell shares to the option buyer at the predetermined price at the expiry of the contract. In this case, the AI would not be obliged to collect any IM from the option buyer and the call option could be excluded from the IM calculation. Since the option buyer faces counterparty risk, the option buyer needs to collect IM from the option writer in a manner consistent with the standards in this module.

[66] Inflation swaps, which transfer inflation risk between counterparties, are to be considered as part of the interest rates and currency asset class.

- commodities[67];
- other.

B.3.6 These risk-offsetting features should only be recognised within the same asset class and not across different asset classes.

B.3.7 In cases where the allocation of a particular non-centrally cleared derivative to a specific asset class is not straightforward, an allocation should be made based on whichever asset class represents the preponderance of the derivative's overall risk profile. Only non-centrally cleared derivatives that do not fit in any asset class on this basis should be classified as "other".

B.3.8 The total IM for a netting set is the sum of IMs calculated separately for each asset class within the netting set.

B.3.9 The IM amount calculated by the model should not be offset by any IM that may be owed by the AI to its counterparty, i.e. IM should be exchanged on a gross basis.

B.4 Model performance[68, 69]

B.4.1 An AI has to ensure that the data used in the model are subject to a process that ensures their quality.

B.4.2 An AI should have written policies and procedures in relation to the recalibration of the IM model, including:

(i) that the AI should recalibrate its internal model regularly but at least once a year;

(ii) that the AI should ensure that the data used to recalibrate the model incorporates a period of significant financial stress subject to paragraph B.2.5;

[67] The asset class "commodities" includes gold and other precious metals such as silver and platinum.

[68] This section applies to AIs adopting the internal model approach for calculating IM, regardless of whether the model is developed internally or sourced from a third party (including but not limited to an industry-wide standard model). Even when an AI's IM model is centrally developed by its group or a third party, the initial and periodic validations should include, inter alia, an evaluation of the applicability of the model to the AI's relevant derivatives portfolio.

[69] With regard to the initial validation and ongoing monitoring of IM model, an AI is allowed to develop its own statistical tests, provided that they are theoretically sound, well-documented and consistently applied.

(iii) the circumstances that would trigger an earlier recalibration than stipulated under (i);

(iv) procedures for adjusting the margin amount to be exchanged resulting from the recalibration of the model in response to changing market conditions. These procedures should ensure that an AI agrees on a specific period with its counterparties during which the additional IM resulting from the recalibration of the model has to be posted.

B.4.3 The performance of the model should be monitored on a continuous basis which includes testing the model's assessments against realised data and experience. Adequate documentation of backtesting results should be maintained.

B.4.4 An AI's policies and procedures should describe the methodologies used for backtesting and the results which would necessitate a recalibration of the model.

B.4.5 The IM model should be subject to initial and periodical validation to validate its conceptual soundness and the applicability of the model to the derivatives for which it is being used. The validation should also include a review of the IM model in light of developments in the financial markets and advances in model techniques.

B.4.6 Initial validation should be conducted before the model is implemented or whenever any significant changes to the model are made. Periodical validation should be conducted at least once a year.

B.4.7 An AI should take remedial action in a timely manner if the validation reveals any material problems with the model. The MA should be notified as soon as the AI becomes aware of any material problems.

B.4.8 The IM model should be validated by an independent qualified party. Validation by an internal party is acceptable if the internal party is not involved in derivatives trading or the development and operations of the IM model and has the required knowledge and expertise to carry out the validation.

B.5 Internal audit

B.5.1 The maintenance of the IM model and the procedures to calculate the total amount of IM should be subject to periodic review by the internal audit function, or an independent party capable of carrying out the review on behalf of the internal audit function, at least annually. In this context, independent party means a party, within or outside the AI, who is not involved in derivatives trading or the development and operations of the AI's IM model with respect to its operations in Hong Kong. Such a review should include an evaluation of the integrity and reliability of the data sources and the management information system used to run the model, the accuracy and completeness of data used, volatility and correlation assumptions, effectiveness of controls supporting the model measurement systems and compliance with policies and procedures and adherence to the provisions in this module.

B.5.2 At least once a year, the internal audit function should report its findings to the AI's senior management and chief compliance officer.

B.6 Documentation

B.6.1 Subject to B.6.2, an AI should maintain adequate documentation in respect of the IM model. As a minimum, the documentation should include a description of the following elements:

(i) all material aspects of, and any changes to, the model including material assumptions, methodology and valuation of non-centrally cleared derivatives to which it applies;

(ii) circumstances under which the assumptions of the model are deemed to be no longer valid;

(iii) the IM model's review process, including backtesting, validation and review by the internal audit function, and results thereof;

(iv) internal authorisation procedures governing the IM model and changes to it;

(v) procedures that ensure compliance of the IM model with the margin standards in this module.

B.6.2 The documentation should be sufficient to ensure that any knowledgeable third-party would be able to understand the design and operational detail of the IM model.

Appendix C

Standardised haircut schedule

The market value of eligible collateral (see Sub-section 3.7) should be adjusted as follows:

*Adjusted value of collateral = value of collateral * (1 – applicable asset class haircut – applicable currency mismatch haircut)*

Asset class	Residual maturity	Haircut	Haircut credit quality grade 1	Haircut credit quality grades 2 & 3
	Year(s)	(%)		
Cash funds in same currency		0	-	-
Marketable debt securities associated with a credit quality grade 3 or above issued or fully guaranteed by (i) a sovereign; (ii) a multilateral development bank; or (iii) a public sector entity.	less than one	-	0.5	1
	between one and five	-	2	3
	greater than five	-	4	6
Other marketable debt securities associated with a credit quality grade 3 or above that are publicly traded, subject to paragraph 3.7.2	less than one	-	1	2
	between one and five	-	4	6
	greater than five	-	8	12
Eligible equities		15	-	-
Gold		15	-	-
Add-on FX-haircut for currency mismatch, subject to paragraphs 3.8.4 and 3.8.5		8	-	-

Note: Sovereign and credit quality grade each have the meaning applied to them pursuant to section 2 of the BCR. As a reference, “sovereign” includes: the Government, the central government of a country, the central bank of a country, an authority of a country which performs in the country functions similar to the functions performed by the Monetary Authority, or a relevant international organisation. The haircuts for credit quality grade 1 apply to securities issued or fully guaranteed by a relevant international organisation or a multilateral development bank. Credit quality grades as per the BCR are determined by referring to external credit assessment institution (ECAI) issue-specific ratings.

In case ECAI issue-specific ratings are not available for certain marketable debt securities issued or fully guaranteed by a sovereign or public sector entity, an AI may adopt the issuer rating of the relevant sovereign or public sector entity to determine the credit quality grade for these debt securities. However, for other marketable debt securities (i.e. item (v) in paragraph 3.7.1 of this module), their credit quality grades should be based on the ECAI issue-specific ratings.

Appendix D

Possible material terms for trade confirmation[70]

General terms
Trade date
Effective date
Underlying instrument
Termination date
Settlement method (cash or physical)
Settlement date (and time zone, if multiple currencies are involved)
Business day convention
Governing law

Asset class: credit/equity
Counterparty purchasing the protection
Counterparty selling the protection
Information identifying the reference entity
Notional amount
Currency in which notional amount is expressed
Amount of initial payment
Currency in which initial payment is expressed (where applicable)
Payment frequency
Spread (where applicable)

Asset class: FX
Currency 1
Currency 2
Notional amount 1
Notional amount 2
Exchange rate
Payer of currency 1
Payer of currency 2

[70] These examples do not represent an exhaustive list of confirmation terms.

Asset class: interest rate

Notional amount (leg 1)
Notional currency (leg 1)
Notional amount (leg 2)
Notional currency (leg 2)
Amount of initial payment
Currency in which initial payment is expressed
Rate of leg 1
Day count of leg 1
Rate of leg 2
Day count of leg 2
Payment frequency of leg 1
Payment frequency of leg 2
Reset frequency period of leg 1
Reset frequency period of leg 2
Spread
Payer of leg 1
Payer of leg 2

Asset class: commodity

Quantity unit
Quantity frequency
Total quantity
Price unit
Price currency
Grade
Floating rate payer
