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Supervisory Policy Manual		
CA-G-5	Supervisory Review Process	V.1 – 10.11.06

This module should be read in conjunction with the [Introduction](#) and with the [Glossary](#), which 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 describe the MA's approach to conducting the SRP, including the criteria and standards used for evaluating an AI's capital adequacy and, where applicable, the effectiveness of its CAAP, for the purposes of determining its minimum CAR under §101(1) the Banking Ordinance

Classification

A statutory guideline issued by the MA under §16(10) of the Banking Ordinance

Previous guidelines superseded

This is a new guideline.

Application

To all locally incorporated AIs

Structure

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1. Introduction

1.1 Terminology

1.1.1 Abbreviations and other terms used in this module have the following meanings:

- “basic approach”, in relation to the calculation of an AI’s credit risk, means the method of calculating that risk as set out in Part 5 of the Banking (Capital) Rules;
- “CAAP” means the capital adequacy assessment process that an AI uses to identify and measure the risks it faces and to assess how much capital is needed to support those risks;
- “CAR” means the capital adequacy ratio as defined in §2(1) of the Banking Ordinance;
- “capital add-on”, in relation to the minimum CAR set by the MA on an AI under §101(1) of the Banking Ordinance, means that portion of the minimum CAR which is in excess of the statutory minimum of 8%. As an example, if the MA requires an AI to observe a minimum CAR of 10%, the capital add-on that the AI is required to maintain above the statutory minimum is 2%;
- “Banking (Capital) Rules” mean those rules made by the MA under §98A(1) of the Banking Ordinance prescribing the manner in which the CAR of AIs shall be calculated;
- “IMM approach”, in relation to the calculation of an AI’s market risk, means the method of calculating that risk under the internal models approach as set out in Divisions 11 and 12 of Part 8 of the Banking (Capital) Rules;



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- “internal capital”, in relation to an AI, means the amount of capital which the AI holds and allocates internally as a result of the AI’s assessment of the risks faced by the AI;
- “IRB approach”, in relation to the calculation of an AI’s credit risk, means the method of calculating that risk under the internal ratings-based approach as set out in Part 6 of the Banking (Capital) Rules;
- “minimum capital requirements” mean the minimum standards and requirements for calculating the amount of capital that an AI should hold in respect of its credit, market and operational risks as prescribed in the Banking (Capital) Rules;
- “SRP” means the supervisory review process conducted by the MA for the purposes of evaluating and monitoring the capital adequacy of individual AIs, and of determining their minimum CAR under §101(1) of the Banking Ordinance; and
- “statutory minimum” means the minimum CAR of 8% as specified in §98(1) of the Banking Ordinance.

1.2 Background and scope

- 1.2.1 As part of the revised capital adequacy framework, the MA will conduct the SRP on individual AIs to assess their capital adequacy and determine if they should hold additional capital to cater for risks that are not covered or adequately covered under the minimum capital requirements.
- 1.2.2 The basic elements of the SRP are already embedded in the MA’s existing supervisory framework. In particular, with the power conferred upon him under §101(1) of the Banking Ordinance, the MA has for a long time required AIs to observe a minimum CAR in excess of the statutory minimum, the level of which is subject to variation depending on the risk profile of individual AIs. This has



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been with the aim of assigning a minimum CAR to each AI that reflects more precisely the range of risks to which it is potentially exposed. Thus, the implementation of the SRP will be more of an elaboration and refinement process, rather than a radical change of existing practices.

1.2.3 A major feature introduced under the SRP is the use by the MA of a more detailed and rigorous assessment framework for setting the minimum CAR of each AI, taking into account the overall risk profile and risk management systems of individual AIs, the extent to which they are exposed to risks that are outside the realm of the minimum capital requirements and, where applicable, the effectiveness of their CAAP.

1.2.4 This module sets out the approach that the MA will adopt in conducting the SRP, including a description of:

- the main principles and objectives underlying the SRP;
- the key assessment factors that the MA will consider in determining the minimum CAR of individual AIs, and the supervisory arrangements and procedures associated with the assessment;
- the supervisory approach to reviewing the CAAP of individual AIs, including the standards and requirements expected of them; and
- the process for ongoing monitoring of AIs' capital adequacy and compliance with the Banking (Capital) Rules.

1.2.5 This module should be read in conjunction with other supervisory guidelines, including the modules of the Supervisory Policy Manual, issued by the MA that are relevant to the assessment of AIs' capital adequacy (see a list of such guidelines in **Annex A**).

1.3 Main objectives and principles

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1.3.1 The SRP is an important and integral part of the revised capital adequacy framework. Its main objectives are to:

- facilitate supervisory monitoring of the capital adequacy of Als to support the risks in their business activities;
- encourage Als to enhance their risk management techniques for monitoring and controlling such risks; and
- provide the impetus for Als to adopt more active capital planning and management practices.

1.3.2 In conducting the SRP, the MA is guided by the following principles which would help achieve the objectives mentioned in para. 1.3.1:

- Als should have an internal process for assessing their overall capital adequacy in relation to their risk profile and a strategy for maintaining the required level of capital (“the first SRP principle”);
- the MA has the responsibility of reviewing Als’ internal capital adequacy assessments and determining whether the resultant capital position is adequate (“the second SRP principle”);
- the MA expects Als to operate above the statutory minimum and has the power to require Als to do so (“the third SRP principle”); and
- the MA seeks to intervene at an early stage to prevent Als’ capital from falling below prudent levels (“the fourth SRP principle”).

1.3.3 The manner in which the MA will apply the four SRP principles through the legal powers conferred upon him under the Banking Ordinance is elaborated in subsection 2.2.

1.4 Implementation



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- 1.4.1 Starting from 1 January 2007, the MA will conduct the SRP on AIs (including a review of the appropriateness of their minimum CAR) as part of the risk-based supervisory process. The scope and extent of applying the assessment standards and criteria under the SRP will be commensurate with the nature, size and complexity of the business operations of individual AIs.
- 1.4.2 For the avoidance of doubt, the minimum CAR set by the MA before 1 January 2007 will continue to apply to AIs until otherwise advised by the MA under §101(1) of the Banking Ordinance, as a result of the SRP conducted. As the determination of the minimum CAR for individual AIs will be subject to the SRP, the MA's practice of having a capital floor of 10% will cease, meaning that it is possible for an AI to be assigned a minimum CAR with a capital add-on of less than 2% if this is so justified by the MA's assessment.
- 1.4.3 Under the SRP, AIs are required to have a comprehensive process for allocating their internal capital against the wide range of risks they are faced with, the effectiveness of which is subject to the MA's assessment. This formal process for internal capital allocation is referred to as the CAAP.
- 1.4.4 The SRP to be conducted on AIs, and any resultant change in their minimum CAR, will remain driven by the MA's assessment of their capital adequacy, although AIs' CAAP capabilities may become a more prominent factor for consideration in due course. This recognises that only the large international banks currently conduct internal capital allocation, and most AIs, in particular the smaller ones, will need more time and resources to develop and enhance their capital planning and assessment practices.
- 1.4.5 As it may not be cost-effective for each and every AI with small and simple operations to develop elaborate systems for conducting the CAAP, those that have been approved by the MA to adopt the basic approach permanently for the calculation of credit risk will not be



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assessed for compliance with the CAAP standards set out in section 4.¹ Nevertheless, in setting the minimum CAR of these AIs, the MA will take into account the fact that their capital management practices may not comply fully with the supervisory standards.

- 1.4.6 Other AIs will be required to develop their systems for conducting the CAAP in line with the prescribed standards. While the MA would not expect AIs to have a well developed CAAP immediately after 1 January 2007, they should initiate efforts to put in place the basic elements of the CAAP (see para. 4.3.3 for more details), and make steady progress towards enhancing the process over time. The MA will discuss with individual AIs their plan for implementing the CAAP standards, and monitor such progress on an ongoing basis.

2. The MA's approach to supervisory review

2.1 General

- 2.1.1 This section provides an overview of the legal backing that the MA derives from the Banking Ordinance for determining the minimum CAR of AIs through the SRP (see subsection 2.2) and the key components that make up this process (see subsection 2.3).
- 2.1.2 Other supervisory arrangements relevant to the conduct of the SRP, including the application of such arrangements to local banking groups and foreign bank subsidiaries, and the procedures for AIs to make representations and appeals where necessary are respectively set out in subsections 2.4 to 2.7.

2.2 Legal framework

- 2.2.1 The Banking Ordinance provides the MA with sufficient powers to enforce the four SRP principles set out in subsection 1.3.

¹ This does not however absolve such AIs from the responsibility of ensuring that there is sufficient capital to meet their business and operational needs.



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- 2.2.2 Under Para. 6 of the Seventh Schedule to the Banking Ordinance, Als are obliged to satisfy the MA that they maintain, on and after authorization, adequate financial resources (whether actual or contingent) for the nature and scale of their operations. This provides the basis for Als to conduct internal capital assessments under the CAAP (i.e. the first SRP principle) and the MA to review such assessments (i.e. the second SRP principle) so as to ascertain that Als have adequate financial resources.
- 2.2.3 While §98(1) of the Banking Ordinance requires Als to maintain a minimum CAR of 8% (i.e. the statutory minimum) in accordance with §98(2) and rules made by the MA under §98A(1), §101(1) empowers the MA to vary the minimum CAR of individual Als by increasing the ratio to not more than 16%.² This enables the MA to require an AI to maintain a minimum CAR in excess of the statutory minimum, after consultation with the AI, based on his assessment of its capital adequacy (i.e. the third SRP principle).
- 2.2.4 Consistent with the fourth SRP principle, all Als are required to observe a non-statutory trigger ratio (set at a level of at least 0.5% above their minimum CAR). The trigger ratio is intended to provide a cushion to reduce the risk of an AI breaching its minimum CAR and to provide an early warning signal of deterioration in its capital adequacy. The MA will continue to use this supervisory tool to monitor Als' minimum CAR after the SRP is implemented.
- 2.2.5 The fourth SRP principle is further reinforced by §§99(1) and 100(1) of the Banking Ordinance which respectively require Als to notify the MA of any breach of their minimum CAR and to institute prompt remedial action, as specified by the MA, to restore their capital level.

² As a result of the Banking (Amendment) Ordinance 2005, the ceiling for the setting of minimum CAR by the MA under §101(1) of the Banking Ordinance is changed to 16% for all locally incorporated Als through raising the ceiling of 12% for locally incorporated banks.

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- 2.2.6 Failure of an AI to meet the statutory requirements mentioned in this subsection may call into question whether the AI continues to satisfy the authorization criterion stipulated in Para. 6 of the Seventh Schedule to the Banking Ordinance.
- 2.2.7 Under §§99(3) and 100(3) of the Banking Ordinance, every director, chief executive and manager of an AI has the legal responsibility to ensure that the AI complies with §§99(1) and 100(1) of the Ordinance. Such persons may commit an offence liable for prosecution if the AI fails to comply with the requirements.
- 2.2.8 If an AI is aggrieved by the MA's decision to increase its minimum CAR under §101 (1) of the Banking Ordinance, the AI may appeal to the Chief Executive in Council against that decision under §132A(1) of the Ordinance. Notwithstanding that an appeal has been or may be made, the increase in the AI's minimum CAR will take effect according to the day specified in the notice served on the AI under §101(1) of the Ordinance.

2.3 Key components of SRP

- 2.3.1 The SRP conducted on an AI typically consists of the following key components:
- Review of the AI's risk profile – the MA will form a view of the AI's overall risk profile as part of the ongoing risk-based supervision, with the purpose of assessing those risk and control factors that may result in additional capital for the AI;
 - Review of the AI's CAAP – for AIs that are subject to the CAAP standards set out in section 4, the MA will assess their CAAP as part of the SRP. This review will include a consideration of the assumptions, methodology, coverage and outcome of an AI's CAAP, with a view to ascertaining the adequacy and effectiveness of the AI's CAAP;



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- Determination of the AI's minimum CAR and/or other supervisory measures – the MA will consider whether the AI's minimum CAR remains appropriate or needs to be changed by applying the assessment framework set out in section 3 to the results and findings gathered from the above reviews. The MA may also require the AI to take other actions to rectify any system or control deficiencies identified during the SRP. The assessment results, including any supervisory measures proposed, will be subject to an independent review process as described in subsection 2.7;
- Communication of SRP results to the AI – after completion of the SRP, the MA will discuss with the AI the results of his assessment, including any areas of concern which may lead to an increase in its minimum CAR. The MA will explain in sufficient detail the factors which have led to his assessment and recommend what actions the AI should take to address the concerns. If there is a proposed increase in the minimum CAR, the AI will be consulted (with the opportunity to make representations) before a decision is finalised. An appeal mechanism is also available under §132A(1)(h) of the Banking Ordinance;
- Ongoing monitoring of the AI's capital adequacy – this is to monitor that the AI complies with the various regulatory capital standards and requirements applicable to it on a continuing basis. The MA will update the AI's risk profile regularly, taking into account its progress in addressing any supervisory concerns raised or other events which may significantly affect the AI's ability to monitor and ensure compliance with the Banking (Capital) Rules.

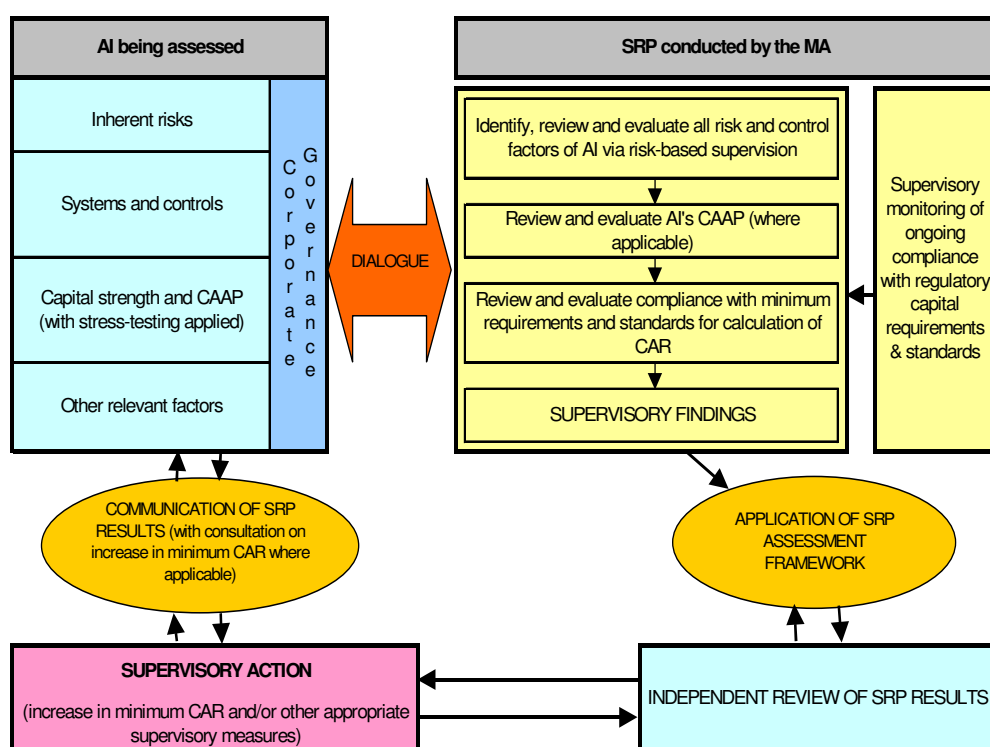
2.3.2 The SRP will generate an active dialogue with the AI concerned regarding the fulfilment of capital adequacy and risk management standards, through which the MA seeks to:

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- gain deeper insights into the AI's overall control and risk management framework;
- establish a closer understanding of how the AI approaches the risks that are not covered under the minimum capital requirements and the amount of internal capital allocated to them;
- understand the mechanisms the AI has maintained for identifying, monitoring and controlling its risks; and
- assess the extent to which the AI's CAAP, where applicable, may be relied upon as a factor to be considered in the MA's evaluation of the AI's capital adequacy.

2.3.3 **Diagram 1** below provides a graphical presentation of the key components of the SRP described above.

Diagram 1 – Key Components of SRP



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2.4 Supervisory arrangements

- 2.4.1 The MA will perform the SRP on each AI regularly (normally once a year) as part of his risk-based supervision. The scope of the SRP will cover all significant business activities of the AI, whether operating locally or overseas, on a solo and/or consolidated basis.
- 2.4.2 When carrying out the SRP, the MA will adopt a forward-looking approach to the extent that he will take stock of any significant changes (either arising from institutional or external conditions) to the AI's overall risk profile in the past year and assess how these changes will affect the AI and its business plans and prospects in the coming year. In doing so, the MA will take into account the results of any offsite reviews and onsite examinations, and make use of any relevant information obtained from various sources such as prudential interviews, banking returns and routine supervisory contacts.
- 2.4.3 The MA will take a proportionate approach when applying the SRP to AIs of varying size and complexity. In other words, the frequency, intensity and depth of the SRP will be determined by the potential risk that the AI poses to the supervisory objectives of the MA. For example, the MA may subject AIs with systemic importance to a more in-depth and comprehensive SRP. For AIs with less complex operations, the MA would not expect them to have sophisticated risk management systems and CAAP, and hence the SRP conducted on such AIs is likely to be less intense and frequent. In categorising AIs, the MA will take account of factors such as the AI's business nature, scale of operations (i.e. size, risk profile and complexity), history of regulatory compliance and significance to financial stability or other supervisory objectives.
- 2.4.4 The SRP will not replicate the role of the Board and senior management of AIs. The primary responsibility for ensuring that an AI has adequate capital to support its risk profile still rests with its Board and senior management.



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2.4.5 The SRP will include a review of the appropriateness of the minimum CAR of an AI. The minimum CAR will be set on a solo basis to monitor the AI's capital adequacy on a standalone basis, unless the MA's prior approval is obtained for allowing the AI to consolidate some of its subsidiaries in the calculation of a solo-consolidated CAR (i.e. the AI will not be required to deduct its investment in those subsidiaries from its solo capital base) subject to the meeting of certain conditions. If the AI has one or more subsidiaries that are to be consolidated for capital adequacy purposes under §98(2A) of the Banking Ordinance, the minimum CAR will also be set on a consolidated basis. See Part 2 of the Banking (Capital) Rules for relevant provisions on the scope of application.

2.4.6 The MA may involve third parties to assist him in conducting the SRP. Under §59(2) of the Banking Ordinance, the MA has the power to require an AI, after consultation with the AI, to provide an auditors' report on such matters as he may specify for the performance of his functions under the Ordinance. The MA may exercise this power to commission an auditors' report when he considers that an independent assessment of the AI's capital adequacy or risk management processes is warranted. To avoid any potential conflict of interest, the external auditor(s) appointed by the AI for the purpose of preparing this report will be approved by the MA, and the appointed auditor(s) may not necessarily be the AI's existing auditor(s).

2.5 Application to local banking groups

2.5.1 The MA, as the home supervisor of a local banking group³, will apply the SRP to the group as a whole, and will monitor the group's capital adequacy at the consolidated level.

³ This refers to a banking group in which the bank holding company is a locally incorporated AI.



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- 2.5.2 The SRP will assess all the major risks of the local banking group, whether arising from banking or non-banking activities (such as securities dealing or insurance-related business). Other risks to the group will also be captured, for example, where services such as IT, accounting, or payment and settlement functions are being provided or control functions are being exercised from outside the group on an outsourced basis.
- 2.5.3 The MA may allow a local banking group to develop a group CAAP covering the positions of its subsidiary AIs if their capital is centrally managed at the group level. In other words, such subsidiary AIs will not be required to establish their own CAAP on a standalone basis. However, those subsidiary AIs that are operating independently will still be required to develop their own CAAP.
- 2.5.4 The MA will set a consolidated minimum CAR for a local banking group and a solo minimum CAR for each of the AIs within the group based on their individual risk profile. The practice of setting the same CAR at both the solo and consolidated levels will continue unless the results of the SRP justify otherwise.
- 2.5.5 As an illustration, if the bank holding company of a local banking group is a retail bank with a fairly diversified risk profile but some of its significant banking subsidiaries are engaged in specialised and high risk business activities (e.g. foreign exchange and derivatives trading) with decentralised risk management systems, there may be a case for setting the solo minimum CAR of those banking subsidiaries at a level higher than that for the bank holding company. Whether the consolidated minimum CAR of the bank holding company will also be set at a higher level than its solo minimum CAR will depend on the impact of the operations of the banking subsidiaries on the group's consolidated financial position.
- 2.5.6 Where a local banking group has overseas branches or subsidiaries the activities of which are significant to the group as a whole, the MA may seek the comments of

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relevant host supervisors on the financial and operating soundness of those branches or subsidiaries in their jurisdictions in the course of conducting the SRP for the consolidated banking group.

2.6 Application to foreign bank subsidiaries

- 2.6.1 In the case of AIs which are subsidiaries of foreign banks, the MA will continue to exercise his legal duty under the Banking Ordinance, through the setting of minimum CAR, to require such AIs to maintain adequate capital in Hong Kong.
- 2.6.2 The evaluation of the capital adequacy of foreign bank subsidiaries under the SRP will however take into account the strength and availability of parental support as well as other relevant information from the home supervisor of the foreign banking group. This may include, for example, the results of the home supervisor's consolidated assessment (including an evaluation of the group CAAP or capital allocation systems and the group support on subsidiaries) of the banking systems and processes used at the group level and any developments or supervisory actions that may affect the calculation of regulatory capital requirements for the subsidiaries in Hong Kong.
- 2.6.3 A foreign bank subsidiary that is subject to the CAAP standards may employ the CAAP methodology of its parent bank, but will need to explain to the MA how the data and methodology have been adjusted to reflect its local business strategy and the risks to which it is exposed in Hong Kong (see subsection 4.6 for more details).

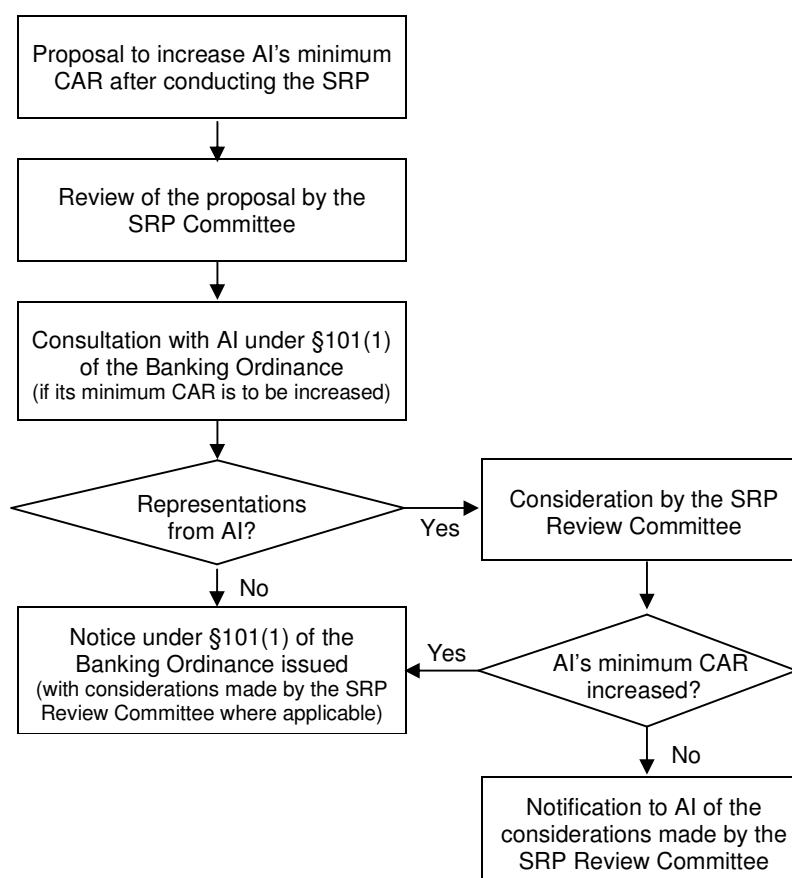
2.7 Representations and appeals

- 2.7.1 The MA will establish a formal mechanism for ensuring the quality, objectivity and consistency of the assessments performed under the SRP in respect of the determination of the minimum CAR of individual AIs and for considering representations from AIs seeking a

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review of the determination. An outline of the mechanism is shown in **Diagram 2** below:

Diagram 2 – Independent Review of SRP Results



2.7.2 The SRP Committee is established to review the assessments conducted on individual AIs under the SRP, and to advise the MA on the appropriateness of any proposed increase in the minimum CAR and/or supervisory measures. The Committee is chaired by an Executive Director, and includes at least two senior staff members within the Banking Departments of the HKMA who have not been involved in conducting the SRP in question.



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- 2.7.3 The SRP Committee will evaluate all relevant facts and arguments in support of the recommendations, and will analyse and compare the assessment results of different AIs to ensure the consistency and quality of assessments made. Before putting forward any recommendations for the MA's consideration, the Committee may direct the relevant supervisory team to provide additional information or carry out further work to resolve any queries or concerns raised.
- 2.7.4 The SRP Review Committee is established to consider representations from individual AIs in respect of a proposed increase in their minimum CAR, and to determine whether the minimum CAR should be increased in the light of those representations and other relevant circumstances of each case. The Committee is chaired by a Deputy Chief Executive, and includes at least four senior staff members within the Banking Departments of the HKMA who have neither been involved in conducting the SRP in question nor participated in considering the SRP under the SRP Committee.
- 2.7.5 Generally, an AI is given 30 days to make written representations following the AI's receipt of the MA's notice in relation to an increase in its minimum CAR. To ensure that the Board and senior management of the AI have fully considered the case, the representations should be accompanied by a certified copy of the minutes of meeting in which the Board (or a designated committee) approved the submission of the representations.
- 2.7.6 If necessary, the AI may request in writing for an extension of the time for submitting the representations by providing reasons to justify the request within the thirty-day consultation period. The Chairman of the SRP Committee may grant an extension of up to 14 days for filing the representations.
- 2.7.7 The AI should set out clearly in its written representations the grounds for seeking a review of the determination of

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the minimum CAR and provide all relevant facts and information that the AI wishes the MA to take into account when considering its representations. The SRP Review Committee may, at its discretion, allow the AI to make oral representations, as a supplement to its written representations. The purpose of oral representations is to allow the AI to elaborate on its written representations.

- 2.7.8 As a general rule, the representations should not delay or impede any formal or informal supervisory actions in progress, or affect the MA's authority to take any supervisory actions against the AI concerned. Under exceptional circumstances, the SRP Review Committee may relieve the AI from complying with some of the supervisory actions while the representations are being considered.
- 2.7.9 If the MA has not received any written representations from the AI within the thirty-day consultation period or if the SRP Review Committee supports an increase in the minimum CAR (no matter whether the increase is as proposed or at a reduced level) after considering the AI's representations, the MA will, by notice in writing served on the AI, increase the AI's minimum CAR pursuant to §101(1) of the Banking Ordinance. The AI will also be informed of the considerations made by the SRP Review Committee, where applicable.
- 2.7.10 If the AI is still aggrieved by the MA's decision, it may appeal against the decision using the appeal mechanism provided by §132A(1) of the Ordinance.

3. Supervisory review of capital adequacy

3.1 General

- 3.1.1 This section focuses on the major elements of the assessment framework adopted by the MA under the SRP, including the key assessment factors that will be considered in evaluating AIs' capital adequacy (see subsection 3.2 below) and the approach towards the

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setting of their minimum CAR (see subsection 3.3 below).

3.1.2 Conducted as part of the MA's ongoing supervision of AIs, the SRP is closely related to the risk-based supervisory framework currently adopted by the MA. Subsection 3.4 describes their relationship and how the assessment results under the SRP may be integrated with the risk-based supervisory process. Also relevant to the SRP are:

- the MA's approach to using stress tests and scenario analyses in evaluating an AI's capital adequacy and its ability to withstand risk;
- the emphasis placed by the MA on encouraging AIs to adopt international risk management standards and best practices through the issue of supervisory guidance; and
- the process of monitoring AIs' capital adequacy on a continuing basis.

These aspects are respectively explained in subsections 3.5 to 3.7.

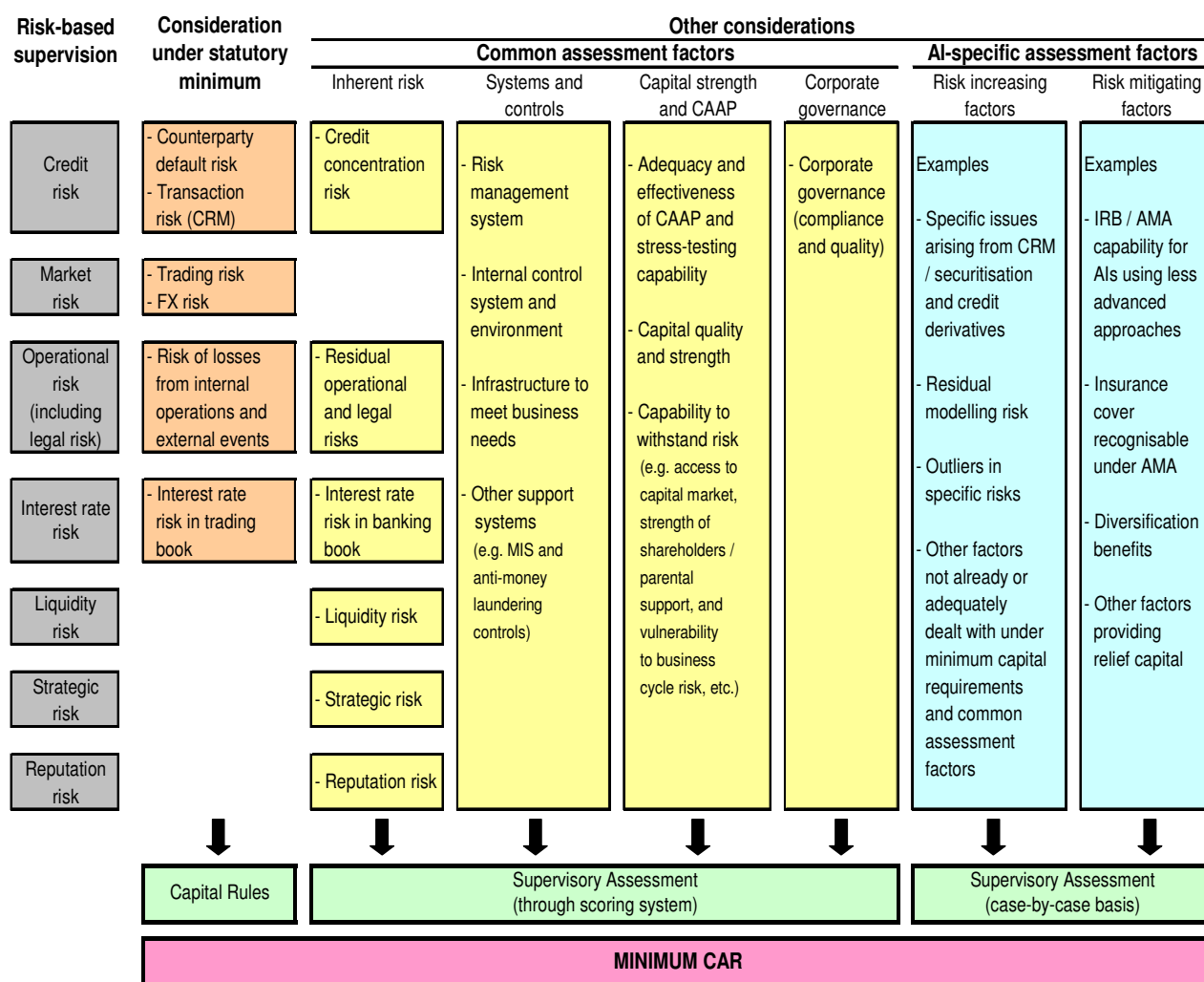
3.2 Key factors for assessing capital adequacy

3.2.1 The SRP broadens the range of risks that will be captured in the revised capital adequacy framework. Apart from credit, market and operational risks that are covered under the minimum capital requirements, the SRP takes into consideration other risks faced by AIs and how well those risks are being managed by AIs. Through the SRP, the MA will evaluate the extent to which an AI is required to hold more capital to cover those risks (i.e. the capital add-on). This subsection serves to specify the major risk and control factors that the MA will consider under the SRP and the approach to assessing the impact of such factors on an AI's minimum CAR.

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3.2.2 With the risk-based supervisory approach as its foundation, the SRP is developed to provide the MA with a comprehensive, systematic and consistent framework for determining the minimum CAR of individual AIs. **Diagram 3** below outlines the key elements that constitute the assessment framework.

Diagram 3 – Key Elements of SRP Assessment Framework





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- 3.2.3 Central to the SRP is the MA's assessment of the level of capital that an AI should set aside for the eight inherent risks identified for the purpose of risk-based supervision, to which all the assessment factors under the SRP can be linked. These inherent risks (see column 1 of **Diagram 3**), i.e. credit, market, operational (and legal), interest rate, liquidity, strategic and reputation risks, are as defined in [SA-1](#) "Risk-based Supervisory Approach".
- 3.2.4 In determining the overall risk profile and minimum CAR of an AI, the MA will take into account two types of assessment factors, i.e. those that are commonly applicable to all AIs (referred to as the "common assessment factors") and those that are specific to the AI concerned (referred to as the "specific assessment factors"). Common assessment factors include those inherent risks set out in para. 3.2.5 and other assessment factors mentioned in para. 3.2.7. Specific assessment factors are explained in paras. 3.2.11 to 3.2.14 below. See also **Annex B** for a more detailed description of the assessment factors.

Level of inherent risks

- 3.2.5 Out of the eight inherent risks, there are certain risks, namely, credit risk (in terms of counterparty default risk and transaction risk), market risk and operational (and legal) risk, that are within the scope of the minimum capital requirements and hence are covered by the statutory minimum of 8% (see column 2). The other inherent risks (including residual risks), as listed below, are to be assessed under the SRP (see column 3):
- credit concentration risk (as a major source of residual credit risk);
 - residual operational (and legal) risk;
 - interest rate risk in the banking book;
 - liquidity risk;



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- strategic risk; and
- reputation risk.

3.2.6 The MA will assess an AI's level of inherent risks covered under the SRP, taking into consideration all relevant qualitative and quantitative factors, including their respective significance to the AI's overall risk profile and the degree of potential loss that may be posed by these risks in relation to the AI's earnings and capital. The direction of such risks (i.e. "increasing", "stable" or "decreasing")⁴, including those arising from new business products or services, in the next 12 months will also be considered. The resultant level of inherent risk will be categorised as "low", "moderate" or "high"⁵.

Other common assessment factors

3.2.7 In addition to the level of inherent risks, the MA will assess an AI's performance under the following assessment factors (see columns 4 to 6) with a view to ascertaining the AI's ability to manage and mitigate the inherent risks:

- Systems and controls – this refers to the assessment of an AI's overall operating soundness, including the adequacy of:
 - risk management systems (i.e. systems used for identifying, measuring, and monitoring the eight inherent risks);
 - internal control systems and environment (including organisation structure, delegation of

⁴ If the level of credit risk is "low" but the direction of this risk is "increasing", the MA may consider whether there is sufficient basis for increasing the level of credit risk to "moderate".

⁵ By way of example, the credit concentration risk of an international bank with fairly diversified portfolios by counterparty, sector, or geographical location will likely be regarded as "low" whereas that of a domestic deposit-taking company with a highly concentrated loan portfolio (e.g. with a few large or connected borrowers) will likely be regarded as "high".



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authority, segregation of duties, control culture, internal audit and compliance functions);

- infrastructure to meet business needs (such as IT capability, staff competence, and outsourcing); and
- other support systems (such as MIS, accounting and anti-money laundering controls);

- Capital strength and CAAP – this refers to the assessment of:

- the quality of capital held by an AI and its access to additional capital and capability to withstand business cycles and other external risk factors (e.g. the impact of mergers/acquisitions, competition or adverse events on the AI's operations); and
- the quality and effectiveness of an AI's CAAP for managing its capital adequacy in relation to its risk profile, particularly the level of capital which enables the AI to stay in business, as well as the overall environment within which the CAAP operates (for AIs that are subject to the CAAP standards set out in section 4); and

- Corporate governance – this refers to the assessment of the adequacy of an AI's corporate governance arrangements (see also para. 3.2.8).

3.2.8 In assessing the above factors, the MA will pay particular attention to the oversight exercised by the AI's Board and senior management, including their knowledge and experience in risk management, their participation and involvement in development of the AI's CAAP and risk management processes, and their responsiveness to risk management or control issues raised by the MA. The MA will also take into account senior management's ability to detect and rectify issues or problems arising from internal operations and to react promptly to changes



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in the external environment (e.g. due to competition or deterioration in macroeconomic variables) that could adversely affect the AI's overall condition.

- 3.2.9 In relation to the assessment of capital strength, an AI's prospects and ability to obtain additional capital readily and the likelihood of it doing so when under stress, the capital support potentially available from the AI's shareholders, and the obligations and commitments to which the AI may have towards its subsidiaries and affiliates (if any) are relevant factors to be considered. In the case of an AI which is a banking subsidiary or a member of a banking group (local or foreign), the MA will further consider whether the AI has strong parental support and whether the parent bank or holding company has the resources to provide such support when needed.
- 3.2.10 The MA will, in evaluating the above factors, have regard to the business nature, scale of operations and systemic importance of AIs and their compliance with the supervisory standards and best practices contained in the relevant guidelines set out in **Annex A**. The resultant level of performance of the above factors will be categorised as "strong", "acceptable" or "weak".⁶ A "strong" performance on the above factors will have a positive impact on the overall risk profile of an AI, and vice versa.

Specific assessment factors

- 3.2.11 There are two types of specific assessment factors, i.e. risk increasing factors (see column 7) and risk mitigating factors (see column 8). They are used to cater for situations or circumstances specific to the AI concerned

⁶ For example, the MA may grade an AI's risk management systems as "strong" if the AI's past history indicates that its risk management policies, systems and controls address all material risks and are effectively implemented. However, if subsequent supervisory findings have identified significant flaws in the AI's risk monitoring and reporting procedures to the extent that senior management is not given accurate or adequate information to evaluate the risks faced by the AI, there may be scope for downgrading the AI's risk management systems to "weak".

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and which have not been dealt with or adequately dealt with under the minimum capital requirements or common assessment factors. The MA will consider these factors on a case-by-case basis, having regard to their significance to individual AIs. The use of such factors is however exceptional and subject to close scrutiny by the MA.

3.2.12 Risk increasing factors are specific factors that will lead to a negative impact on the minimum CAR of an AI. Examples of such factors include:

- significant “outliers” identified in the review of common assessment factors. These may relate to extremely high levels of inherent risk, substantial management or control weaknesses, or significant vulnerability to adverse economic events which warrant a full assessment of the additional capital required to cover the risks involved;
- factors specific to the business and operations of individual AIs, such as business concentration risk and other material non-banking risks (e.g. rapid expansion in non-banking activities without proper expertise and management systems); and
- specific issues arising from the application of or compliance with minimum standards or requirements stipulated under the revised capital adequacy framework. These issues may arise from:
 - residual credit risk associated with credit risk mitigation techniques or complex credit derivatives or securitization transactions;
 - use of internal models under the IRB approach or IMM approach (e.g. capital shortfall identified in stress tests, breach of qualifying criteria or certain modelling deficiencies pending rectification); or



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- operational risk capital charge not commensurate with the scale and complexity of an AI's business operations (e.g. due to the AI's operating losses or significant decline in earnings)⁷.

3.2.13 Risk mitigating factors are specific factors that will have a positive impact on the minimum CAR of an AI. They are used by the MA as incentives for AIs to improve their risk management so that the level of their inherent risks can be effectively mitigated. As an example, if an AI can demonstrate to the MA's satisfaction its proficiency in managing credit, market or operational risk by having sophisticated risk management systems comparable to those required for adopting the advanced approaches promulgated under Basel II⁸ (although the systems may not have been used for regulatory capital treatment in Hong Kong⁹), the MA may recognise this as a risk mitigating factor.

3.2.14 In considering an AI's minimum CAR, the MA will determine, in consultation with the AI concerned, whether there is any risk mitigating factor that can be recognised for capital adequacy purposes. To facilitate his assessment, the MA may require the AI to provide any such information or documentary evidence as is deemed necessary in the circumstances of the case. The MA will assess each case based on its own merits, taking into account the information provided by the AI to justify the risk mitigating effect of the factor under consideration.

⁷ This issue will be considered in the MA's assessment of residual operational (and legal) risk under para. 3.2.5. See also subsection B2.2 of **Annex B** for more details.

⁸ These approaches refer to the IRB approach for credit risk, the internal models approach for market risk and the Advanced Measurement Approaches ("AMA") for operational risk as set out in "International Convergence of Capital Measurement and Capital Standards – A Revised Framework (Comprehensive Version)" published by the Basel Committee on Banking Supervision in June 2006.

⁹ An example of such situations is where a foreign-owned subsidiary AI may adopt the standardised approach for the calculation of operational risk in Hong Kong while using the AMA systems of its parent bank, which has been recognised by the relevant home supervisor for capital adequacy purposes, for risk management purposes.

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3.2.15 The MA will determine the extent to which the minimum CAR of an AI can be increased or reduced due to the specific assessment factors based on his assessment of the extent to which such factors can increase or mitigate the risks of the AI.

Assessment approach

3.2.16 In conducting his assessment under the SRP, the MA will use a combination of techniques and tools, which include:

- quantitative and qualitative assessments;
- scoring of key risk factors and trends;
- statistical and sensitivity analyses;
- stress and scenario tests;
- benchmarking against industry performance; and
- peer group comparisons.

In particular, the common assessment factors will be evaluated based on a scoring system developed by the MA whereas the specific assessment factors will be separately considered by the MA on a case-by-case basis, with the other techniques and tools incorporated where appropriate. Attached at **Annex C** is a set of scoring worksheets which help describe the manner in which the MA will use various techniques and tools to facilitate his assessment under the SRP. AIs should however note that the scoring worksheets will be subject to periodic review by the MA, and are shown here for illustrative purposes only.

3.2.17 Regardless of the approach taken, supervisory judgement will still be an important element in the overall assessment. The MA may also seek the views of the external auditors of an AI and, where applicable, its



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home or host supervisor on particular issues affecting the AI.

3.2.18 On the basis of the assessment results, the MA will decide upon an AI's overall risk profile (also categorised as "low", "moderate" or "high") to facilitate his determination of the AI's minimum CAR and any other appropriate supervisory response to the AI's conditions (e.g. the scope and frequency of the next SRP or the need for any supervisory action to be taken in view of the weaknesses or deficiencies identified).

3.2.19 **Diagram 4** below is an illustration of the risk profile matrix which relates an AI's overall risk profile to the level of inherent risks of the AI (with focus on those captured under the SRP) and its performance in other common assessment factors, i.e. systems and controls, capital strength and capability to withstand risk, CAAP (if applicable), and corporate governance. The effects of any specific assessment factors applicable to the AI will also be taken into account.

Diagram 4 – Risk Profile Matrix

		SYSTEMS AND CONTROLS / CAPITAL STRENGTH / CAAP / CORPORATE GOVERNANCE etc. (aggregate result of assessment)		
		STRONG	ACCEPTABLE	WEAK
INHERENT RISK	HIGH	Moderate risk profile	Moderate / high risk profile	High risk profile
	MODERATE	Low / moderate risk profile	Moderate risk profile	Moderate / high risk profile
	LOW	Low risk profile	Low / moderate risk profile	Moderate risk profile

3.2.20 In order to ensure the quality and consistency of the assessments made, the MA will aggregate the



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assessment results of individual AIs and compare the results among peer groups. The assessment results and recommendations will also be subject to the independent review procedures set out in subsection 2.7 before they are finalised.

- 3.2.21 The MA will discuss the assessment results in detail with individual AIs and consult with them if an increase in their minimum CAR is proposed (see **Diagram 2** under subsection 2.7).

3.3 Determination of minimum CAR

- 3.3.1 Under the SRP, the minimum CAR set by the MA is made up of the statutory minimum of 8% plus a capital add-on which is deemed necessary by the MA to cater for other risks and uncertainties faced by an AI. The MA has the power under §101(1) of the Banking Ordinance to raise the minimum CAR of an AI, after consultation with the AI, to up to 16%, meaning that the capital add-on is subject to a maximum of 8%.
- 3.3.2 With the implementation of the SRP, it is in principle possible for an AI to be assigned a minimum CAR of 8% (i.e. with no capital add-on required) if the MA is satisfied that the AI is well diversified with strong business, management, systems and controls, and all of its material risks are adequately covered by the statutory minimum. Other AIs that do not fall within this category will be required to hold a capital add-on in excess of the statutory minimum, the size of which is governed by the results of their SRP.
- 3.3.3 The minimum CAR of an AI will reflect the MA's perception of its overall risk profile, taking into account all the relevant assessment factors set out in subsection 3.2. The factors may have different levels of significance to different AIs, depending on their individual circumstances. For example, some AIs may be more affected by external factors while for others, management quality or internal controls may be the principal issues.



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- 3.3.4 Broadly speaking, AIs will be assigned with a minimum CAR that falls within the following categories, depending on their assessment results under the SRP:

<u>Overall risk profile</u>	<u>Minimum CAR</u>
Low	8% - 9%
Moderate	>9% - 12%
High	>12% - 16%

- 3.3.5 The minimum CAR will be set at a multiple of 0.5% in the light of the more risk-sensitive approach adopted under the SRP. To reduce frequent fluctuations in the minimum CAR, the MA will consider whether the factors leading to a change in the minimum CAR are temporary in nature or require further observation. For example, if there are reasonable expectations that certain system deficiencies will be quickly rectified by an AI, the MA may consider withholding temporarily the proposed increase in minimum CAR pending a review of the AI's corrective actions. Conversely, if a reduction in an AI's minimum CAR is proposed in the light of the AI's actions taken to address supervisory concerns raised by the MA, the MA may consider withholding temporarily the proposed reduction until a more comprehensive assessment of whether the improvements have been effectively implemented is completed.
- 3.3.6 While the setting of an appropriate minimum CAR for individual AIs is an important aspect of the SRP, the MA recognises that capital alone is not a substitute for sound risk management and control environment. In fact, certain risks may not be adequately addressed by holding additional capital alone. A more appropriate response would be to mitigate a risk by way of adequate systems and controls, or by a combination of adequate systems and controls and additional capital.
- 3.3.7 In certain circumstances (e.g. during the period in which system and control weaknesses have been identified but have yet to be fully remedied), the MA may make use of



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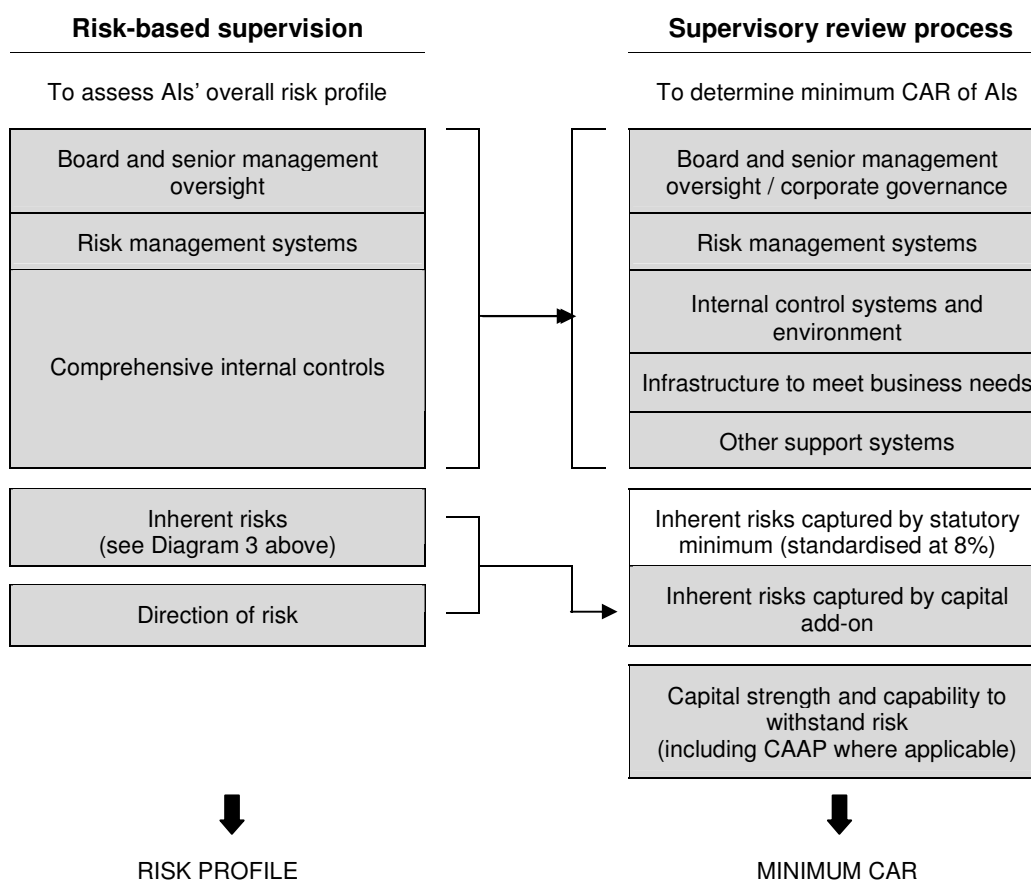
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an increase in regulatory capital as a supervisory tool to focus the minds of management of an AI on the need for improving risk management and rectifying control deficiencies. Thus, the MA may increase the AI's minimum CAR temporarily and, where necessary, take other appropriate supervisory actions (e.g. requiring the AI to reduce the risk inherent in its activities, products and systems), pending corrective actions by the AI.

3.4 Integration with risk-based supervisory process

3.4.1 **Diagram 5** below illustrates the relationship between the SRP and the risk-based supervisory process.

Diagram 5 – Relationship between SRP and Risk-based Supervision





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- 3.4.2 The MA has identified eight inherent risks (i.e. credit, market, interest rate, liquidity, operational, legal, reputation and strategic) for the purpose of risk-based supervision, which is a dynamic and forward-looking approach used for assessing an AI's risk profile (ascertained by balancing the level of the eight inherent risks with the quality of risk management systems for each of these risks). See [SA-1](#) "Risk-based Supervisory Approach" for more details.
- 3.4.3 With the implementation of the SRP, the risk-based supervisory framework for evaluating an AI's overall risk profile will be further enhanced by a comprehensive assessment under the SRP of all relevant factors before the resultant risk profile of the AI is derived. This enhanced framework will also form the basis for determining the AI's minimum CAR.
- 3.4.4 The MA's assessment of an AI's capital strength and capability to withstand risk (including a review of the AI's CAAP where applicable) is conducted as part of the SRP. The results of this assessment will supplement the risk-based supervisory process by providing analyses on the AI's capital strength and earning capacity.
- 3.4.5 The MA will streamline the risk-based supervisory process to encompass evaluation of the SRP and integrate the assessment results for determination of an AI's risk profile and minimum CAR.

3.5 Use of stress and scenario tests

Role of stress-testing under SRP

- 3.5.1 An important aspect of the SRP is to assess the potential vulnerability of an AI to adverse events or other external factors affecting the AI (e.g. business cycle risk) and the need for the AI to hold additional capital for such risk. In performing this assessment under the SRP, the MA will have regard to the results of stress tests and scenario analyses conducted by an AI, which may provide useful

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information about the effects of “stressed” situations on the AI’s financial condition, particularly the impact on its asset quality, profitability and capital adequacy.

- 3.5.2 A stress test typically involves shifting the values of individual risk factors (e.g. worsening of credit spreads or adverse changes in interest rates or other macroeconomic variables) that affect an AI’s financial position and determining the effect of such changes on its business. Stress-testing results can be used by an AI to determine the appropriate appetite for different types of risks and estimate the amount of capital that should be set aside to cover them.
- 3.5.3 A scenario analysis measures the combined effect of adverse movements in a wider range of risk factors affecting an AI’s business operations at the same time (e.g. an economic recession coupled with a tightening of market liquidity and declining asset prices). Stress scenarios may be derived from stochastic models or historical events, and can be developed with varying degrees of precision, depth and severity.
- 3.5.4 Both stress tests and scenario analyses will improve an AI’s understanding of the vulnerabilities that it faces under exceptional, but plausible, events. These events can be financial, operational, legal or relate to any other risk that may have an economic impact on the AI concerned.

Stress-testing obligations on AIs

- 3.5.5 Under the SRP, AIs are expected to carry out regular stress tests and scenario analyses that are appropriate to the nature of their business and the major sources of risk faced by them for risk management purposes. The MA will assess the effectiveness of an AI’s stress-testing programme in accordance with the general standards set out in [IC-5](#) “Stress-testing”. This will be done as part of his review of the AI’s risk management systems.



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- 3.5.6 Als should integrate relevant stress-testing results into their CAAP so as to ensure that there is sufficient capital to withstand the impact of possible adverse events or changes in market conditions on them. In his review of an AI's CAAP, the MA will take into account the stress-testing approach adopted by the AI (including the methodologies and assumptions used) and consider the extent to which the AI has provided for unexpected events in setting its capital level. See **Annex D** regarding the supervisory requirements on the application of stress and scenario tests for the assessment of capital adequacy.
- 3.5.7 In addition, Als using the IRB approach to calculate credit risk or the IMM approach to calculate market risk are required to conduct respectively credit risk or market risk stress tests in compliance with the respective minimum capital requirements. The MA will review the stress-testing results to ascertain whether Als have sufficient capital to meet the minimum capital requirements and cover such results.
- 3.5.8 If the MA is not satisfied with an AI's capital adequacy after taking into account its stress-testing results, the MA may consider increasing the AI's minimum CAR and/or require the AI to reduce its risks. Where necessary, other appropriate supervisory measures may also be taken.

Supervisory stress tests

- 3.5.9 In reviewing Als' capability to withstand risk, the MA will conduct sector-wide stress tests to assess and compare individual Als' vulnerability to the same set of severe market shocks or crisis situations (e.g. based on hypothetical scenarios that are similar to or more severe than those experienced during the 1997 Asian Crisis), making use of the statistical data provided by Als or results generated from their stress tests.
- 3.5.10 Other stress tests will also be applied where appropriate. For example, the MA will apply liquidity stress tests to

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retail banks based on the quarterly cash flow data submitted by them to assess their vulnerability to liquidity crises or bank-run situations when determining the level of their liquidity risk.

- 3.5.11 The MA will consider whether those “outlier” AIs that show significant vulnerability to “stressed” situations compared with their peers warrant a higher minimum CAR and/or a reduction in risk exposures.

3.6 Supervisory guidance on risk management practices

- 3.6.1 A key feature of the SRP lies in its emphasis on the comprehensive recognition of risk in an AI’s capital planning and management processes. Apart from requiring AIs to maintain adequate capital to support the risks they undertake, the SRP encourages them to develop and use better risk management techniques for monitoring and controlling such risks, especially those specific risks not directly or fully addressed under the minimum capital requirements.
- 3.6.2 The MA will continue to develop or enhance supervisory guidelines on risk management and control standards applicable to the SRP (see **Annex A** for a list of relevant supervisory guidelines) with a view to:
- encouraging AIs to adopt international standards and best practices in managing their risks;
 - enabling them to be better prepared for meeting the relevant standards under the SRP; and
 - ensuring a consistent application of the standards.
- 3.6.3 This will make the SRP more risk-sensitive in terms of matching regulatory capital requirements to the risks taken by AIs, and help mould regulatory capital requirements to the way in which AIs manage their business.

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3.7 Ongoing monitoring of capital adequacy

- 3.7.1 The MA will perform ongoing evaluation and monitoring of Als' capital adequacy, including their compliance with the qualifying criteria of the relevant approaches adopted by them under the revised capital adequacy framework. For example, these may relate to the use of the IRB approach and the IMM approach or the recognition of credit risk mitigation techniques and securitization transactions for capital adequacy purposes.
- 3.7.2 If an AI is found to have a continuing decline in its capital level, the MA will require the AI to provide a capital restoration plan and the timetable for doing so. The MA will establish an action plan to monitor the AI closely. If the AI's capital is not maintained or restored within the specified timeframe, the MA may take other appropriate supervisory actions, such as restricting the AI from business expansion or limiting its business, operations or network, pending restoration of the capital to an adequate position.
- 3.7.3 If the findings gathered from ongoing offsite reviews or onsite examinations reflect concerns about an AI's compliance with certain qualifying criteria or conditions under the minimum capital requirements, the MA may seek further explanations from the AI or conduct a more detailed examination to assess the concerns. If necessary, the MA may commission a special review under §59(2) of the Banking Ordinance.
- 3.7.4 As Als have an obligation to manage their capital and ensure that it is sufficient to cover the risks undertaken by them, they are expected to maintain internal monitoring systems (e.g. through internal validations or audits) to ensure that their capital does not fall below prudent levels, and that they continue to meet the minimum standards required for the use of particular approaches or methodologies under the minimum capital requirements.

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- 3.7.5 The MA would expect AIs to advise him of any significant decline in capital levels or non-compliance with certain standards or criteria under the minimum capital requirements (and the causes of such decline or non-compliance) and the remedial actions to be taken as soon as practicable. In the event that an AI's capital falls below the minimum CAR or trigger ratio, the AI should set out a plan for restoring its capital position. Depending upon the circumstances and frequency with which these situations occur, the MA may regard them as indicative of system and control weaknesses.

4. Supervisory standards on CAAP

4.1 General

- 4.1.1 Under the SRP, AIs are expected to have a CAAP for assessing their overall capital adequacy in relation to their risk profile and a strategy for maintaining their capital levels, unless otherwise exempted by the MA (see para. 4.1.2). The CAAP should fit their individual circumstances and needs, having regard to the risk profile and level of sophistication of their operations. The MA has the responsibility of evaluating AIs' CAAP and their capital adequacy through the SRP, the results of which will be taken into account in determining their minimum CAR.
- 4.1.2 This section sets out the MA's approach to reviewing AIs' CAAP and the supervisory standards expected of such CAAP. The requirements for conducting CAAP are applicable to all AIs except for the following:
- AIs that have been approved by the MA for adopting the basic approach permanently are not subject to the CAAP standards in the light of their small and simple operations. Nevertheless, they remain responsible for ensuring that there is sufficient capital to meet their business and operational needs; and



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- Als that are subsidiaries of a local banking group are not required to establish their own CAAP if their capital is managed on a group basis and incorporated into the group CAAP.

4.1.3 The MA recognises that there is no single correct approach to conducting the CAAP. As such, the focus of the MA is on providing high level guidance rather than prescriptive criteria on CAAP methodologies or techniques that should be employed. This also takes into account the fact that market consensus on what constitutes best practice for conducting the CAAP has yet to be emerged, and the development of relevant methodologies and techniques (e.g. on how non-quantifiable risks such as reputation and strategic risks are to be measured) is still evolving. The onus, therefore, is on Als to explain and demonstrate how their CAAP meets supervisory standards, and why they consider their capital targets appropriate given the scale and complexity of their business.

4.1.4 While the MA will assess the reasonableness of Als' CAAP outcome in his review, there is no attempt on the part of the MA to reconcile the difference between the minimum CAR set by the MA and the outcome of an Al's CAAP, as regulatory and economic capital¹⁰ are essentially two different concepts and the objectives that they serve may not be entirely the same. Nevertheless, reviewing an Al's CAAP outcome will help the MA to better understand the Al's capital management systems and strategies.

4.1.5 Als may have different capital adequacy goals (e.g. some may target for a certain credit rating). At a

¹⁰ There is as yet no standardised definition for economic capital within the banking community. However, generally speaking, economic capital is more concerned with shareholders' funds than with other sources of subordinated funding (i.e. the amount of losses that can be absorbed before shareholders' funds are exhausted) and hence is more akin to the nature of core capital. Nevertheless, the approach to evaluating economic capital may differ among Als depending on the capital objective or the desired level of confidence interval set. Regulatory capital goes beyond the amount needed for survival and includes supplementary capital (which serves as an additional protective cushion for depositors).



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minimum, the MA would expect an AI to establish a CAAP to assess the capital needed to cover all material risks, achieve its business plan and enable it to stay in business (with sufficient core capital to protect itself from insolvency).

- 4.1.6 Although there will not be a stringent deadline for AIs to comply fully with the CAAP standards set out in this section, the MA may, where appropriate, take into account the effectiveness of an AI's CAAP in the setting of minimum CAR for that AI. The CAAP will also enable an AI to measure its risks and allocate capital against such risks more precisely. It is therefore in the interest of AIs to enhance their CAAP capabilities as soon as practicable.

4.2 Board and senior management oversight

- 4.2.1 The Board and senior management of an AI have the primary responsibility for ensuring that the AI has adequate capital to support its risks. At a minimum, the capital required should enable the AI to operate as a going concern and be sufficient to provide for business growth.

- 4.2.2 To meet this responsibility, the Board and senior management, among other things, should:

- establish a capital policy which, at a minimum, includes :
 - the AI's capital adequacy goals in relation to its risk profile, taking into account its strategic focus and business plan;
 - the approved capital targets that are consistent with the AI's overall risk profile and financial position; and
 - measures that would be taken in the event capital falls below a targeted level;

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- maintain other policies, to supplement the capital policy, in relation to :
 - risk management;
 - stress-testing, which should adequately address business cycle risk and measure the AI's ability to withstand adverse conditions (see subsection 3.5 for more details);
 - dividend payout;
 - provisioning and methodology; and
 - income recognition and methodology;
- establish capital management guidelines and operating procedures to ensure that the AI is operating in compliance with regulatory capital standards and requirements as well as all internal policies in relation to capital adequacy; and
- establish adequate control procedures to monitor the performance of staff in administering and controlling the capital position of the AI.

4.2.3 Failure to adhere to the above requirements may call into question whether the Board and senior management have adequately discharged their responsibility under para. 4.2.1.

4.3 Key elements of CAAP

General

4.3.1 AIs are expected to develop a CAAP that has the following characteristics:

- comprehensive in terms of the identification and measurement of the risks in an AI's business and the assessment of how much capital is needed to support these risks;



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- risk-based and forward-looking, with emphasis on the importance of capital planning, management and other qualitative aspects of risk management and controls, and taking into account the AI's strategic plans and how these relate to macroeconomic factors;
- integrated into the management process and decision-making culture of the AI. For more sophisticated AIs, the CAAP should be integrated into their day-to-day management process. For example, in addition to allocation of capital to business units, the CAAP would likely play a part in making credit decisions or other general business decisions (e.g. expansion plans and budgets). The results of the CAAP may also feed into the process of determining business strategies and risk appetites. Although smaller AIs tend to have less sophisticated capital planning and assessment systems, their CAAP should at least produce results that enable the ongoing assessment and management of their risk profile (e.g. the results may influence their lending behaviour or use of risk mitigants); and
- capable of producing a reasonable outcome on the overall level of capital and the assessment supporting such outcome.

4.3.2 The CAAP should capture all material risks of an AI, including the eight inherent risks covered under the MA's risk-based supervisory framework. The overall environment within which the CAAP should operate is also important. AIs should, in particular, be able to identify other external risk factors that may arise from the regulatory, economic or business environment. In addition, adequate corporate governance and proper risk management / internal control arrangements constitute the foundation of an effective CAAP.

4.3.3 The basic elements of a sound CAAP should include:

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- policies and procedures to identify, measure and report the risks inherent in an AI's activities;
- a process to relate the AI's internal capital to its risks;
- a process to state the AI's capital adequacy goals in relation to risk, taking into account its strategic focus and business plan; and
- a process of internal controls, review and audit to ensure the integrity of the overall management process.

Risk management policies and procedures

4.3.4 The policies and procedures to identify, measure and report the risks inherent in an AI's activities should meet the following standards:

- risk measurement systems should be sufficiently comprehensive and rigorous to capture the nature and magnitude of the risks faced by the AI, while differentiating risk exposures consistently among risk categories and levels of riskiness;
- adequate controls should be in place to ensure the objectivity and consistency of risk identification and measurement and that all material risks (both on- and off-balance sheet) are adequately addressed;
- detailed analyses should be conducted to support the accuracy or appropriateness of the risk measurement techniques used;
- inputs used in risk measurement should be of good quality;
- those risks that are not easily quantifiable should be evaluated using qualitative assessment and management judgement;



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- changes in the AI's risk profile should be promptly incorporated into risk measures, whether the changes are due to new products or new businesses, increased volumes, changes in concentrations, the quality of the portfolio or the overall economic environment;
- when measuring risks, comprehensive and rigorous stress tests should be performed to identify possible events or market changes that could have serious adverse effects or significant impact on the AI's capital and operations; and
- adequate consideration should be given to contingent exposures arising from loan commitments, securitization and other transactions or activities that may create such exposures.

Internal capital allocation process

4.3.5 The process of relating an AI's internal capital to its risks should meet the following requirements:

- the amount of capital held should reflect not only the measured amount of risk but also an additional amount to account for potential uncertainties in risk measurement;
- the AI's capital should reflect the perceived level of precision in the risk measures used, the potential volatility of exposures and the relative importance of the activities producing the risk;
- capital levels should reflect the fact that historical correlation among exposures can change rapidly; and
- the AI should be able to demonstrate that its approach to relating capital to risk is conceptually sound and that outputs and results are reasonable.

Setting of capital adequacy goals



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4.3.6 There should be a process to state the AI's capital adequacy goals in relation to risks, taking into account its strategic focus and business plan:

- explicit goals and targets need to be established for evaluating the AI's capital adequacy with respect to its risks;
- the AI should develop an internal strategy for maintaining capital levels which should not only reflect the desired level of risk coverage but also incorporate factors such as loan growth expectations, future sources and uses of funds, and dividend policy. Other considerations may also be taken into account (e.g. external rating goals, market image, strategic goals etc.) that are essential for the AI when deciding how much capital to hold. If these other considerations are included in the CAAP, the AI will be required to show how the considerations have influenced its decisions concerning the amount of capital to hold;
- the AI should have an explicit, approved capital plan that should state its objectives and time horizon for achieving them, and set out in broad terms the capital planning process and the responsibilities for that process. The capital plan should also set out how the AI will comply with capital requirements, any relevant limits related to capital, and a general contingency plan for dealing with divergences and unexpected events (e.g. raising additional capital, restricting business activities or using risk mitigation techniques for risk management purposes etc.);
- the AI should conduct stress tests that take into account the risks of the environment in which it is operating and the particular stage of the business cycle, to assess the impact of possible adverse events or scenarios on its capital. The AI should analyse what impact new legislation, competitors' actions etc. may have on its performance, in order to ascertain what changes in the environment it could



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sustain. The requirements and scenarios for stress-testing should be proportionate to the nature, size, risk profile and complexity of the AI's business activities;

- the AI should evaluate whether its long-run capital targets might differ from its short-run goals, based on current and planned changes in its risk profile and the recognition that accommodating new capital needs can require significant lead time;
- it is not necessary for the AI to use formal economic capital models for setting capital goals / targets and assessing its capital adequacy, although it is expected that more sophisticated AIs will elect to do so (in which case the additional criteria set out in subsection 4.4 have to be satisfied);
- the capital goals and targets should be reviewed and approved by the Board regularly (at least annually) to ensure their appropriateness; and
- appropriate adjustments to the CAAP should be timely initiated if changes in the business, strategy or operational environment suggest that the CAAP is no longer adequate.

Internal controls and audits

4.3.7 There should be a process of internal controls, review and audit to ensure the integrity of the overall CAAP:

- the AI should have a process of internal controls, independent review and audit to ensure the adequacy, effectiveness and reliability of the overall CAAP and to monitor the actual performance against the approved capital goals and targets as well as the conformity to the strategy and objectives stated in the CAAP. The frequency of the independent review and audit may vary depending on the size and complexity of individual AIs but should not be less than once every year;



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- the CAAP and risk management process must be subject to periodic reviews to ensure their integrity, accuracy and reasonableness. Areas that should be reviewed include :
 - appropriateness of the CAAP given the nature, scope and complexity of the AI's business;
 - identification of large exposures and risk concentrations;
 - accuracy and completeness of data inputs into the AI's assessment process;
 - reasonableness and validity of scenarios used in the assessment process; and
 - stress-testing and analysis of assumptions and inputs;
- all deficiencies and weaknesses in the CAAP and non-compliance with approved internal policies and management guidelines on capital adequacy or minimum capital requirements must be timely reported to the Board and senior management for early rectification.

Design of CAAP

4.3.8 AIs may design their CAAP in different ways to cater for their individual needs and circumstances. The following are some options that AIs may have reference to:

- using the statutory minimum as a starting point and adding considerations which are not captured or adequately captured by the statutory minimum. To many small and less complex AIs, a relatively simple CAAP is entirely acceptable for them. One possibility might be to base their CAAP primarily on the methodology set out in the minimum capital requirements, supplemented as necessary for any other generic factors which have a particular bearing on their risk profile (e.g. in terms of size, sector or



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products). For example, to obtain a capital goal, an AI may simply take the statutory minimum and adjust it with a capital add-on which is calibrated from elements outside the consideration of the statutory minimum and from other forward-looking elements (including the effect of stressed conditions). The AI should be able to demonstrate that it has adequately analysed all material risks outside the statutory minimum and found that all such risks were covered by the capital add-on;

- using different methodologies for the different risk types (including all risks captured by the statutory minimum and the capital add-on) and then calculating a simple sum of the resulting capital “needs”;
- using a more sophisticated and complex system, e.g. “bottom-up” transaction-based approaches with integrated correlations; or
- using a combination of the above.

Documentation of CAAP

4.3.9 The CAAP (including the methodologies, assumptions, procedures etc.) and all related policies and management guidelines as well as the responsibilities of the Board, senior management and all related staff must be formally documented, and periodically reviewed and approved by the Board (at least annually).

4.3.10 The CAAP and related policies, management guidelines and procedures must be communicated and implemented institution-wide and supported by sufficient authority and resources.

4.4 Additional criteria for use of risk-modelling techniques

4.4.1 Larger and more sophisticated AIs may prefer using risk-modelling techniques (e.g. economic capital or other models) to perform risk aggregation and to assess



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capital adequacy. Risk aggregation is the summation of many types of risk into a single risk measure. This measure estimates the amount of capital an AI requires to protect itself against all risks with a certain degree of confidence. Nevertheless, this approach is not mandatory.

- 4.4.2 Als using risk-modelling techniques to assess capital adequacy should ensure that their CAAP must be a comprehensive process seeking to identify their capital needs on the basis of both quantifiable and non-quantifiable risks. Als should not rely on quantitative methods alone to assess capital adequacy. Non-quantifiable risks, if material, should also be included using qualitative assessment and management judgement. For example, in modelling the potential consequences of individual risks, account needs to be taken not only of the immediate direct profit and loss impact of possible loss events, but also of their potential consequential cost in terms of damage to Als' reputation and future earning capacity.
- 4.4.3 Under no circumstances should the CAAP be a process which focuses only narrowly on the calculation and use of allocated capital or economic value added for individual products or business lines for internal profitability analysis. This approach can be important to an AI in targeting activities for future growth or cutbacks. However, the AI is required to first determine (by some methods) the amount of capital necessary for each activity or business line as a tool for evaluating the overall capital adequacy of the AI. Thus, the process for determining the necessary capital should not be confused with the related management efforts to measure relative returns of the AI or of individual business lines, given an amount of capital already invested or allocated.
- 4.4.4 Als must have adequate controls and procedures in place to validate, on a regular basis, the methodology and data and the robustness of the systems and processes involved in modelling the probabilities and

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potential consequences of individual risks and their aggregation. AIs should also be able to demonstrate that their internal validation process is adequate to enable them to assess the performance of the risk-modelling techniques consistently and meaningfully.

- 4.4.5 The MA will assess whether the overall assessment and validation processes are commensurate with the nature, size and complexity of the AI's business and whether the outcomes generated from the processes are reasonable. The MA will also assess the extent to which the risk-modelling techniques and the risk-adjusted performance measurement they support, are actually employed in managing the AI's business. AIs should understand that it would be difficult to assign much credibility to a model in which the AI concerned lacked either the confidence or the perceived need to use it to drive its business decisions.

4.5 Requirements for consolidated capital

- 4.5.1 AIs are required to conduct their CAAP on a consolidated basis if they have any subsidiary that is subject to §98(2A) of the Banking Ordinance.
- 4.5.2 AIs conducting their CAAP at the group level should ensure that their consolidated capital is adequate to :
- support the volume and risk characteristics of all parent and subsidiary activities; and
 - provide a sufficient cushion to absorb potential losses arising from such activities.
- 4.5.3 AIs should also be able to demonstrate to the satisfaction of the MA that :
- their CAAP has been conducted on a consolidated basis and the total capital estimated as appropriate for the group has been allocated to each group member, according to their risk profile;



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- all group members, including the AI itself, have fully evaluated the risks they face (including reputation risk arising from the failure of another group member, and the risks they face due to exposure to or dependence upon other group members);
- capital is freely transferable within the group (even in situations where the group is under financial stress, especially in relation to the group's cross-border operations where jurisdiction issues come into play); and
- in case there is capital that is not, and the likelihood that it will not be, freely transferable between legal entities within the group, the CAAP has been adjusted to exclude such capital from the capital adequacy assessment.

4.5.4 In assessing the consolidated capital adequacy, the MA will apply the same standards and requirements as required for assessing the capital adequacy of an AI on a solo basis.

4.6 Application to subsidiary AIs

4.6.1 Unless otherwise specified in paras. 2.5.3¹¹ and 4.6.2, all subsidiary AIs are required to ensure that they are adequately capitalised on a stand-alone basis and have their own CAAP which is commensurate with and proportionate to the nature, size and complexity of their business in Hong Kong for supervisory review purposes. The MA will continue to exercise his legal duty under the Banking Ordinance to monitor their capital adequacy and their compliance with the minimum capital requirements through the SRP.

4.6.2 Where appropriate, subsidiary AIs of a foreign banking group may adopt the CAAP methodology used by their

¹¹ Under para. 2.5.3, a local banking group may develop a group CAAP covering the positions of its subsidiary AIs if their capital is centrally managed at the group level.



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parent bank at the group level or, if their capital is centrally managed at the group level, rely on the group CAAP for assessing their capital adequacy. This is on the basis that the group CAAP is conducted in accordance with supervisory standards and criteria that are comparable with those required by the MA, and that the CAAP outcome for the subsidiary AIs has taken into account their local business strategies and associated risks.

- 4.6.3 In addition, those foreign-owned subsidiary AIs that apply the group CAAP for assessing their capital adequacy should be able to explain and demonstrate to the satisfaction of the MA how the capital assessment or allocation is made and how the assessment process meets the relevant supervisory standards and criteria. They should also have the primary responsibility of providing the MA with any information, documentation and evidence that he may require for conducting the SRP. For example, the MA may require a subsidiary AI to provide an independent review or audit report in relation to the adequacy and integrity of the overall assessment process and/or the validity of the models used for the assessment.
- 4.6.4 If a foreign-owned subsidiary AI is unable to satisfy the above-mentioned criteria, the AI will be required to establish and maintain its own CAAP in Hong Kong to meet the MA's supervisory standards.
- 4.6.5 In reviewing the capital adequacy of foreign-owned subsidiary AIs, the MA will also take into account the strength and availability of parental support and other relevant input from the home supervisor. For example, the MA may request the home supervisor to provide information and comments in respect of the capital adequacy of the parent bank or the results of its evaluation of the group CAAP systems.
- 4.6.6 The Board and senior management of subsidiary AIs should note that their responsibility as mentioned in para. 4.2.1 remain unchanged in any circumstances.

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4.7 Review by the MA

4.7.1 In reviewing and evaluating an AI's CAAP, the MA will have regard to the supervisory standards set out in this section. Key factors to be considered include:

- the soundness of the overall CAAP given the nature and scale of the AI's business activities;
- the degree of management involvement in the process, for example, whether the target and actual capital levels are properly monitored and reviewed by the Board (or a designated committee) and senior management;
- the extent to which the internal capital assessment is used routinely within the AI for decision-making purposes;
- the extent to which the AI has provided for unexpected events in setting capital levels;
- the reasonableness of the outcome of the CAAP in terms of whether:
 - the amount of capital required as demonstrated by the CAAP is sufficient to support the risks faced by the AI; and
 - whether the levels and composition of capital chosen by the AI are comprehensive, relevant to the current operating environment, and appropriate for the nature and scale of the AI's business activities.

4.7.2 AIs should be able to explain and demonstrate to the satisfaction of the MA :

- how their CAAP meets supervisory requirements;
- how their material risks are defined, categorised and measured (if their own terminology is adopted), and



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how their approach relates to their obligations under the minimum capital requirements; and

- how the internal capital targets are chosen and how these targets are consistent with their overall risk profile, current operating environment as well as current and planned business needs.

Als are also expected to explain the similarities and differences between the level of capital calculated under their CAAP and their regulatory capital requirements.

4.7.3 The MA expects that Als with complex operations should have a more structured and well-defined risk management framework to monitor the effectiveness of internal control processes and risk exposures. However, for Als with simple organisational structures and less complex operations and activities, the MA considers that a less sophisticated institution-wide risk management framework is entirely appropriate.

4.7.4 In assessing whether Als have sufficient capital to enable them to stay in business, the MA will not rely solely on capital ratios as indicators of capital strength. The MA will consider, among other things, the capacity of an AI's capital structure to absorb losses and how this structure could be adversely affected by changes in performance¹². The MA recognises that core capital is an important component of an AI's capital structure because it allows Als to absorb losses on an ongoing basis and is permanently available for this purpose. It also allows Als to conserve resources when they are under stress as it provides full discretion as to the amount and timing of dividends and other distributions.

¹² For example, an AI experiencing a net operating loss (perhaps due to realisation of unexpected losses) will not only face a reduction in its retained earnings but also possible constraints on its access to capital markets. These constraints could be exacerbated if detrimental conversion options are exercised. Als should also note that a decrease in core capital may have further unfavourable implications for the regulatory capital position. Due to the statutory limits, the eligible amount of supplementary capital may be reduced. These adverse magnification effects could be further accentuated if adverse events take place at critical junctures for raising or maintaining capital (e.g. as term capital instruments are approaching maturity or new capital instruments are being issued).



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Therefore, AIs should determine the optimal level of core and supplementary capital to be maintained to meet their capital goals.

- 4.7.5 If an AI's CAAP does not meaningfully link the identification, evaluation and monitoring of the risks that arise from its business activities to the determination of its capital needs, the MA will require the AI to improve the CAAP for better integration with internal risk measurement and analysis. The MA will monitor the progress made by the AI in implementing the corrective actions.
- 4.7.6 Where the amount of capital which the MA considers that the AI should hold is not the same as that generated from its CAAP (particularly where the amount of capital generated is lower than that expected by the MA), the MA will discuss the difference with the AI. The MA will take into consideration the results of the CAAP and any explanations from the AI in relation to the outcome and appropriateness of the CAAP when determining its minimum CAR.
- 4.7.7 To facilitate his review, the MA will ask for information such as the results of an AI's CAAP, together with an explanation of the process used. The MA will require the AI to provide information not only on the amount of capital it considers appropriate, but also on the composition of that capital. In the case of a group CAAP, there should be a breakdown of group capital so as to facilitate evaluation of the extent to which diversification benefits have been incorporated into the underlying assumptions.
- 4.7.8 The MA may seek other additional information from the AI where necessary.

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Annex A : List of major supervisory guidelines applicable to assessment of capital adequacy

A1 Introduction

- A1.1 This annex sets out the major supervisory guidelines applicable to the assessment of Als' capital adequacy under the SRP. The MA will have regard to Als' compliance with the relevant supervisory standards and best practices contained in these guidelines (particularly in relation to systems and controls and corporate governance) when considering the impact of various assessment factors on an AI's capital adequacy.
- A1.2 This list is provided to Als for their reference only, and should not be regarded as a complete and exhaustive list. With a view to promoting the adoption of international standards and best practices within the banking sector, the MA will continue to issue new and update existing supervisory guidelines to provide guidance to Als on various risk and control factors covered under the SRP.
- A1.3 Als should refer to the Supervisory Policy Manual and other guidelines and circulars issued by the MA for a complete set of supervisory guidelines issued to the banking industry.

A2 Guidelines under Supervisory Policy Manual by subject

Supervisory approach

- SA-1 Risk-based supervisory approach
SA-2 Outsourcing

Corporate governance

- CG-1 Corporate governance of locally incorporated authorized institutions
CG-2 Systems of control for the appointment of managers
CG-3 Code of conduct



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Internal controls

- IC-1 General risk management controls
- IC-4 Complaint handling procedures
- IC-5 Stress-testing
- IC-6 The sharing and use of consumer credit data through a credit reference agency
- IC-7 The sharing and use of commercial credit data through a commercial credit reference agency

Capital adequacy

- CA-G-3 Use of internal models to measure market risk
- CA-G-4 Validating risk rating systems under the IRB Approaches

Credit management

Risk management

- CR-G-1 General principles of credit risk management
- CR-G-2 Credit approval, review and records
- CR-G-3 Credit administration, measurement and monitoring
- CR-G-5 Country risk management
- CR-G-7 Collateral and guarantees
- CR-G-8 Large exposures and risk concentrations
- CR-G-9 Connected lending
- CR-G-10 Problem credit management
- CR-G-12 Credit derivatives

Specific lending activities

- CR-S-2 Syndicated lending
- CR-S-5 Credit card business

Interest rate risk management

- IR-1 Interest rate risk management

Liquidity management

- LM-1 Liquidity risk management

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Operational risk management

OR-1 Operational risk management

Trading activities

TA-2 Foreign exchange risk management

Technology risk management

General technology risk management

TM-G-1 General principles for technology risk management

TM-G-2 Business continuity planning

Electronic banking

TM-E-1 Supervision of e-banking

TM-E-2 Regulation of advertising material for deposits issued over the internet

Securities and leveraged foreign exchange business

SB-1 Supervision of regulated activities of SFC-registered authorized institutions

SB-2 Leveraged Foreign Exchange Trading – Conduct of Unsolicited Calls

Mandatory Provident Fund

MP-1 Supervision of Mandatory Provident Fund intermediaries

A3 Other Guidelines and Circulars by subject

Prevention of money laundering and terrorist financing

Dec 2000 Guideline on prevention of money laundering

Jun 2004 Supplement to Guideline on prevention of money laundering

Jun 2004 Interpretative notes

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Market risk management

Dec 1994 Risk management of financial derivatives activities

Mar 1996 Guideline on risk management of derivatives and other traded instruments

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Annex B : Factors for assessing capital adequacy under SRP

B1 Introduction

B1.1 The purpose of this annex is to illustrate the MA's approach to assessing the capital adequacy of AIs by setting out the key assessment factors used by the MA under the SRP. This list is compiled for AIs' reference, and should not be regarded as a complete and exhaustive list.

B1.2 Broadly speaking, the MA's assessment under the SRP focuses on the following aspects:

- the level of inherent risks faced by an AI (in particular those risks that are not captured or adequately captured under the minimum capital requirements);
- the adequacy of the AI's systems and controls relating to each type of inherent risk;
- the AI's capital strength and capability to withstand risk (including, where applicable, the effectiveness of its CAAP);
- the adequacy of the AI's corporate governance arrangements; and
- any other factors (risk increasing or risk mitigating) that are specific to the AI concerned.

Given their common applicability to AIs, the first four items listed above are referred to as "common assessment factors". The last item is referred to as "specific assessment factors", which will be considered by the MA on a case-by-case basis.

B1.3 In reviewing the common assessment factors (particularly in respect of systems and controls and CAAP), the MA will place special emphasis on an AI's ongoing compliance with the Banking (Capital) Rules, including those qualifying criteria and minimum requirements to which the AI is subject (e.g. relating to adoption of the IRB approach or IMM approach), and the extent to which the supervisory standards and best practices contained in the relevant guidelines issued by the MA (see **Annex A**) have been complied with. The MA will also consider the quality of the



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AI's systems and controls (including the level of oversight exercised by the Board and senior management), the manner in which business risks and activities are aggregated, and senior management's track record in responding to emerging or changing risks.

B1.4 The MA will take into account the business nature and the scale of operations (i.e. size, risk profile and complexity) of individual AIs and their significance to financial stability or other supervisory objectives in determining whether a factor is applicable or material to the assessment.

B1.5 The MA employs a variety of methodologies and techniques to assess the effects of these factors, including the adoption of a scoring system for the common assessment factors, which has, where appropriate, incorporated the use of stress-testing, peer group comparisons, benchmarking against industry performance and other relevant qualitative and quantitative analyses. The specific assessment factors are separately considered by the MA on a case-by-case basis, using similar methodologies and techniques.

B2 Inherent risks not captured or adequately captured under minimum capital requirements

B2.1 Credit concentration risk

- This is a part of credit risk that measures the risk concentration to any single exposure or group of exposures with the potential of producing losses large enough (relative to an AI's capital, total assets, or total risk exposures) to threaten the AI's financial position or ability to maintain its core operations. Because lending is the primary activity of most AIs, credit concentration risk is often the major source of concentration risk for an AI.
- Credit concentration risk is normally driven by some common or correlated risk factors (e.g. changes in economic or market conditions affecting specific industries or sectors), which, in times of stress, will increase the likelihood of



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default of individual counterparties or groups of related counterparties making up the concentration. Concentration risk arises from direct exposures to counterparties and may also occur through exposures to the same credit protection provider or the same type of credit protection obtained.

- In assessing the level of credit concentration risk, the MA will pay particular attention to the sources of risk concentration arising from:
 - large exposures to individual counterparties or groups of related counterparties (including credit protection providers);
 - “clustered” loan portfolios (i.e. portfolios with a large number of sizable single exposures);
 - exposures to particular economic sectors or geographical locations;
 - concentration of exposures by product, market or collateral; and
 - other concentrations, such as those arising from concentration on a particular type of off-balance sheet exposures (e.g. credit derivatives).

B2.2 Residual operational (and legal) risk

- Gross income, used in the basic indicator approach and the standardised approach for the calculation of operational risk capital charge, is only a proxy for the scale of operational risk exposures of an AI and can, in some cases (e.g. for AIs with low margins or profitability), underestimate the capital to be charged on operational risk. There is thus a need to determine any residual risk of operational loss resulting from an AI's internal processes, staff and systems, or from external events (including lawsuits).
- In conducting the SRP, the MA will consider whether the level of operational risk capital imposed on individual AIs can adequately reflect their operational risk exposures, for

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example, in comparison with other AIs of similar size and with similar operations.

- The MA will also review the nature, frequency, and materiality of operational loss events incurred by AIs, and have regard to any of their business activities, functions or operational processes that may pose a higher level of operational risk (e.g. undue reliance on outsourced activities or significant operations in politically unstable areas).

B2.3 Interest rate risk in the banking book

- This is the risk to an AI's financial condition resulting from adverse movements in interest rates. The MA will assess the level of interest rate risk in the banking book associated with an AI's business activities from two separate but complementary perspectives, i.e. earnings and economic value.
- In assessing the level of an AI's interest rate repricing risk, the MA will, among other things, model a standardised 200-basis-point parallel rate shock to the AI's interest rate risk exposures and measure the impact of the shock on its earnings over the next 12 months and on its economic value. The MA will be particularly attentive to those AIs where the impact of the shock on their economic value is more than 20% of their capital base. Where appropriate, the MA will apply stress-testing techniques, especially in assessing an AI's basis, options and yield curve risks.
- The MA will determine whether AIs whose interest rate exposures may lead to a significant decline in their earnings or economic value are exposed to a higher level of interest rate risk.

B2.4 Liquidity risk

- Liquidity is crucial to the ongoing viability of an AI. AIs' capital positions can have an effect on their ability to obtain liquidity, especially in a crisis.



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- When evaluating an AI's capital adequacy, the MA will take into account its liquidity profile and the liquidity of the markets in which it operates. Factors to be considered will include the level, trend and volatility of the AI's liquidity ratio, its loan-to-deposit ratio and maturity profile, the stability and concentration of its funding sources, or other qualitative factors which are relevant for consideration such as the AI's borrowing capability and access to money markets (particularly during emergency or crisis situations), and the availability of liquidity support from its major shareholders in case of need.
- The MA will also have regard to the ability of retail banks to withstand bank-run scenarios, based on applying liquidity stress tests to the quarterly cash flow data submitted by these banks.

B2.5 Strategic risk

- This is the risk of current or prospective impact on earnings or capital arising from changes in the business environment and from adverse business decisions, improper implementation of decisions, or lack of responsiveness to industry, economic or technological changes.
- Strategic risk is a function of the compatibility of an AI's strategic goals, the business strategies developed to achieve these goals, the resources deployed to meet these goals, and the quality of implementation. The resources needed to carry out business strategies are both tangible and intangible. They include capital and funding, communication channels, staffing and operating systems, delivery networks, and managerial resources and capabilities.
- In assessing an AI's level of strategic risk, the MA will consider a number of factors, including:
 - the compatibility or suitability of the AI's strategic goals and objectives (e.g. relative to its size and complexity);

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- the AI's responsiveness to changes in the business environment (including those developments resulting in economic, technological, competitive or regulatory changes);
- the adequacy of resources (both tangible and intangible) provided by the AI to carry out business strategies;
- the AI's track record in implementing business strategies (such as past performance of overseas operations and joint ventures and in offering new products and services); and
- any adverse impact on the AI (e.g. reputation or financial position) arising from its strategic decisions.

B2.6 Reputation risk

- This is the potential that negative publicity regarding an AI's business practices, whether true or not, will affect public confidence in the AI and cause a decline in its customer base, or lead to costly litigation or loss of revenue. The MA will be particularly attentive to AIs that are more vulnerable than others to runs on deposits as a result of market rumours.
- The major factors that the MA will take into account in assessing an AI's level of reputation risk are listed below. These are not necessarily all-inclusive, but will serve as a guide for assessment purposes:
 - the market or public perception of the financial strength of the AI's major shareholders, its management and financial stability, and the prudence of its business practices;
 - management's willingness and ability to adjust the AI's business strategies to enhance its reputation and standing where necessary;

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- the AI’s history of, and plans for, analysing risk in new services, developing policies and conducting due diligence;
 - the nature and volume of customer complaints and management’s ability and willingness to respond to those complaints;
 - management’s ability to handle any scandal or negative publicity to minimise damage to the AI’s reputation;
 - the existence of highly visible or conspicuous litigation (and historical losses arising from such litigation);
 - the existence of appropriate fiduciary or other liability insurance to mitigate potential losses arising from litigation or claims; and
 - the AI’s history with respect to conduct of business practices and compliance with laws and regulations, and management’s willingness and ability to address concerns uncovered in internal or regulatory reviews.
- For AIs that are subsidiaries of a banking group (local or foreign), the MA will additionally consider whether the financial position, reputation or conduct of the parent bank or holding company or any other member of the group is likely to damage the AI through “contagion” that undermines confidence. The risk of contagion is not confined to financial weaknesses. Publicity about illegal or unethical conduct by the parent bank or holding company or any member of the group in some other way may also damage the AI’s reputation and public confidence in the AI.

B3 Systems and controls relating to each type of inherent risk

B3.1 Under the SRP, the MA evaluates the adequacy and effectiveness of systems and controls for managing the eight types of inherent risk (i.e. credit, market, interest rate, liquidity, operational, legal, reputation and strategic) identified for the purposes of risk-based supervision.

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B3.2 The MA's assessment of an AI's systems and controls for managing the inherent risks will generally include the following factors:

- Risk management systems – the MA will review the adequacy of the AI's risk management policies, procedures and limits as well as the effectiveness of its risk identification, measurement, monitoring and reporting processes to ensure compliance with the established policies, procedures and limits;
- Internal control systems and environment – the MA will assess the appropriateness of the AI's organisation structure, the adequacy of its internal control systems (e.g. segregation of duties and responsibilities, risk and quality control and fraud detection) and the effectiveness of its audit and compliance functions;
- Infrastructure to meet business needs – the MA will review the capability and reliability of the AI's IT systems, the adequacy, competence and stability of management and staff resources, the appropriateness and adequacy of outsourcing arrangements as well as management oversight and controls over back-office or supporting functions located outside Hong Kong (if any);
- Other supporting systems – these will normally include accounting and management information systems, compilation of prudential returns and information, and systems and controls for prevention of money laundering and terrorist financing activities. The MA will assess the adequacy of these supporting systems.

B3.3 The MA will review an AI's systems and controls based on the findings and results gathered from his offsite reviews or onsite examinations, and will make use of any information obtained from various sources such as banking returns, prudential interviews, tripartite meetings and routine supervisory contacts.

B3.4 The MA will have regard to the size, complexity and geographical diversity of an AI's business operations in determining whether

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the systems and controls in place are adequate and commensurate with such operations.

B4 Capital strength and capability to withstand risk (including CAAP)

B4.1 Review of CAAP

- The MA will assess the CAAP of AIs that are subject to the CAAP standards set out by him against those standards. Among other things, the MA will:
 - assess the degree to which the AI's CAAP and internal capital targets have incorporated the full range of material risks faced by it;
 - review the adequacy of risk measures used in assessing internal capital adequacy and the extent to which these risk measures are used operationally in setting limits, evaluating business line performance, and evaluating and controlling risks more generally;
 - determine whether chosen capital targets are comprehensive and relevant to the current operating environment, and are properly monitored and reviewed by senior management;
 - determine whether the composition of capital is appropriate for the nature and scale of the AI's business; and
 - consider the extent to which the AI has provided for unexpected events in setting its capital levels, whether the analysis covers a wide range of external factors, conditions and scenarios, and whether the stress-testing techniques and scenarios used are commensurate with the AI's activities.

B4.2 Review of capital strength and capability to withstand risk

- An overall assessment of capital adequacy should take into account all factors that affect an AI's financial conditions.

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Therefore, apart from those mentioned in subsection B4.1 above, the MA will consider the following factors:

Capital structure, level and trends

- The MA will compare the level and trend of an AI's actual CAR with the minimum CAR assigned to the AI and with the average level of CAR maintained by its peers to determine if its CAR has been kept at prudent levels. In addition, the projected asset growth and earnings performance should reasonably support an AI's ability to maintain its capital levels without undue reliance on capital injections. For a newly authorized AI, the level of its CAR should be reasonable in relation to its business plans and competitive environment.
- The MA will also review the quality of an AI's capital by analysing the composition of its capital base (e.g. the level of core capital in relation to total capital base).

Strategic planning

- The MA will assess whether an AI's capital planning is supported by an effective strategic plan which should clearly outline the AI's capital needs, anticipated capital expenditures, desirable capital level, and external capital sources. The Board and senior management should regard capital planning as a crucial element for achieving the desired strategic objectives, and should effectively communicate the AI's corporate goals and objectives throughout the organisation.

Business expansion

- The MA will assess whether an AI has adequate capital resources to support its business growth. The MA will pay particular attention to situations where rapid lending growth may become a cause for concern if this is achieved by reducing the AI's underwriting standards and increasing its risk profile.



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Dividends

- Excessive cash dividend payments may weaken an AI's capital adequacy. The MA will review an AI's dividend policy as well as its historical and planned cash dividend payout ratios to determine whether dividend payments are impairing capital adequacy.

Access to additional capital

- AIs that do not generate sufficient capital internally may require external sources of capital. Large, independent AIs may solicit additional funding from the capital markets to support their business growth or acquisition plans. Smaller AIs may rely solely on their bank holding companies or major shareholders to provide additional funds, or on the issue of new capital instruments to existing or new investors.
- The MA will assess an AI's ability to obtain additional funding from the capital markets in times of need and the strength and availability of its parental support in the provision of new capital. If the AI has subsidiaries and affiliates, the MA will review its commitment and responsibility to provide capital to these subsidiaries and affiliates.
- The MA will also expect an AI to have a plan that outlines the contingent measures for improving its capital position during crisis situations.

Asset quality and provisions

- The MA will take into account the potential impact of an AI's asset quality, particularly the severity of its problem and classified assets and the adequacy of its bad debt provisions, on its capital adequacy.

Earnings

- The MA will assess an AI's earning ability to ascertain the stability of its capital. Poor earnings or losses can



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adversely affect an AI's capital adequacy by reducing the loss absorption function of remaining capital and disabling the AI from replenishing its capital internally.

Off-balance sheet items

- Once funded, off-balance sheet items will become subject to the same capital requirements as on-balance sheet items. The MA will review an AI's off-balance sheet activities to assess whether its capital levels are sufficient to support those assets that would result from a significant portion of the off-balance sheet items being funded within a short time.

Market value of an AI's stock

- For a listed AI, its stock price is reflective of investors' confidence in and support for the AI, the lack of which could impair the AI's ability to raise additional capital. If an AI's stock is trading at low prices, it may indicate investors' lack of confidence in the AI, or that there are other problems besetting the AI. The MA will review whether the stock of the AI or, where applicable, its listed parent bank or holding company has been trading at reasonable prices (e.g. in terms of a reasonable multiple of its earnings or a reasonable percentage (or multiple) of its book value) and identify whether there are any concerns that warrant his attention.

Subordinated debt instruments

- The MA will pay particular attention to the impact of redemption (including early redemption) of subordinated debt instruments on an AI's overall capital structure. The AI should thoroughly assess such impact in case the redemption could have a material effect on the level or composition of its capital base. If an AI plans to redeem its capital instrument with the proceeds of, or replace it by, a like amount of a similar capital instrument, the AI should consider its ability and the likelihood of doing so.



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- In the review of an AI's funding and financial conditions, the MA will also take into account the potential impact of redemption of subordinated debt instruments that are not eligible for inclusion in the calculation of the AI's CAR.

Unrealised asset values

- Als may have assets on their books that are carried at significant discounts below current market values. The excess of the market value over the book value (historical or acquisition cost) of assets such as investment securities or bank premises may represent capital to the AI. While these unrealised asset values are not included in the calculation of CAR, the MA will take these values into account when assessing an AI's overall capital adequacy. The MA will, in particular, review the nature of the asset, the reasonableness of its valuation, its marketability, and the likelihood of its sale.
- In assessing an AI's capability to withstand risk, the MA will conduct sector-wide stress tests to assess individual Als' vulnerability to severe market shocks or crisis situations (e.g. based on hypothetical scenarios that are similar to or more severe than those experienced during the 1997 Asian Crisis). The MA will also consider whether those "outlier" Als that show significant vulnerability to "stressed" situations compared with their peers warrant a higher minimum CAR and/or a reduction in risk exposures.

B4.3 Corporate governance

- A sound risk management process, strong internal controls and well documented policies and procedures are the foundation for ensuring the safety and soundness of an AI. As such, the Board and senior management of an AI are expected to have a reasonable understanding of the nature and level of risks being taken by the AI and how such risks relate to adequate capital levels. They should also be responsible for ensuring that the formality and sophistication of the risk management and control processes are

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appropriate in the light of the AI's risk profile and business plans.

- When assessing the quality of an AI's corporate governance, the MA will review the above aspects in addition to other relevant requirements as detailed in various guidelines issued by the MA. In particular, the Board and senior management will be evaluated in terms of:
 - their risk management knowledge and experience;
 - their participation and involvement in development of the AI's risk management processes; and
 - their awareness of, and responsiveness to, risk management and control issues raised by the MA.

B5 Risk increasing factors

B5.1 General

- Risk increasing factors are specific factors that will lead to a negative impact on the minimum CAR of an AI. Such factors may relate to the following issues:
 - Material risks specific to the AI's business and operations. For example, an AI may be exposed to business concentration risk by relying heavily on a particular business activity, or the risk posed by its non-banking activities (e.g. securities dealing or insurance-related activities) is increasingly high, as a result of rapid expansion in the absence of adequate expertise and management systems;
 - Significant "outliers" identified in the review of common assessment factors. These may relate to extremely high levels of inherent risk, substantial management problems or control weaknesses, or significant vulnerability to adverse economic events which warrant a full assessment of the additional capital required to cover the risks involved; and



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- Specific issues arising from the application of the revised capital adequacy framework. In particular, these issues relate to an AI's ongoing compliance with various minimum standards and requirements applicable to it for the purpose of calculating regulatory capital on credit, market or operational risk. The MA will consider such issues under the SRP if they are not adequately catered for under the minimum capital requirements. Such issues may necessitate an AI to rectify deficiencies by improving its systems and controls or reducing its risk exposures, or to hold additional capital pending rectification of the deficiencies. See subsections B5.2 and B5.3 for consideration of such issues in relation to credit risk and market risk. Those relating to operational risk are mentioned under subsection B2.2.
- The MA will determine the extent to which the minimum CAR of an AI will be increased due to a risk increasing factor based on his assessment of the extent to which such a factor can increase the risk of the AI.

B5.2 Specific issues in relation to credit risk

Credit risk mitigation

- An AI may be exposed to residual credit risk associated with credit risk mitigation if the techniques used give rise to risks that could render the overall risk reduction less effective. Examples of these risks include:
 - inability to seize, or realise in a timely manner, collateral pledged (on default of the obligor);
 - refusal or delay by a guarantor to pay; and
 - ineffectiveness of untested documentation.

There may also be specific wrong-way risk if a high correlation in the creditworthiness of a credit protection provider and the obligor due to their performance being dependent on common economic factors.

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- The MA will determine if there are instances suggesting the lack of appropriate policies and procedures on the part of the AI to control these residual risks.

IRB approach

- An AI's adoption of the IRB Approach may give rise to some issues which will be subject to the MA's review in determining the appropriate supervisory actions to be taken (including whether the AI's minimum CAR should be increased pending rectification of deficiencies). Examples include:
 - deficiencies or flaws identified in the IRB models;
 - deviations from the reference definition of default used for risk estimation (e.g. use of external data or historical internal data not fully consistent with the reference definition of default prescribed by the MA);
 - weaknesses arising from the application of IRB credit risk stress tests. For example, the stress-testing processes or methodologies employed may not be appropriate to an AI's circumstances or a capital shortfall is identified (i.e. capital insufficient to cover the minimum capital requirements under the IRB approach and the results of credit risk stress tests performed as a condition for using the IRB approach); and
 - inadequate systems and controls (applicable to AIs using double default treatment) in monitoring the deterioration in the credit quality of protection providers and in assessing the impact of protection providers falling outside the eligible criteria (due to rating changes) on their capital requirements at the time of default.

Basic approach

- AIs using the basic approach are not subject to a higher capital charge for their past due exposures. If such exposures have reached a significant level compared with an AI's peers, the MA may consider whether a capital

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adjustment under the SRP is necessary to reflect the higher risk associated with the problem exposures.

Securitization

- The MA will watch out for any information that may call into question an AI's compliance with the relevant requirements on the recognition of risk transference for its securitization transactions. If the MA determines that the level of risk transfer for a particular transaction has been overstated and does not justify the capital relief granted, it may lead to an increase in capital requirements for the transaction concerned or, where necessary, an increase in the overall level of capital the AI is required to hold.
- Similarly, if there is indication that an AI has provided implicit support to transactions that it has securitized, the MA will consider the appropriateness of taking one or more supervisory actions (including an increase in the AI's minimum CAR) as specified in Part 7 of the Banking (Capital) Rules.
- In the event that an AI is engaged in complex securitization transactions the risks of which are not adequately accounted for under the minimum capital requirements (e.g. as a result of market innovations introducing new features to a securitization), the MA may consider imposing a specific capital treatment for such transactions or adjust the AI's minimum CAR to account for the additional risk incurred.
- The MA will also review any other issues arising from an AI's compliance with the securitization requirements (e.g. on call options and early amortisation provisions) to determine the need for a capital adjustment or other supervisory actions.

B5.3 Specific issues in relation to market risk

IMM approach

- Certain issues may arise from an AI's adoption of the IMM approach for the calculation of market risk. These include:

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- deficiencies or flaws identified in the market risk internal models;
- deficiencies arising from valuation issues, such as inappropriate valuation adjustments to less well diversified portfolios or portfolios consisting of less liquid cash instruments;
- weaknesses arising from the application of market risk stress tests under the IMM approach. For example, the stress-testing processes or methodologies may not be appropriate or commensurate with an AI's trading activities or a capital shortfall is identified (i.e. capital insufficient to cover the minimum capital requirements under the IMM approach and the results of stress tests performed as a condition for using the IMM approach);
- weaknesses arising from capturing specific risk under the IMM approach. For example, model effectiveness is undermined by positions with limited price transparency or by illiquid positions, or the approach to capturing default risk is inadequate.

B6 Risk mitigating factors

B6.1 Risk mitigating factors are specific factors that will have a positive impact on an AI's minimum CAR. They are used by the MA as incentives for AIs to improve their risk management so that the level of their inherent risks can be effectively mitigated. Examples which may be considered as risk mitigating factors include:

- AIs using less advanced approaches for calculating credit or operational risk, but possessing IRB/AMA capabilities for risk management purposes;
- risk mitigating effect of insurance cover recognisable under AMA;
- diversification benefits (this is however subject to AIs being able to demonstrate a credible methodology for assessing such benefit).



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- B6.2 The MA will determine whether an AI has any risk mitigating factor that can be recognised for capital adequacy purposes, in consultation with the AI concerned. Each case will be considered based on its own merits. To facilitate his assessment, the MA may require the AI to submit any such information or documentary evidence as is deemed necessary to justify the risk mitigating effect of the factor under consideration.
- B6.3 The MA will determine the extent to which the minimum CAR of an AI can be reduced due to a recognised risk mitigating factor based on his assessment of the extent to which such a factor can mitigate the risk of the AI.

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Annex C : Scoring worksheets to facilitate assessment under SRP

SCORECARD

Ref.

Scoring *		Score obtained		Comments	Annex
Maximum score	Maximum score	Current period	Last period		
L	M				
A1					
A2					
A3					
A4					
A5					
A6					
B1					
B2					
B3					
B4					
C1					
C2					
D1					

A. Specific risks not directly / fully captured under Pillar 1 ⁽¹⁾

- Credit concentration risk
- Interest rate risk in the banking book
- Liquidity risk
- Residual operational risk
- Reputation risk
- Strategic risk

B. Systems and controls ⁽²⁾

- Risk management system
- Internal control system and environment
- Infrastructure to meet business needs
- Other support systems

C. Capital strength and capability to withstand risk ⁽³⁾

- Capital adequacy assessment process
- Capital strength and capability to withstand risk

D. Corporate governance ⁽⁴⁾

TOTAL SCORE OBTAINED

SCORE CONVERTED INTO MINIMUM CAR

RISK MITIGATING FACTORS (- %)

RISK INCREASING FACTORS (+ %)

MINIMUM CAR RECOMMENDED

EXISTING MINIMUM CAR

OBSERVATION PERIOD BEFORE ADJUSTING MINIMUM CAR (if necessary)

MINIMUM CAR APPROVED

Notes :

(1) L = Low, M = Moderate, H = High

(2) S = Strong, A = Acceptable, W = Weak

(3) S = Strong, A = Acceptable, W = Weak / E = Excellent, S = Satisfactory, U = Unsatisfactory

(4) E = Excellent, S = Satisfactory, U = Unsatisfactory

The maximum score for all 13 templates (template number shown under "Ref", column) is 100, i.e. the worst possible score that an AI can get. The scores allocated in the shaded areas are purposely not disclosed and subject to HKMA's periodic review.

Notes :

(1) L = Low, M = Moderate, H = High

(2) S = Strong, A = Acceptable, W = Weak

(3) S = Strong, A = Acceptable, W = Weak / E = Excellent, S = Satisfactory, U = Unsatisfactory

(4) E = Excellent, S = Satisfactory, U = Unsatisfactory

* The maximum score for all 13 templates (template number shown under "Ref." column) is 100, i.e. the worst possible score that an AI can get. The scores allocated in the shaded areas are purposely not disclosed and subject to HKMA's periodic review.



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CREDIT CONCENTRATION RISK (A1)

CREDIT CONCENTRATION RISK (A1)										Exposures / claims considered concentrated / large if any of the benchmarks is exceeded		Benchmarks (% of)	
										T.L.	T.A.	C.B.	
1. Sectoral concentration													
Return item	OS Balance HK\$m	As % of T.L.	As % of T.A.	Benchmark exceeded?	Risk-weight	RW Exposure HK\$m	Aggregate of RW exposure	Position as at DD/MM/YYYY	HK\$m	% of C.B.	Score obtained	Maximum score	
(a) Residential mortgages													
(b) Credit card advances													
(c) Other loans to professional and private individuals													
(d) Property dev. and inv.													
(e) Taxi and PLB loans													
(f) Share financing													
(g) Trade financing													
(h) Others (if concentrated) :													
2. Geographical concentration													
(a) Large cross-border claims on countries with sovereign rating equal to or above A- (S&P) / A3 (Moody's) / A- (Fitch)	No. of countries						Aggregate Largest						
(b) Large cross-border claims on countries with sovereign rating below A- (S&P) / A3 (Moody's) / A- (Fitch) / without ratings							Aggregate Largest						
3. Concentration of exposure to non-bank Chinese entities													
4. Concentration of exposure to counterparties													
(a) Non-exempt large exposures	No. of large exposures						Aggregate Largest						
(b) Large bank exposures	No. of large exposures						Aggregate Largest						
(c) Aggregate of large exposures to non-bank connected parties							Aggregate						
5. Other concentrations													
Score obtained													

Exposures / claims considered concentrated / large if any of the benchmarks is exceeded		Benchmarks (% of)		
T.L.	T.A.	T.L.	T.A.	C.B.
Residential mortgages				
Credit card advances				
Loans to professional & private individuals				
Property development and investment				
Taxi and PLB loans				
Share financing				
Trade financing				
Other economic sectors (individual)				
- Return items : A1(c), 2, 3, 4, 5(c), 6, 7, 8, 9; B3; C; D; E3; F; G1, 2, 5; H1, 2(e), 6; and K				
Claims on individual countries	N/A	N/A	N/A	
Claims on individual countries	N/A	N/A	N/A	
Total exposure	N/A	N/A	N/A	
Non-exempt exposures under S 81 of BO	N/A	N/A	N/A	
Bank exposures	N/A	N/A	N/A	
Exposures to non-bank connected parties	N/A	N/A	N/A	

Note : All figures in the shaded areas are purposely not disclosed and subject to HKMA's periodic review.



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INTEREST RATE RISK IN THE BANKING BOOK (A2)

	Assessment results	Score obtained	Maximum score																								
1. Repricing risk <u>Scenario</u> : 200-basis-point parallel interest rate movement for all currencies (a) Impact on AI's earnings (absolute sum of all currencies) Impact amount - As % of average annual operating results before provision for the past 3 years - As % of capital base at reporting date (b) Impact on AI's economic value (absolute sum of all currencies) Impact amount - As % of capital base at reporting date	<table><tr><td>End-Q1</td><td>End-Q2</td><td>End-Q3</td><td>End-Q4</td></tr><tr><td></td><td></td><td></td><td></td></tr></table> Position HK\$m <table><tr><td>Average Impact</td><td>Score obtained</td></tr><tr><td></td><td></td></tr></table> <table><tr><td>End-Q1</td><td>End-Q2</td><td>End-Q3</td><td>End-Q4</td></tr><tr><td></td><td></td><td></td><td></td></tr></table> Position HK\$m <table><tr><td>Average Impact</td><td>Score obtained</td></tr><tr><td></td><td></td></tr></table>	End-Q1	End-Q2	End-Q3	End-Q4					Average Impact	Score obtained			End-Q1	End-Q2	End-Q3	End-Q4					Average Impact	Score obtained				
End-Q1	End-Q2	End-Q3	End-Q4																								
Average Impact	Score obtained																										
End-Q1	End-Q2	End-Q3	End-Q4																								
Average Impact	Score obtained																										
2. Basis risk (a) <u>Scenario</u> : All rates except fixed and managed rates on interest-bearing assets rise by 200 basis points and last for 12 months. Impact amount on AI's earnings (absolute sum of all currencies) - As % of average annual operating results before provision for the past 3 years - As % of capital base at reporting date (b) <u>Scenario</u> : Managed rates on interest-bearing assets drop by 200 basis points and last for 12 months while other rates remain unchanged. Impact amount on AI's earnings (absolute sum of all currencies) - As % of average annual operating results before provision for the past 3 years - As % of capital base at reporting date	<table><tr><td>End-Q1</td><td>End-Q2</td><td>End-Q3</td><td>End-Q4</td></tr><tr><td></td><td></td><td></td><td></td></tr></table> Position HK\$m <table><tr><td>Average Impact</td><td>Score obtained</td></tr><tr><td></td><td></td></tr></table> <table><tr><td>End-Q1</td><td>End-Q2</td><td>End-Q3</td><td>End-Q4</td></tr><tr><td></td><td></td><td></td><td></td></tr></table> Position HK\$m <table><tr><td>Average Impact</td><td>Score obtained</td></tr><tr><td></td><td></td></tr></table>	End-Q1	End-Q2	End-Q3	End-Q4					Average Impact	Score obtained			End-Q1	End-Q2	End-Q3	End-Q4					Average Impact	Score obtained				
End-Q1	End-Q2	End-Q3	End-Q4																								
Average Impact	Score obtained																										
End-Q1	End-Q2	End-Q3	End-Q4																								
Average Impact	Score obtained																										
3. Options risk <u>Condition (a)</u> : RML > 20% of total loans RML amount Total loans % of RML <u>Condition (b)</u> : Weighted average yield of RML > Yield of 1-year Exchange Fund Bills Weighted average yield of RML Yield of 1-yr Exchange Fund Bills Yield differential If both (a) and (b) are met, assume 30% of RMLs are repaid before maturity date Impact amount on AI's earnings (i.e. RML amount x 30% x Yield differential) - As % of average annual operating results before provision for the past 3 years - As % of capital base at reporting date	<table><tr><td>End-Q1</td><td>End-Q2</td><td>End-Q3</td><td>End-Q4</td></tr><tr><td></td><td></td><td></td><td></td></tr></table> Position HK\$m <table><tr><td>Average Impact</td><td>Score obtained</td></tr><tr><td></td><td></td></tr></table> <table><tr><td>End-Q1</td><td>End-Q2</td><td>End-Q3</td><td>End-Q4</td></tr><tr><td></td><td></td><td></td><td></td></tr></table> Position HK\$m <table><tr><td>Average Impact</td><td>Score obtained</td></tr><tr><td></td><td></td></tr></table>	End-Q1	End-Q2	End-Q3	End-Q4					Average Impact	Score obtained			End-Q1	End-Q2	End-Q3	End-Q4					Average Impact	Score obtained				
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Average Impact	Score obtained																										
4. Yield curve risk (Please assess the impact of yield curve risk, if material, on the AI's earnings. Details of assessment should be shown below or separately.)	Impact on earnings - Average score of (v) and (vi) Impact on earnings																										

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LIQUIDITY RISK (A3)

		Assessment results		Score obtained	Maximum score	
1. Statutory liquidity ratio ("liquidity ratio") and its volatility						
Position	1st month	2nd month	3rd month	4th month	5th month	6th month
Liquidity ratio						
Position	7th month	8th month	9th month	10th month	11th month	12th month
Liquidity ratio						
2. Trend of the liquidity ratio						
Observation period	MM/YY - MM/YY		* t-value calculated			
Monthly decline			t-critical value			
* No t-test is required in case of increase						
3. Adjusted loan-to-deposit ratio for HK Office						
Position	(Applicable to banks except those exempted by HKMA)					
Adjusted loan-to-deposit ratio in all currencies	DDMM/YYYY					
4. Stress test on cash flow position						
Stressed position	DDMM/YYYY	(Applicable to banks except those exempted by HKMA)				
Scenario : Daily deposit run-off at (higher % ¹)	Number of days AI can withstand deposit withdrawals					
Case (a) : Without LOLR support		Score obtained				
Case (b) : With LOLR support						
Scenario : Daily deposit run-off at (lower % ¹)						
Case (c) : Without LOLR support						
Case (d) : With LOLR support						
* To be determined by HKMA						
5. Maturity mismatches						
Position	DDMM/YYYY	(Applicable to exempt banks under items 3 and 4, RLBs and DTCs)				
Net position (including on- and off-balance sheet items)	From AI's internal MIS report. (HK\$m)					
Cumulative position	< 1 month 1 - 3 months > 3 months					
If cumulative position is -ve, check which of the following cases is applicable						
Score obtained (maximum to be given if no information available for assessment)						
Cases :						
(a) negative position fully covered by the amount due to parent bank						
(b) negative position fully covered by : (i) the amount due to other group companies / connected parties; or (ii) the combined funding sources from (a) & (b) (i)						
(c) negative position fully covered by : (i) irrevocable funding sources; or (ii) the combined funding sources from (a), (b) (i) & (c) (i)						
(d) negative position not fully covered by the above funding sources or uncovered						
Sub-total c/f						

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LIQUIDITY RISK (A3)		Assessment results		Score obtained	Maximum score																																																																					
6. Concentration of funding sources Position DD/MM/YYYY As % of total liabilities HK\$m Total amount of 10 largest customer deposits Total amount of 10 largest bank borrowings		Sub-total b/f Largest customer deposit Largest bank borrowing	As % of total liab. Overall rating																																																																							
7. Qualitative assessment <table border="1"> <thead> <tr> <th>Factors for assessment</th> <th>Rating</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> </tr> </thead> <tbody> <tr> <td>Access to money markets or other sources of cash (particularly during emergency or crisis situations)</td> <td></td> <td>Highly capable</td> <td>Capable</td> <td>Slightly difficult</td> <td>Difficult and at high cost</td> <td>Very difficult and at very high cost</td> </tr> <tr> <td>Availability of liquidity support from major shareholders in case of need</td> <td></td> <td>Very strong</td> <td>Strong</td> <td>Marginal</td> <td>Difficult</td> <td>Impossible</td> </tr> <tr> <td>Borrowing capability</td> <td></td> <td>Highly capable</td> <td>Capable</td> <td>Slightly difficult</td> <td>Difficult and at high cost</td> <td>Very difficult and at very high cost</td> </tr> <tr> <td>Cost of funds</td> <td></td> <td>Very low</td> <td>Low</td> <td>Marginally acceptable</td> <td>High</td> <td>Very high</td> </tr> <tr> <td>Stability of customer deposits</td> <td></td> <td>Highly stable</td> <td>Stable</td> <td>Some degree of volatility</td> <td>Unstable</td> <td>Highly unstable</td> </tr> <tr> <td>Whether major fund providers linked by common investment objectives or economic influences (e.g. deposits from large corporates or private banking clients more sensitive to credit risk and interest rates)</td> <td></td> <td>Very low correlation</td> <td>Low correlation</td> <td>Acceptable correlation</td> <td>High correlation</td> <td>Very high correlation</td> </tr> <tr> <td>Reliance on specific types of providers and/or products to generate funds (e.g. internet deposits and deposits solicited at high rates)</td> <td></td> <td>None or very minimal</td> <td>Minimal</td> <td>Some</td> <td>Heavy</td> <td>Very heavy</td> </tr> <tr> <td>Warning signals for a potential liquidity problem</td> <td></td> <td>None or not identified</td> <td>A few but insignificant</td> <td>Some but insignificant</td> <td>Some and significant</td> <td>Many and significant</td> </tr> <tr> <td>Overall rating</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Factors for assessment	Rating	1	2	3	4	5	Access to money markets or other sources of cash (particularly during emergency or crisis situations)		Highly capable	Capable	Slightly difficult	Difficult and at high cost	Very difficult and at very high cost	Availability of liquidity support from major shareholders in case of need		Very strong	Strong	Marginal	Difficult	Impossible	Borrowing capability		Highly capable	Capable	Slightly difficult	Difficult and at high cost	Very difficult and at very high cost	Cost of funds		Very low	Low	Marginally acceptable	High	Very high	Stability of customer deposits		Highly stable	Stable	Some degree of volatility	Unstable	Highly unstable	Whether major fund providers linked by common investment objectives or economic influences (e.g. deposits from large corporates or private banking clients more sensitive to credit risk and interest rates)		Very low correlation	Low correlation	Acceptable correlation	High correlation	Very high correlation	Reliance on specific types of providers and/or products to generate funds (e.g. internet deposits and deposits solicited at high rates)		None or very minimal	Minimal	Some	Heavy	Very heavy	Warning signals for a potential liquidity problem		None or not identified	A few but insignificant	Some but insignificant	Some and significant	Many and significant	Overall rating							Overall rating		
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Factors for assessment	Rating	Low (L)	Moderate (M)	High (H)	Comments	Annex
1. Operational risk arising from material business activities / functions						
(a) Operational changes resulting from consolidation, acquisitions, mergers or de-mergers		None / minimal	Small to medium scale	Large scale		
(b) Business expansion / growth		Normal	Significant	Aggressive		
(c) Business locations in unstable political / social environment or exposed to other external vulnerabilities (e.g. flood / earthquake)		None / minimal	Limited	Significant		
(d) Nature of banking business activities and transaction volume		Simple / traditional; low	Simple / traditional; moderate to high	Complex; moderate to high		
(e) Nature of non-banking business activities (e.g. MPF, insurance, securities or asset management, etc.) and transaction volume		Simple / traditional; low	Simple / traditional; moderate to high	Complex; moderate to high		
(f) New business activities / risky products		None / minimal	Limited	Significant		
(g) Additional risk arising from the use of risk mitigation techniques		None / minimal	Limited	Significant		
(h) Reliance on outsourcing services		None / minimal	Some	Heavy		
(i) Provision of insourcing services		None / minimal	Some	Extensive		
(j) Operational processes which may result in significant systemic impact for the banking sector (e.g. notes issuance or clearing / settlement function for a particular currency or banking product)		None	Moderate significance	Serious significance		
2. Potential losses arising from operational loss events						
(a) Execution, delivery and process management - Loss events : Any operational weaknesses / deficiencies in transaction capture, execution and maintenance / monitoring and reporting / customer intake and documentation / customer or client account management; disputes with trade counterparties or vendors, etc. - Key risk indicators : Shortage of manpower; high staff turnover; high percentage of temporary staff / new staff; consistent / repeated work overtime; model / system misoperation; high proportion of unmatched trades / unmatched payments / aged confirmation - Loss experience resulting from these events in the past three years		Low	Moderate	High		
(b) Business disruption and system failures - Loss events : Utility outage / disruptions; malfunction of software or hardware; breakdown of telecommunications, etc. - Key risk indicators : Number and nature of system / IT failures - Loss experience resulting from these events in the past three years		Low	Moderate	High		

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RESIDUAL OPERATIONAL RISK (A4)

Factors for assessment	Rating	Low (L)	Moderate (M)	High (H)	Comments	Annex
2. Potential losses arising from operational loss events (continued) (c) Clients, products and business practices - Loss events : Unintentional / negligent failure to meet professional obligation to specific clients (e.g. failure to comply with the code of banking practice / fiduciary, suitability or disclosure requirements); improper business / market practices; product flaws (e.g. product defects or model errors); disputes over performance of advisory activities; failure to investigate client per guidelines (e.g. know your customer); exceeding client exposure limits, etc. - Key risk indicators : Outstanding litigation; history of customer complaints (number and nature); track records of mis-handling or mis-using customer assets / confidential customer information; number of fiduciary breaches / guideline violations / other non-compliance cases; aggressive sales; insider trading (on the AI's account); unlicensed activity; market manipulation - Loss experience resulting from these events in the past three years (d) Internal and external fraud - Loss events : Unauthorised activities; misappropriation of assets; malicious destruction of assets; forgery; bribes; collusion; insider trading (not on AI's account); systems security; theft and robbery, etc. - Key risk indicators : No. of successful hacking cases against systems security; number of successful claims against credit card fraudulence - Loss experience resulting from these events in the past three years (e) Employment practices and workplace safety - Loss events : Acts inconsistent with laws / agreements relating to health, safety or employment; labour disputes (including compensation, termination, benefit and discrimination); personal injury claims from general liability, etc. - Key risk indicators : Claims from staff or other third parties; track records of breaking the relevant laws or agreements - Loss experience resulting from these events in the past three years (f) Loss or damage to physical assets arising from external sources - Loss events : Accidents; natural disaster; terrorism; vandalism; any other events of a similar nature Key risk indicators : Claims for personal injury or human losses from external sources - Loss experience resulting from these events in the past three years (g) Other warning signals of high potential operational risk (list below)		Low	Moderate	High		
		Low	Moderate	High		
		Low	Moderate	High		
		None or not identified	Moderate significance	Serious significance		
Overall rating		Maximum score	Maximum score	Maximum score		
Score obtained						

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REPUTATION RISK (A5)

The factors listed below should be used when assessing the overall level of reputation risk. The suggested questions are not necessarily all-inclusive, but should serve as a guide to be used in determining the risk rating for each factor.

Factors for assessment	Rating	Low (L)	Moderate (M)	High (H)	Comments	Annex
1. Market / public perception (a) Is there a general perception that the financial position of the AI's major shareholders is adequate or strong? (b) Is there a general perception that the management and financial position of the AI is adequate or strong? (c) Is there a general perception that the AI's business activities are too complex or risky for its size and operations? (d) Is the AI's management willing and able to adjust business strategies based on market perception?		Strong	Acceptable	Weak		
2. New business development (a) Is the AI aggressive in introducing or acquiring new business activities? (b) Does the AI have a successful track record in: - launching new business lines, products or services; and - acquiring new subsidiaries / businesses (e.g. a mortgage or credit card portfolio)? (c) Is the AI's management willing and able to adjust business strategies based on regulatory changes or legal barriers? (d) Is there any indication of frequent "testing" of legal barriers in AI's new business plans (e.g. taking advantage of loopholes and/or "pushing the envelope", as the expression goes)?		Strong	Acceptable	Weak		
3. Nature and volume of customer complaints (a) Is the volume of customer complaints acceptable based on the AI's size and complexity of business? (b) Are there any customer complaints that are indicative of serious supervisory concern? (c) Are there any customer complaints that have resulted (or likely to result) in substantial compensation or an adverse impact on the AI's reputation? (d) Is the AI's management willing and able to respond to customer complaints?		Insignificant	Moderate	Serious		
4. Litigation (a) Is there any highly visible or conspicuous litigation? (b) Are there any litigation cases that have resulted (or are likely to result) in substantial financial losses or an adverse impact on the AI's reputation?		Insignificant	Moderate	Serious		

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Factors for assessment	Rating	Low (L)	Moderate (M)	High (H)	Comments	Annex
5. Negative publicity (a) Has the AI experienced any scandal or negative publicity that has resulted in substantial financial losses or an adverse impact on its reputation? (b) Has the AI's management properly handled such events and taken adequate remedial actions to minimise the damage to reputation caused?		No	Insignificant	Serious		
6. Compliance with laws and regulations (a) Are there frequent cases of non-compliance with laws and regulations (particularly in the conduct of asset management, investment advisory and securities dealing activities as well as the compliance with regulatory requirements to combat money laundering and terrorist financing)? (b) Are there any cases of non-compliance that are indicative of serious supervisory concern? (c) Have significant findings about the AI's regulatory compliance, conduct and business practices been uncovered in internal and regulatory reviews? (d) Is the AI's management willing and able to respond to these findings?		Strong	Acceptable	Weak		
7. Fiduciary or other liability insurance Is there appropriate fiduciary or other liability insurance to cover the AI's potential exposure?		Highly adequate	Adequate	Inadequate		
8. Other warning signals of high potential reputation risk <i>Please itemise the signals below :</i>		None or not identified	Moderate significance	Serious significance		
Overall rating		Maximum score	Maximum score	Maximum score		
Score obtained						
Overall comment on reputation risk :						

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STRATEGIC RISK (A6)

The factors listed below should be used when assessing the overall level of strategic risk. The suggested questions are not necessarily all-inclusive, but should serve as a guide to be used in determining the risk rating for each factor.

Factors for assessment	Rating	Low (L)	Moderate (M)	High (H)	Comments	Amex
1. Compatibility / suitability of strategic goals & objectives (a) Are the AI's strategic goals and decisions compatible with its corporate mission, goals, culture, values, business direction and risk tolerance? (b) Are the AI's financial objectives consistent and commensurate with its short and long term goals? (c) Are the AI's strategic decisions generally prudent or overly aggressive relative to its size and complexity?		Strong	Acceptable	Weak		
2. Responsiveness to changes in business environment Are the AI's business strategies and decisions indicative of its responsiveness to changes in the external environment (such as industry, economic, technological, competitive, regulatory, and other environmental changes)?		High	Medium	Low		
3. Adequacy of resources to carry out business strategies (a) Does the AI have adequate resources to carry out business strategies in terms of such factors as management resources and capabilities, capital and funding, staffing and operating systems, communication channels and delivery networks? (b) Does the AI have the potential or capability to enter to new markets, businesses or products?		Highly adequate	Adequate	Inadequate		
4. Implementation of business strategies (a) Does the AI have a successful track record in : - offering new products and services; - shifting of business focuses (including re-focuses); - conducting strategic investments / forming joint ventures; and - implementing merger and acquisition plans? (b) Have the AI's major business units and operations, including overseas branches, banking subsidiaries and associates, achieved satisfactory performance in line with their business targets?		Strong	Acceptable	Weak		
5. Impact of strategic decisions (a) Have there been any strategic decisions, or external pressures arising from such strategic decisions, that resulted in a significant adverse impact on the AI's financial position? (b) Have there been any strategic decisions that could not be reversed without significant cost or difficulty? (c) Is the AI's business fairly diversified (e.g. by product, geography or customer demographics) that will help reduce the overall impact of adverse market conditions?		Low	Moderate	High		
6. Other warning signals of high potential strategic risk Please list the signals below :		None or not identified	Moderate significance	Serious significance		
Overall rating		Maximum score	Maximum score	Maximum score		
Score obtained						
Overall comment on strategic risk :						

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RISK MANAGEMENT SYSTEM (B1)

Factors for assessment	Rating	Individual rating						Comments	Annex
		Credit	Market	Interest rate	Liquidity	Operational	Legal	Reputation	Strategic
1. Adequacy of risk management policies, procedures and limits									
2. Effectiveness of the overall risk management framework									
3. Adequacy and effectiveness of individual components in the risk management process	(a) Risk identification								
	(b) Risk measurement / assessment								
	(c) Risk monitoring and controlling								
	(d) Risk mitigation techniques								
	(e) Contingency planning								
	(f) Risk reporting								
4. Result / progress of implementation of the recommendations from regulators, internal and external auditors on risk management									
Overall rating									
Score obtained									

Rating	Maximum score					
S : Strong						
A : Acceptable						
W : Weak						

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INTERNAL CONTROL SYSTEM AND ENVIRONMENT (B2)

Factors for assessment	Rating	Individual rating							Comments	Annex
		Credit	Market	Interest rate	Liquidity	Operational	Legal	Reputation		
1. Quality and effectiveness of the Board and senior management oversight										
2. Appropriateness of organisation structure and adequacy of control environment										
3. Adequacy and effectiveness of individual components within the internal control system										
(a) External audit										
(b) Internal audit										
(c) Centralised compliance										
(d) Centralised risk & quality control										
(e) Fraud detection										
4. Result / progress of implementation of the recommendations from regulators, internal and external auditors on internal controls										
Overall rating										
Score obtained										

Rating	Maximum score						
S : Strong							
A : Acceptable							
W : Weak							

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INFRASTRUCTURE TO MEET BUSINESS NEEDS (B3)

Factors for assessment	Rating	Individual rating							Comments	Annex
		Credit	Market	Interest rate	Liquidity	Operational	Legal	Reputation		
1. Staff competence, sufficiency and stability										
2. IT capability, reliability and stability										
3. Maintenance of sufficient office space to ensure adequacy of internal controls and efficient operations										
4. Adequacy and effectiveness of management oversight and controls over back office operations / support functions outside Hong Kong										
5. Appropriateness and adequacy of outsourcing arrangements										
6. Result / progress of implementation of the recommendations from regulators, internal and external auditors on infrastructure										
Overall rating										
Score obtained										

Rating	Maximum score						
S : Strong							
A : Acceptable							
W : Weak							

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OTHER SUPPORT SYSTEMS (B4)

Factors for assessment	Rating	Individual rating							Comments	Annex
		Credit	Market	Interest rate	Liquidity	Operational	Legal	Reputation		
1. Adequacy and effectiveness of accounting, management information and communication systems (a) Accounting system (b) Management information system (c) Completion of prudential returns and information (d) Communication mechanism										
2. Adequacy and effectiveness of systems against money laundering and terrorist financing										
3. Result / progress of implementation of the recommendations from regulators, internal and external auditors on other support systems										
Overall rating										
Score obtained										

Rating	Maximum score			
	S : Strong	A : Acceptable	W : Weak	

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CAPITAL ADEQUACY ASSESSMENT PROCESS ("CAAP") (C1)

Factors for assessment	Rating	Strong (S)	Acceptable (A)	Weak (W)	Comments	Annex
1. Adequacy and effectiveness of the overall CAAP (a) Competence of the board and senior management in discharging their responsibilities in CAAP (b) Proportionality of the CAAP to the risk profile and level of sophistication of the AI's operations (c) Usefulness and effectiveness of the CAAP in the AI's risk management and decision-making processes (d) Adequacy of controls over the integrity and functionality of the CAAP (e) Ability of the CAAP to ensure the AI's compliance with the regulatory capital requirements						
		Highly competent	Acceptable to competent	Marginally acceptable or weak		
		Proportional	Marginally proportional	Not in proportion (less than required)		
		Satisfactory	Acceptable	Less than satisfactory		
		Adequate	Acceptable	Inadequate		
		High	Moderate	Low		
2. Adequacy and effectiveness of individual elements in the CAAP (a) Identifying and measuring all material risks (b) Capability of relating capital to the level of risk (c) Stating explicit capital adequacy goals / targets with respect to risk (d) Conformity to the AI's stated capital adequacy goals / targets / objectives						
		Satisfactory	Acceptable	Less than satisfactory		
		Capable	Marginally capable	Incapable		
		Clear and reasonable	Acceptable	Unclear or with doubt		
		All the time	Most of the time	Sometimes		
3. Supervisory actions required / taken (a) New supervisory actions required (b) Results of rectification of previous supervisory concerns						
		Not necessary	Minor with minimal concerns	Significant with serious concerns		
		Not applicable	Satisfactory	Less than satisfactory		
Overall rating		Maximum score	Maximum score	Maximum score		
Score obtained						

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CAPITAL STRENGTH AND CAPABILITY TO WITHSTAND RISK (C2)

SCORING RESULTS		Score obtained	Max score
Quantitative assessment			
1. Capital adequacy			
Minimum multiple (Actual CAR / Min CAR)	Trend in minimum multiple	Core capital as % of capital base	
Score obtained			
Maximum score			
2. Asset quality			
Special mention (SM) loan ratio	Ratio of other SM exposures	Classified loan ratio	Ratio of other classified exp.
Score obtained			
Maximum score			
3. Earnings			
Return on average equity (ROAE)	Concentration of income sources	Net interest margin (NIM)	Cost-to-income ratio
Score obtained			
Maximum score			
4. Business expansion			
Trend in total risk-weighted assets			
Score obtained			
Maximum score			
5. Stress-testing			
Impact on CAR	Impact on profitability		
Score obtained			
Maximum score			
Qualitative assessment			
Total score obtained			



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CAPITAL STRENGTH AND CAPABILITY TO WITHSTAND RISK (C2)

ASSESSMENT RESULTS

Quantitative assessment

1. Capital adequacy

Minimum multiple	Trend in minimum multiple (* No t-test is required in case of increase)		Core capital as % of capital base
DD/MM/YYYY	Quarterly decline	Observation period	
		t-value calculated * :	DD/MM/YYYY
		t-critical value :	

2. Asset quality

Special mention (SM) loan ratio	Ratio of other SM exposure	Classified loan ratio	Ratio of other classified exp.	Coverage of total classified exposure
DD/MM/YYYY	DD/MM/YYYY	DD/MM/YYYY	DD/MM/YYYY	DD/MM/YYYY

Trend in ratios (* No t-test is required in case of decrease)

DD/MM/YYYY - DD/MM/YYYY	SM loans	Other SM exp.	Classified loans	Other classified exp.
Quarterly increase				
t-value calculated *				
t-critical value				

3. Earnings

Average of the annual % over the past three years	ROAE	NIM	Cost-to-income ratio	Provision-to-income ratio	Dividend payout ratio
DD/MM/YYYY - DD/MM/YYYY					
					Volatility in annual profit after tax over the past five years
					DD/MM/YYYY - DD/MM/YYYY

Concentrated if average of the annual % > benchmark	Net interest income	Fees and comm. income	FX and other trading income	Investment and other income
Benchmark				
DD/MM/YYYY - DD/MM/YYYY				
Concentration (Yes / No)				

Annual profit after tax				Continuous decline over the past 3 years	% decline if "Yes"
Year	YYYY	YYYY	YYYY	YYYY	
HK\$m					



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CAPITAL STRENGTH AND CAPABILITY TO WITHSTAND RISK (C2)

ASSESSMENT RESULTS (continued)

4. Business expansion

Trend in total risk-weighted assets (Trend analysis on total risk-weighted assets is unnecessary if the trend in minimum multiple is increasing)			
DD/MM/YYYY - DD/MM/YYYY	HK\$m	+value calculated *	Quarterly increase as % of total RW assets at the latest review position
Quarterly increase		+critical value	
			* No test is required in case of decrease

5. Stress-testing

Impact on CAR

Stressed CAR	Actual CAR	In case stressed CAR < actual CAR
DD/MM/YYYY	DD/MM/YYYY	Impact on CAR = Stressed CAR - Actual CAR

Impact on profitability

Estimated profit before provision for next period = (A)		Aggregate of adjusted stressed results shown in the summary below = (B)	
Next period : DD/MM/YYYY	- DD/MM/YYYY		In case (B) is negative
HK\$m :		HK\$m :	Impact on profitability = (B) / (A) x 100%

Summary of stress test results

(In HK\$m)

Stressed items #

Residential mortgage loans	Reposessed properties	Land and buildings	Taxi loans	Credit cards	Other remaining loans	Off-balance sheet exposure	HKD interest rate risk exposure	Trading fixed income instruments	
								HKD	USD

Stressed results

Less (in case of loss) :

- Existing specific

provision

- Existing property

revaluation reserve

Adj. stressed results

Subject to HKMA's periodic review.



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CAPITAL STRENGTH AND CAPABILITY TO WITHSTAND RISK (C2)

ASSESSMENT RESULTS (continued)						
Qualitative assessment						
Factors for assessment	Rating	Excellent (E)	Satisfactory (S)	Unsatisfactory (U)	Comments	Annex
Access to capital markets and other capital resources / strength of major shareholders or parental support		Highly capable / very strong shareholders' or parental support	Capable / strong shareholders' or parental support	Marginal but with high cost / marginal or difficult or impossible		
Significance of pressure to obtain additional capital and the likelihood of doing so		No	Mild	Moderate to severe		
Any responsibilities / commitments the AI may have towards its subsidiaries and affiliates in terms of capital provision		No need to provide capital and no comfort letters issued	Minor but not legally / morally bound	High and some bound by legal / moral agreements		
Trend in the market price of the stock of the AI / its parent		Upward	Stable / volatile	Downward		
Sensitivity to market rumours / whether the financial position, reputation or conduct of the parent or any group company is likely to damage the AI through 'contagion' which undermines confidence		Low vulnerability	Moderate vulnerability	High vulnerability		
Financial impact of outstanding subordinated debt not included in the CAR calculation		No / minor	Moderate	Significant		
Impact of future strategic and business plans (including merger and acquisition plans) on CAR and profitability		No / minor	Moderate	Significant		
Adequacy of contingent measures against unexpected losses		Adequate	Acceptable	Inadequate / without contingent measures		
Any other factors which are relevant but not listed above (please itemised the factors below)						
Overall rating						

Note : All figures in the shaded areas are purposely not disclosed and subject of HKMA's periodic review.

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CORPORATE GOVERNANCE (D1)

Factors for assessment	Rating	Individual rating							Comments	Annex
		Credit	Market	Interest rate	Liquidity	Operational	Legal	Reputation		
1. Direct participation and involvement of the Board and senior management in										
(a) Risk management process										
(b) Risk management development and enhancement										
2. Awareness of the Board and senior management on risk management and control issues										
3. Risk management knowledge and experience of the Board and senior management										
4. Responsiveness of the Board and senior management to supervisory concerns about risk management and control weaknesses										
5. Compliance with other requirements of the corporate governance guidelines issued by the HKMA										
6. Result / progress of implementation of the recommendations from regulators, internal and external auditors on corporate governance										
Overall rating										
Score obtained										

Rating	Maximum score			
E : Excellent				
S : Satisfactory				
U : Unsatisfactory				

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Annex D : Supervisory requirements on application of stress and scenario tests under SRP

D1 General requirements

- D1.1 Als are expected to conduct stress tests and scenario analyses that are appropriate to their size and nature of operation regularly (say, at least annually). Depending on the nature of the major sources of risk identified and their possible impact on Als' financial conditions, some of these stress tests and scenario analyses (e.g. those relating to trading activities) may need to be carried out more frequently.
- D1.2 Als' regulatory capital requirements may vary as economic conditions fluctuate over time. Such requirements will also depend on which part of a business cycle Als are in. Deterioration in business or economic conditions, in particular, may result in the need for an AI to raise capital or, alternatively, to contract its business activities, at a time when market conditions are most unfavourable to raising capital. To reduce the impact of cyclical effects, Als should aim at maintaining an adequate capital add-on during an upturn in business and economic cycles such that it has sufficient capital available to protect itself from market downturns.
- D1.3 To assess their expected capital requirements over an economic cycle, Als may wish to project their financial position taking account of their business strategy and expected growth according to a range of assumptions as to the state of the economic or business environment which they face. For example, the CAAP of an AI may include an analysis of the impact that the actions of the AI's competitors could have on its performance, in order to see what changes in its environment the AI could sustain. Projections over a one to three year period would be appropriate in most circumstances. The AI may then calculate its projected capital requirements and assess whether they could be met from expected financial resources.

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D1.4 Als should have regard to the general standards set out in [IC-5](#) “Stress-testing” for more guidance on the use of such techniques.

D2 Specific requirements

D2.1 In carrying out stress tests and scenario analyses, Als should take reasonable steps to identify an appropriate range of realistic circumstances and events in which a risk would crystallise. In particular :

- Als need only carry out stress tests and scenario analyses in so far as the circumstances or events are reasonably foreseeable (i.e. their occurrence is not too remote a possibility); and
- Als should take into account the relative costs and benefits of carrying out the stress tests and scenario analyses in respect of their individual circumstances and events identified.

D2.2 The purpose of stress tests and scenario analyses is to identify potential risks under stressed conditions and test the adequacy of an AI’s capital in response to such conditions. Scenarios need only be identified, and their impact assessed, in so far as this facilitates that purpose. In particular, the nature, depth and detail of the analysis depend, in part, upon the AI’s capital strength and the robustness of its risk prevention, mitigation and detection measures.

D2.3 Both stress-testing and scenario analyses are prospective analysis techniques, which seek to anticipate possible losses that might occur if an identified risk crystallises. In applying them, Als are expected to decide the time horizon that such tests and analyses should cover. This will depend upon:

- how quickly an AI would be able to identify events or changes in circumstances that might lead to a risk crystallising resulting in a loss; and
- after the AI has identified the event or circumstances, how quickly and effectively it could act to prevent or mitigate



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any loss resulting from the risk crystallising and to reduce exposure to any further adverse event or change in circumstances.

- D2.4 The time horizon over which stress tests and scenario analysis would need to be carried out for market risk arising from the holding of investments, for example, would depend upon:
- the extent to which there is a regular, open and transparent market in those assets, which would allow fluctuations in the value of the investment to be more readily and quickly identified; and
 - the extent to which the market in those assets is liquid (and would remain liquid in the changed circumstances contemplated in the stress test or scenario analysis), which would allow AIs, if needed, to sell their holdings so as to prevent or reduce exposure to future price fluctuations.
- D2.5 In identifying stress scenarios, and assessing their impact, AIs should take into account, where material, how changes in circumstances might impact upon:
- the nature, scale and mix of their future activities; and
 - the behaviour of counterparties, and of the AIs themselves, including the exercise of choices (e.g. options embedded in financial instruments or contracts of insurance).
- D2.6 In determining whether there would be adequate capital in the event of each identified adverse scenario, AIs should:
- only include capital that could reasonably be relied upon as being available in the circumstances of the identified scenario; and
 - take account of any legal or other restriction on the use of capital.
- D2.7 AIs should conduct stress tests and scenario analyses which enable them to assess their exposures not only in their current position in the economic and business cycles, but also with

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respect to possible changes in those cycles which might be expected over the next few years.

- D2.8 Als may consider scenarios in which expected future profits will provide capital reserves against future risks. However, it would be appropriate to take into account profits that can be foreseen with a reasonable degree of certainty as arising before the risk against which they are being held could possibly arise. In estimating future reserves, Als should deduct future dividend payment estimates from projections of future profits.
- D2.9 Als may substitute for traditional stress tests and scenario analyses more sophisticated modelling techniques. This approach is acceptable providing that major risks are identified and the modelling is capable of estimating the impact on their financial position where the risks crystallise or are assumed to crystallise with a particular probability.