L.N. 62 of 2024

Insurance (Valuation and Capital) Rules

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Insurance (Valuation and Capital) Rules

(Made by the Insurance Authority under section 129(1) of the Insurance Ordinance (Cap. 41))

Part 1

Preliminary

1. Commencement

These Rules come into operation on the day on which section 11 of the Insurance (Amendment) Ordinance 2023 (20 of 2023) comes into operation.

2. Interpretation

(1) In these Rules—

account balance (帳户結餘), in relation to funds on deposit and prepaid premiums, means the accumulation of deposits or premiums, as the case may be, including interest credited, if any;

affiliate (附屬成員), in relation to an applicable insurer, means—

(a) an entity that—

(i) has a beneficial interest in, or controls, 20% or more of the total number of ordinary shares in the insurer; or

(ii) is entitled to exercise, or control the exercise of, 20% or more of the voting power at a general meeting of the insurer; or

(b) an entity of which—

(i) the insurer or an entity mentioned in paragraph (a) has a beneficial interest in, or controls, 20% or more of the total number of ordinary shares; or

(ii) the insurer or an entity mentioned in paragraph (a) is entitled to exercise, or control the exercise of, 20% or more of the voting power at a general meeting;

applicable accounting standards (適用會計準則) means, as the context requires—

(a) the Hong Kong Financial Reporting Standards issued by the Hong Kong Institute of Certified Public Accountants, as in force from time to time; or

(b) the International Financial Reporting Standards issued by the International Accounting Standards Board, as in force from time to time;

applicable insurer (適用保險人) means an authorized insurer or a company to which these Rules apply as provided in rule 3;

as a whole (整體), in relation to an applicable insurer which is—

(a) an HK insurer or a designated insurer, means the business carried on by the insurer, including its assets and liabilities and capital resources and those parts required to be consolidated for these Rules, treated as a single unit; and

(b) a non-HK insurer but not a designated insurer, means only the business carried on in or from Hong Kong of the insurer and its assets, liabilities and capital resources related to that business, treated as a single unit;

base scenario (基本情景), in relation to Part 5, means a scenario before any stress is applied;

bond (債券) means an interest-bearing or zero-coupon debt security—

(a) which is an acknowledgment of a debt promising payment of a specified sum to the holder of the debt security; and

(b) which describes a time to maturity which is, or will become, definite;

consolidated subsidiary (綜合附屬公司), in relation to an applicable insurer, means a subsidiary of the insurer which is required to be consolidated under rule 4;

contracts of insurance (保險合約) include contracts of reinsurance unless otherwise specified;

contractual option (合約內選擇權) means a right to change the benefits or other terms and conditions under a contract of insurance, that can be exercised at the choice of a party to the contract (generally the policy holder), on terms that are established in advance and options may be on an opt-in or opt-out basis, where an explicit action may not be required to exercise an option;

credit rating band (信用評級等級) refers to the credit rating band based on the credit rating of an instrument or a party as mapped in accordance with Schedule 6;

current estimate (現時估計值), in relation to insurance liabilities, means the current estimate of a long term insurance liability as determined in accordance with rule 16 for long term insurance liabilities, or the current estimate of a general insurance liability as determined in accordance with rule 28 for general insurance liabilities;

deterministic current estimate (確定式現時估計值), in relation to a contract of insurance with options and guarantees, means the current estimate before consideration of the time value of options and guarantees;

dynamic policy holder behaviour (動態保單持有人行為) means policy holder behaviour that is assumed to react and vary in response to one or more factors (such as changes in market environment);

eligible bilateral netting agreement (合資格雙邊淨額結算協議) has the meaning given in rule 82(4);

eligible collateral (合資格抵押品) has the meaning given in rule 83(4);

eligible credit derivative contract (合資格信用衍生工具合約) has the meaning given in rule 84(4);

eligible guarantee (合資格擔保) has the meaning given in rule 84(4);

expense risk (開支風險), in relation to life insurance risk, means the risk of loss due to a reduction in the net asset value of an applicable insurer resulting from an increase in expenses incurred in servicing contracts of insurance;

financial guarantee (財務保證) means the possibility for a party to a contract to pass losses to the other party or to receive additional benefits from the other party as a result of a change in a financial variable (either alone or in conjunction with other variables);

funds on deposit (存款資金) means a feature of a contract of insurance which provides the policy holder an option to deposit a portion of the benefits received under the contract into an account to earn interest, and to withdraw such deposit without any surrender penalty, but does not include prepaid premiums;

general insurance liability (一般保險負債) means a liability of an applicable insurer arising from—

(a) general business of the nature specified in Part 3 of Schedule 1 to the Ordinance; and

(b) in relation to a contract of insurance mentioned in paragraph 3 of Schedule 1 to the Ordinance, additional business of the nature of Class 1 or 2 specified in Part 3 of Schedule 1 to the Ordinance which does not have a long boundary as determined under rule 14;

general insurance lines of business (一般保險業務線) means lines of general insurance business as defined in Schedule 9;

gross of reinsurance (未減除再保險前) means before taking into account the effect of any contracts of reinsurance to which an applicable insurer is a cedant;

homogenous risk group (同類風險組別) means a collection of insurance liabilities grouped in accordance with rule 53;

insurance liabilities (保險負債) refers to the long term insurance liabilities and general insurance liabilities of an applicable insurer;

lapse risk (退保風險), in relation to life insurance risk, means the risk of loss due to a reduction in the net asset value of an applicable insurer resulting from a change in the expected exercise rates of policy holder options which can change the value of future cash flows;

life catastrophe risk (人壽巨災風險), in relation to life insurance risk, means the risk of loss due to a reduction in the net asset value of an applicable insurer resulting from a sudden significant increase in mortality rates stemming from extreme or irregular events;

Limited Tier 1 capital instrument (有限制一級資本工具) means a capital instrument that meets the qualifying criteria set out in Schedule 2;

long term business fund (長期業務基金) means a separate fund maintained by an applicable insurer carrying on long term business under Part IV of the Ordinance;

long term insurance liability (長期保險負債) means a liability of an applicable insurer arising from—

(a) long term business of the nature specified in Part 2 of Schedule 1 to the Ordinance; or

(b) in relation to a contract of insurance mentioned in paragraph 3 of Schedule 1 to the Ordinance, additional business of the nature of Class 1 or 2 specified in Part 3 of Schedule 1 to the Ordinance with a long boundary as determined in accordance with rule 14; and

(c) includes any funds on deposit and prepaid premiums;

longevity risk (長壽風險), in relation to life insurance risk, means the risk of loss due to a reduction in the net asset value of an applicable insurer resulting from a decrease in mortality rates;

MA portfolio (對配調整組合) means a matching adjustment portfolio which is a portfolio of long term insurance liabilities and supporting assets identified by an applicable insurer's asset and liability management practice;

marine insurer (海事保險人) has the meaning given by rule 2 of the Insurance (Marine Insurers and Captive Insurers) Rules;

matching adjustment (對配調整), in relation to an MA portfolio, means the adjustment added to a risk-free yield curve used by an applicable insurer to derive the discount rate

for determining its long term insurance liabilities in the portfolio;

morbidity risk (發病率風險), in relation to life insurance risk, means the risk of loss due to a reduction in the net asset value of an applicable insurer resulting from an increase in morbidity rates;

mortality risk (死亡風險), in relation to life insurance risk, means the risk of loss due to a reduction in the net asset value of an applicable insurer resulting from an increase in mortality rates;

net asset value (資產淨值) means the value of assets less liabilities;

net of reinsurance (已減除再保險) means after taking into account the effect of any contracts of reinsurance to which an applicable insurer is a cedant;

non-consolidated subsidiary (非綜合附屬公司), in relation to an applicable insurer, means a subsidiary of the insurer which is not a consolidated subsidiary;

onshore reverse mortgage insurance (在岸逆按揭保險) has the meaning given by rule 71;

portfolio investment (組合投資) means an investment in a scheme, fund or similar arrangement which invests in and holds assets or liabilities that are not directly held by its investors, but the profits, income or other returns of the investment in the scheme, fund or similar arrangement, are dependent on the underlying assets or liabilities;

prepaid premiums (預付保費) means premiums paid by policy holders to an applicable insurer in relation to contracts of insurance, prior to the dates on which such premiums are required to be paid under the terms and conditions of such contracts and where such premiums have not yet been earned by the insurer, including any interest credited;

professional reinsurer (專業再保險人) means an authorized insurer carrying on only reinsurance business in or from Hong Kong;

property (房產), unless otherwise specified, means land and buildings;

qualified LTA (具資格長期調整) means qualified long term adjustment which is the spread above risk-free yield curve recognized for holding equity and property assets in an MA portfolio as determined in accordance with section 10 of Schedule 5;

reciprocal cross holding (互相交叉持有) means an arrangement—

(a) under which—

(i) an applicable insurer holds capital instruments issued by a financial entity;

(ii) the entity also holds capital instruments issued by the insurer; and

(b) which results in an artificial inflation of the capital position of the insurer;

recognized multilateral development bank or supranational organization (認可的多邊開發銀行或超國家機構) refers to a bank or an organization in Schedule 10;

regulated financial entity (受規管財務實體) means a financial institution that is subject to regulatory requirements on solvency under the laws of a jurisdiction which require the entity to maintain adequate regulatory capital to support the provision of financial services or the conduct of financial activities, comparable to those prescribed for authorized insurers under the Ordinance and these Rules, including without limitation—

(a) an authorized insurer;

(b) a licensed insurance broker company;

(c) an authorized institution within the meaning of the Banking Ordinance (Cap. 155); and

(d) a licensed corporation within the meaning of the Securities and Futures Ordinance (Cap. 571);

reinsurance recoverables (再保攤回應收) means the portion of insurance liabilities that is expected to be recovered from reinsurers under contracts of reinsurance;

restricted capital component (受限制資本組成部分) means, in relation to an applicable insurer carrying on long term business, the capital resources comprising a separate sub-fund of participating business maintained by the insurer pursuant to section 21B(3), (6) or (9) of the Ordinance, for which the allocation to policy holders or shareholders has not yet been determined and which are restricted from being used to meet liabilities or losses arising outside the sub-fund on a going concern basis, but does not include the present value of expected future distributions to shareholders (whether declared or not);

retained earnings (保留盈利) means the retained earnings based on the valuation in accordance with Part 4, unless otherwise specified;

sovereign (官方實體) means—

(a) the Government;

(b) the central government of a jurisdiction;

(c) the central bank of a jurisdiction; or

(d) a recognized multilateral development bank or supranational organization;

specified risk-free yield curve (指明無風險收益率曲線) means a risk-free yield curve constructed in accordance with Schedule 4 for a specified currency set out in column 1 of Table 1 of Schedule 4;

Tier 1 capital (一級資本) means the total of Unlimited Tier 1 capital under rule 8 and Limited Tier 1 capital under rule 9;

Tier 2 capital instrument (二級資本工具) means a capital instrument that meets the qualifying criteria set out in Schedule 3;

universal life business (萬用壽險業務) means long term business which is not participating business, and which features a savings component designed to accumulate an account value over time, and that the account value is credited with periodic interest credits (at a declared crediting interest rate) which may vary from time to time (and may be subject to a minimum if a guaranteed rate is offered), and is reduced by, where applicable, cost of insurance charges and other policy charges and fees;

Unlimited Tier 1 capital instrument (無限制一級資本工具) means a capital instrument that meets the qualifying criteria set out in Schedule 1;

unrated (無評級), in relation to an instrument or a party, means no credit rating has been assigned to the instrument or party by a rating agency.

(2) A reference in these Rules to a table or formula followed by a number is a reference to the table or formula, as the case may be, bearing that number in these Rules.

(3) Where, under a provision of these Rules, the prior consent of the Authority is required by an applicable insurer in respect of any matter, the insurer must seek such prior consent by making an application to the Authority, and in the form and manner described in these Rules (where applicable).

(4) If any matter referred to in a provision of these Rules includes qualifying terms such as "adequate", "key", "practical", "realistic", "reasonably", "relevant", "significant", "substantive" or "sufficient", the interpretation of that qualification must take into account any relevant guidelines or codes of practice published under the Ordinance which are applicable to that provision.

(5) Individual provisions, Parts, Divisions, Subdivisions and Schedules of these Rules may contain interpretation provisions which have application in accordance with their terms.

3. Application

(1) Subject to subrule (2), these Rules apply to—

(a) authorized insurers; and

(b) any company that makes an application under section 7 of the Ordinance for authorization.

(2) These Rules do not apply to—

(a) marine insurers, except to the extent provided in the Insurance (Marine Insurers and Captive Insurers) Rules;

(b) captive insurers, except to the extent provided in the Insurance (Marine Insurers and Captive Insurers) Rules;

(c) Lloyd's, except to the extent provided in the Insurance (Lloyd's) Rules; or

(d) special purpose insurers.

4. Basis for application

(1) For the purpose of valuing its assets and liabilities, determining the capital resources that make up its capital base and calculating its capital requirements in accordance with these Rules, an applicable insurer which is an HK insurer or a designated insurer must consolidate its assets, liabilities and capital resources together with those of its subsidiaries, except for subsidiaries which are regulated financial entities.

(2) To avoid doubt, in applying these Rules, an applicable insurer referred in subrule (1) is required to include—

(a) its assets, liabilities and capital resources related to any business it carries on from its places of business outside of Hong Kong; and

(b) the assets, liabilities and capital resources of any consolidated subsidiaries.

(3) An applicable insurer which is a non-HK insurer but not a designated insurer is required to apply these Rules only in relation to the assets, liabilities and capital resources related to its business carried on in or from Hong Kong.

(4) All amounts and calculations in these Rules are based on Hong Kong dollars, unless otherwise specified.

Part 2

Capital Adequacy

5. Capital requirements

(1) For the purposes of section 10 of the Ordinance, subject to subrule (2), an applicable insurer must ensure at all times that its capital base as determined pursuant to Part 3 is not less than each of—

(a) the prescribed capital amount of the insurer as determined in accordance with Part 5;

(b) the minimum capital amount of the insurer as determined in accordance with subrule (3); and

(c) $20,000,000.

(2) If the Authority varies or relaxes any of the requirements in subrule (1) pursuant to section 10(3) or 130(1) of the Ordinance, an applicable insurer must determine the requirement in accordance with subrule (1), but as so varied or relaxed.

(3) For the purposes of subrule (1)(b), the minimum capital amount is determined as 50% of the prescribed capital amount, or such other amount determined by the Authority by way of variation or relaxation under subrule (2).

6. Applicable insurer must notify the Authority in respect of any contravention of rule 5

An applicable insurer must immediately notify the Authority in writing on its directors, its controllers or any key person in control functions—

(a) reaching a view that the insurer is at risk of contravening rule 5; or

(b) knowing or having reason to believe that a contravention by the insurer of rule 5 has occurred,

and provide the Authority with particulars of the notified case as required by the Authority.

Part 3

Determination of Capital Base

7. Determination of capital base

For the purposes of rule 5—

(a) the capital base of an applicable insurer is the sum of the insurer's—

(i) Unlimited Tier 1 capital;

(ii) Limited Tier 1 capital; and

(iii) Tier 2 capital;

(b) the Limited Tier 1 capital of an applicable insurer must not exceed 10% of the prescribed capital amount; and

(c) the Tier 2 capital of an applicable insurer must not exceed 50% of the prescribed capital amount.

8. Unlimited Tier 1 capital

(1) Subject to subrule (3), the Unlimited Tier 1 capital of an applicable insurer that is an HK insurer or a designated insurer, is the sum of the following capital resources of such insurer—

(a) the ordinary shares and other Unlimited Tier 1 capital instruments issued by the insurer that satisfy the criteria in Schedule 1;

(b) share premium, if any, resulting from the Unlimited Tier 1 capital instruments issued by the insurer;

(c) the insurer's retained earnings net of any dividends that are proposed to be declared or declared by the insurer;

(d) the accumulated other comprehensive income of the insurer;

(e) the fair market value of the insurer's equity-settled employee stock options provided that a corresponding expense is recorded in the profit and loss account or retained earnings of the insurer in accordance with applicable accounting standards;

(f) the unrestricted and restricted reserves of the insurer; and

(g) the minority or non-controlling interests arising from the Unlimited Tier 1 capital instruments issued by the consolidated subsidiaries of the insurer and held by third parties and any interests generated by share issuance and subsequent changes in reserves of the issuing entities, if applicable.

(2) The Unlimited Tier 1 capital of an applicable insurer that is a non-HK insurer but not a designated insurer, is the sum of the surpluses of assets over liabilities of all funds maintained by the insurer pursuant to sections 21B and 25AA of the Ordinance and after the deduction of items specified in subrule (3).

(3) An applicable insurer must deduct the following amounts from its Unlimited Tier 1 capital, to the extent that such amounts have not already been excluded through valuation under Part 4—

(a) the amount of any goodwill that is recognized by the insurer as an intangible asset of the insurer, net of any associated deferred tax liabilities;

(b) the amount of other intangible assets of the insurer, net of any associated deferred tax liabilities;

(c) the amount of any assets of any defined benefit pension fund or plan, net of the amount of obligations under the fund or plan and any associated deferred tax liabilities;

(d) subject to subrule (4), the amount of deferred tax assets of the insurer net of deferred tax liabilities (excluding any deferred tax liabilities already taken into account under paragraph (a), (b) or (c));

(e) the amount of any cumulative fair value gains or losses on liabilities of the insurer that are valued at fair value and that result from changes in the insurer's own credit risk;

(f) the amount of any direct holdings, indirect holdings and synthetic holdings by the insurer as defined in subrule (5), which is taken into account in the insurer's Unlimited Tier 1 capital and is related to a non-consolidated subsidiary of the insurer;

(g) subject to subrule (7), the amount of any relevant capital shortfall of the insurer in respect of its non-consolidated subsidiary as described in subrule (6);

(h) the amount of any direct holdings, indirect holdings and synthetic holdings by the insurer as defined in subrule (5), which is taken into account in the insurer's Unlimited Tier 1 capital and is related to an affiliate (being a regulated financial entity) of the insurer;

(i) the amount of any direct holdings, indirect holdings and synthetic holdings by the insurer of Unlimited Tier 1 capital instruments issued by it, unless already derecognized;

(j) the amount of any direct holdings, indirect holdings and synthetic holdings by the insurer of Unlimited Tier 1 capital instruments issued by any regulated financial entity where that entity has a reciprocal cross holding with the insurer;

(k) the amount of any encumbered assets of the insurer in excess of the sum of its relevant on-balance sheet liabilities secured by those assets and any incremental capital requirement relating to those encumbered assets and liabilities;

(l) the amount of the insurer's negative reserves at the total level of long term business or at the total level of general business, in excess of the corresponding prescribed capital amount in respect of that business;

(m) the amount of insurer's restricted capital component in excess of the corresponding prescribed capital amount;

(n) the amount of insurer's reinsurance assets arising from arrangements deemed to constitute non-qualifying reinsurance;

(o) the amount of insurer's crypto assets and off-balance sheet commitments to purchase crypto assets; and

(p) any amount that would otherwise be deducted from the insurer's Limited Tier 1 capital pursuant to rule 9 but cannot be so deducted because the insurer does not have sufficient Limited Tier 1 capital to make such deduction.

(4) For the purpose of determining the amount of the deduction in subrule (3)(d), the deferred tax assets of the applicable insurer may only be netted with deferred tax liabilities of the insurer if the deferred tax assets and deferred tax liabilities relate to taxes levied by the same

taxation authority and offsetting is permitted by the relevant taxation authority.

(5) For the purpose of determining the amount of deduction of holdings in relation to a non-consolidated subsidiary of the applicable insurer in subrule (3)(f), or the amount of deduction of holdings in relation to an affiliate (being a regulated financial entity) of the insurer in subrule (3)(h), the amount—

(a) must be valued in accordance with rule 34;

(b) includes capital instruments issued by the entity that are eligible to be counted towards satisfying regulatory capital requirements under the laws relating to regulatory capital to which the entity is subject;

(c) includes loans and credit facilities provided by the insurer to the entity and other credit exposures of the insurer to the entity;

(d) includes potential future holdings that the insurer will be obliged to purchase pursuant to an existing contractual commitment, irrespective of whether the obligation to purchase is contingent on certain conditions having to be satisfied; and

(e) excludes capital instruments issued by the entity that are not eligible to be counted towards satisfying regulatory capital requirements under the laws relating to regulatory capital to which the entity is subject.

(6) Subject to subrule (7), the relevant capital shortfall in respect of a non-consolidated subsidiary of an applicable insurer referred to in subrule (3)(g) is the amount by which the non-consolidated subsidiary fails to meet the regulatory capital requirements applying to it under the

laws relating to regulatory capital to which the subsidiary is subject, multiplied by the insurer's proportional interest in the subsidiary based on ordinary shares held directly or indirectly by the insurer.

(7) To enable the Authority to monitor the potential impact of a deduction of a relevant capital shortfall from the Unlimited Tier 1 capital pursuant to subrule (3)(g), an applicable insurer must notify the Authority in writing as soon as practicable—

(a) upon it becoming aware of any breach by a non-consolidated subsidiary of its capital requirements which may result in a relevant capital shortfall having to be deducted from its Unlimited Tier 1 capital; and

(b) of any period for remedying the shortfall prescribed by the regulator to whose jurisdiction the subsidiary is subject, in relation to the regulatory capital requirement that applies to the subsidiary.

(8) In this rule—

crypto assets (加密資產) means digital assets that—

(a) depend primarily on cryptography and distributed ledger technology or similar technology;

(b) are not digital currency issued by a central bank or by an entity that performs the functions of a central bank or by an entity authorized by a central bank on its behalf;

(c) are not digital currency issued by the government of a jurisdiction, or by an entity authorized by the government of a jurisdiction and acting pursuant to an authority to issue currency in that jurisdiction;

(d) have no intrinsic value and are not explicitly and directly linked to, or backed by, assets with intrinsic values; and

(e) the holdings of which do not give rise to a contract between the holder and another identified issuer;

encumbered asset (具有產權負擔的資產) means an asset that an applicable insurer pledges or transfers as collateral to a counterparty either to meet regulatory requirements or in order to participate in certain activities, including derivatives trading, borrowing, entering repurchase agreements, obtaining reinsurance, securing guarantees, obtaining letters of credit and holding assets in trust;

negative reserves (負儲備金) means where the amount of insurance liabilities (net of reinsurance) at the total level of long term business or at the total level of general business is negative, the absolute value of such negative amount;

non-qualifying reinsurance (非合格再保險) means a reinsurance arrangement that—

(a) does not provide sufficient transfer of risk;

(b) is provided by an entity that is not regulated; or

(c) belongs to a reinsurance arrangement specified by the Authority in a notice published in the Gazette, or in a notice to an applicable insurer.

9. Limited Tier 1 capital

(1) Subject to subrule (2), the Limited Tier 1 capital of an applicable insurer is the sum of the following capital resources of such insurer—

(a) the Limited Tier 1 capital instruments issued by the insurer that satisfy the criteria in Schedule 2; and

(b) share premium, if any, resulting from such Limited Tier 1 capital instruments issued by the insurer.

(2) An applicable insurer must deduct the following amounts from its Limited Tier 1 capital, to the extent that such amounts have not already been excluded through valuation under Part 4—

(a) the amount of any direct holdings, indirect holdings and synthetic holdings by the insurer as defined in subrule (3), which is taken into account in the insurer's Limited Tier 1 capital and is related to a non-consolidated subsidiary of the insurer;

(b) the amount of any direct holdings, indirect holdings and synthetic holdings by the insurer as defined in subrule (3), which is taken into account in the insurer's Limited Tier 1 capital and is related to an affiliate (being a regulated financial entity) of the insurer;

(c) the amount of any direct holdings, indirect holdings and synthetic holdings by the insurer of Limited Tier 1 capital instruments issued by it, unless already derecognized;

(d) the amount of any direct holdings, indirect holdings and synthetic holdings by the insurer of Limited Tier 1 capital instruments issued by any regulated financial entity where that entity has a reciprocal cross holding with the insurer; and

(e) any amount that would otherwise be deducted from the insurer's Tier 2 capital pursuant to rule 10 but cannot be so deducted because the insurer does not have sufficient Tier 2 capital to make such deduction.

(3) For the purpose of determining the amount of deduction of holdings in relation to a non-consolidated subsidiary of the applicable insurer in subrule (2)(a), or the amount of deduction of holdings in relation to an affiliate (being a regulated financial entity) of the insurer in subrule (2)(b), the amount—

(a) must be valued in accordance with rule 34;

(b) includes capital instruments issued by the entity that are eligible to be counted towards satisfying regulatory capital requirements under the laws relating to regulatory capital to which the entity is subject;

(c) includes loans and credit facilities provided by the insurer to the entity and other credit exposures of the insurer to the entity;

(d) includes potential future holdings that the insurer will be obliged to purchase pursuant to an existing contractual commitment, irrespective of whether the obligation to purchase is contingent on certain conditions having to be satisfied; and

(e) excludes capital instruments issued by the entity that are not eligible to be counted towards satisfying regulatory capital requirements under the laws relating to regulatory capital to which the entity is subject.

10. Tier 2 capital

(1) Subject to subrule (2), the Tier 2 capital of an applicable insurer is the sum of the following eligible capital resources of such insurer—

(a) the Tier 2 capital instruments issued by the insurer that satisfy the criteria in Schedule 3;

(b) share premium, if any, resulting from such Tier 2 capital instruments issued by the insurer;

(c) the amount of deferred tax assets of the insurer net of deferred tax liabilities as deducted from the Unlimited Tier 1 capital of the insurer pursuant to rule 8(3)(d);

(d) the amount of any encumbered assets of the insurer in excess of the sum of its relevant on-balance sheet liabilities secured by those assets and any incremental capital requirement relating to those encumbered assets and liabilities, as deducted from the Unlimited Tier 1 capital of the insurer pursuant to rule 8(3)(k);

(e) the amount of the insurer's negative reserves at the total level of long term business or at the total level of general business in excess of the corresponding prescribed capital amount in respect of that business, as deducted from the Unlimited Tier 1 capital of the insurer pursuant to rule 8(3)(l);

(f) the amount of insurer's restricted capital component in excess of the corresponding prescribed capital amount as deducted from the Unlimited Tier 1 capital of the insurer pursuant to rule 8(3)(m); and

(g) the amount of Limited Tier 1 capital of the insurer that is in excess of 10% of the prescribed capital amount.

(2) An applicable insurer must deduct the following amounts from its Tier 2 capital, to the extent that such amounts have not already been excluded through valuation under Part 4—

(a) the amount of any direct holdings, indirect holdings and synthetic holdings by the insurer as defined in subrule (3), which is taken into account in the insurer's Tier 2 capital and is related to a non-consolidated subsidiary of the insurer;

(b) the amount of any direct holdings, indirect holdings and synthetic holdings by the insurer as defined in subrule (3), which is taken into account in the insurer's Tier 2 capital and is related to an affiliate (being a regulated financial entity) of the insurer;

(c) the amount of any direct holdings, indirect holdings and synthetic holdings by the insurer of Tier 2 capital instruments issued by it, unless already derecognized; and

(d) the amount of any direct holdings, indirect holdings and synthetic holdings by the insurer of Tier 2 capital instruments issued by any regulated financial entity where that entity has a reciprocal cross holding with the insurer.

(3) For the purpose of determining the amount of deduction of holdings in relation to a non-consolidated subsidiary of the applicable insurer in subrule (2)(a), or the amount of deduction of holdings in relation to an affiliate (being a regulated financial entity) of the insurer in subrule (2)(b), the amount—

(a) must be valued in accordance with rule 34;

(b) includes capital instruments issued by the entity that are eligible to be counted towards satisfying regulatory capital requirements under the laws relating to regulatory capital to which the entity is subject;

(c) includes loans and credit facilities provided by the insurer to the entity and other credit exposures of the insurer to the entity;

(d) includes potential future holdings that the insurer will be obliged to purchase pursuant to an existing contractual commitment, irrespective of whether the obligation to purchase is contingent on certain conditions having to be satisfied; and

(e) excludes capital instruments issued by the entity that are not eligible to be counted towards satisfying regulatory capital requirements under the laws relating to regulatory capital to which the entity is subject.

Part 4

Valuation of Assets and Liabilities

Division 1—General

11. Recognition and derecognition of assets and liabilities

Unless specified in these Rules, an applicable insurer must recognize and derecognize assets and liabilities in accordance with the applicable accounting standards.

Division 2—Valuation of Insurance Liabilities

Subdivision 1—General

12. Recognition and derecognition of insurance liabilities

(1) An applicable insurer, for the purpose of valuing insurance liabilities under the contracts of insurance it enters into, must recognize such liabilities at the earliest of—

(a) the date when the first premium under the contract becomes due;

(b) the date the insurance cover under the contract begins; or

(c) the date the insurer becomes a party to the contract that gives rise to the insurance liabilities.

(2) Subject to subrule (1), an applicable insurer must recognize all insurance liabilities within the boundary of each contract of insurance as determined in accordance with rule 14.

(3) An applicable insurer must derecognize an insurance liability only when that liability is extinguished, discharged, cancelled, or has expired, and all future cash flows in respect of the liability are nil. To avoid doubt, purchase of reinsurance does not result in the derecognition of any part of the insurance liabilities covered by such reinsurance.

13. Insurance contracts covering different types of risk

(1) Where an applicable insurer effects and carries out a contract of insurance which combines distinguishable sets of insurance obligations and a portion of the premium under the contract is allocated to each set of obligations, for the purpose of valuing the insurance liabilities arising under the contract, the insurer must unbundle the obligations under the contract into each distinguishable set of obligations and separately value the insurance liabilities for each such distinguishable set.

(2) Subject to subrule (6), if an applicable insurer authorized to carry on long term business effects and carries out a contract of insurance which combines long term business and additional business of the nature of class 1 or 2 specified in Part 3 of Schedule 1 to the Ordinance, the insurer must unbundle such additional business from the long term business for the purpose of valuing the insurance liabilities under the contract.

(3) Where a contract of insurance includes the feature of funds on deposit, an applicable insurer is required to unbundle and separately value such funds on deposit from the other insurance liabilities under the contract.

(4) Where a contract of insurance includes the feature of prepaid premiums, an applicable insurer is required to unbundle and separately value such prepaid premiums from the other insurance liabilities under the contract.

(5) Subject to subrule (6), where an applicable insurer effects and carries out a contract of insurance which covers different general insurance lines of business specified in Schedule 9, the insurer must unbundle and separately value the insurance liabilities in respect of each different line of general business.

(6) Where—

(a) it is not practicable for an applicable insurer to unbundle insurance obligations under a contract of insurance in accordance with subrule (2) or (5), as the case may be; and

(b) it would not result in any material misstatement in the valuation of the insurer's insurance liabilities or prescribed capital amount if such insurance obligations are not unbundled,

the insurer may leave such insurance liabilities not unbundled and value such liabilities in accordance with subrule (7).

(7) In the case of insurance liabilities under a contract of insurance or part of such contract which are not unbundled in accordance with subrule (6), an applicable insurer must value such liabilities and determine its prescribed capital amount under Part 5 based on the nature of the key risk driver for the liabilities under that contract or part of the contract, as the case may be.

(8) Where in relation to a contract of insurance mentioned under subrule (2), an applicable insurer has—

(a) unbundled the insurance liabilities for additional business in accordance with subrule (2); or

(b) not unbundled the insurance liabilities for additional business in accordance with subrule (6), and the key risk driver for the liabilities which are not unbundled is of the nature of class 1 or 2 specified in Part 3 of Schedule 1 to the Ordinance,

the insurer must determine how to value such liabilities in accordance with subrule (9).

(9) For purposes of valuing the insurance liabilities mentioned in subrule (8)—

(a) if a long boundary is determined to apply to such liabilities based on rule 14, an applicable insurer must value the liabilities in accordance with Subdivision 2 and, for purposes of determining its prescribed capital amount, include such liabilities in the determination of its risk capital amount for life insurance risk in accordance with Division 3 of Part 5; or

(b) otherwise, an applicable insurer must value the liabilities in accordance with Subdivision 3 and, for the purpose of determining its prescribed capital amount, include such liabilities in the determination of its risk capital amount for general insurance risk in accordance with Division 4 of Part 5.

14. Boundary of insurance liabilities

(1) To value its insurance liabilities under a contract of insurance, an applicable insurer must determine the boundary for such liabilities in accordance with subrule (2).

(2) For the purposes of subrule (1), except funds on deposit and prepaid premiums, an applicable insurer must determine the boundary for the insurance liabilities by applying the principles in relation to contract boundary in Hong Kong Financial Reporting Standard 17 or International Financial Reporting Standard 17.

(3) Where insurance liabilities under a contract of insurance are unbundled in accordance with rule 13, for the purposes of subrule (2), an applicable insurer must treat each unbundled part of the contract as if it were a separate contract of insurance.

Subdivision 2—Valuation of Long Term Insurance Liabilities

15. Determination of long term insurance liabilities

(1) Rules 16 to 26 apply to an applicable insurer for the purpose of valuing the amount of its long term insurance liabilities.

(2) Subject to subrules (4) to (6), an applicable insurer must value the amount of its long term insurance liabilities as the sum of the current estimates for such liabilities calculated under rule 16 and the margins over current estimate for such liabilities calculated under rule 25.

(3) To avoid doubt, long term insurance liabilities include amounts set aside by the applicable insurer for outstanding claims in respect of such liabilities (including claims that have been reported but not yet settled and claims that have been incurred but not yet reported).

(4) For long term business of the nature specified as Class C under Part 2 of Schedule 1 to the Ordinance, the current estimates for liabilities arising from such business must be determined as comprising unit reserves and non-unit reserves, with the unit reserves being valued as the value

of the assets backing the units relating to the contract of insurance.

(5) Liabilities for funds on deposit must be valued in accordance with rule 22.

(6) Liabilities for prepaid premiums must be valued in accordance with rule 26.

16. Calculation of current estimate for long term insurance liabilities

(1) Subject to subrule (3), the current estimate of a long term insurance liability must be calculated as the probability-weighted average of the present values of the future cash flows required to settle the obligations giving rise to the liability within the relevant boundary for the liability as determined under rule 14.

(2) To calculate the present values as mentioned in subrule (1), an applicable insurer must use the discount rates determined in accordance with rule 23.

(3) The current estimate for a long term insurance liability must be calculated gross of reinsurance. The recoverables from contracts of reinsurance to which the insurer is a cedant must be calculated separately in accordance with Subdivision 4.

17. Cash flows projection

(1) The projection of future cash flows used to calculate the current estimate of a long term insurance liability under rule 16 must—

(a) take into account the probability of occurrence, timing, frequency and severity of the insured events and their corresponding cash flows;

(b) be based on best estimate assumptions which reflect expected realistic future demographic, legal, medical, technological, social or economic developments;

(c) include cash flows arising from future discretionary benefits which are expected to be paid;

(d) take into account the obligations under related contractual options and financial guarantees; and

(e) allow for expected policy holder behaviour, which may include dynamic policy holder behaviour.

(2) Subject to subrule (3), the projection of future cash flows referenced in subrule (1) is performed separately for long term insurance liabilities under each contract of insurance or the unbundled part of such contract, as the case may be.

(3) Despite subrule (2), an applicable insurer may project the future cash flows referenced in subrule (1) based on grouped model points if—

(a) the grouping does not misrepresent the underlying risk and the key risk drivers, and does not result in a material misstatement of the current estimate of the long term insurance liabilities under the contracts of insurance in the grouping;

(b) the grouping has not resulted in the loss of any significant attributes of the long term insurance liabilities under the relevant contracts of insurance in the group; and

(c) the contracts grouped share similar characteristics and product features.

(4) Where relevant, all future cash inflows and outflows associated with, and within the boundary of a long term insurance liability as determined in accordance with rule 14 should be included in the projection of future cash flows referenced in subrule (1), including but not limited to the following—

(a) cash inflows from premiums and any other amounts to be received from the policy holders;

(b) cash inflows from non-reinsurance recoveries related to claims;

(c) cash outflows for all types of benefits and payments payable to policy holders and beneficiaries;

(d) cash outflows for expenses that will be incurred in servicing the contract of insurance or relevant part of the contract, including allocated overhead expenses, investment expenses, claims handling expenses and acquisition expenses; and

(e) cash outflows for taxation payments which are, or are expected to be, charged based on policy holder premiums or are required to settle the insurance liability.

(5) In this rule—

model point (模型要點) means a set of records used in a model to represent a contract of insurance or a cohort of contracts of insurance with similar characteristics and product features.

18. Allowance for future discretionary benefits

(1) In determining future cash outflows for the purposes of rule 17(4)(c), an applicable insurer must make an objective and realistic allowance for future discretionary benefits.

(2) For the purpose of making the allowance referred to in subrule (1), the amount of any future discretionary benefits recognized by the insurer as expected future cash outflows must—

(a) be consistent with expected future experience, the underlying economic scenarios on which the liability valuation is based and policy holders' reasonable expectations;

(b) be consistent with the discount rate used for valuing the relevant insurance liabilities; and

(c) take into account the level of accumulated policy holder surplus or deficit as at the valuation date, subject to the requirement on future management actions as set out in rule 21.

(3) Where the future discretionary benefit depends on assets held by the insurer, the amount of future discretionary benefits recognized by the insurer as expected future cash outflows must be based on the value of such assets held as of the valuation date, with any subsequent changes to the asset allocation subject to the requirement on future management actions as set out in rule 21.

19. Valuation of contractual options and financial guarantees

(1) Where contractual options and financial guarantees are offered under a contract of insurance, the applicable insurer must calculate and reflect the time value of such options and guarantees in the current estimate of the long term insurance liabilities under the contract.

(2) Subject to subrule (4), an applicable insurer must use a stochastic simulation approach in calculating the time value of options and guarantees under groups of contracts of insurance which include contractual options or financial guarantees.

(3) For the purpose of calculating the time value of options and guarantees under the stochastic simulation approach referred to in subrule (2), the insurer must—

(a) base the calculation on assets and liabilities valued on a market-consistent basis with risk neutral scenarios;

(b) ensure that liability cash flows reflect the expected policy holder behaviour and foreseeable management actions under different scenarios;

(c) if a yield curve is needed as an input to assume future financial market parameters and the future returns on the assets, determine the discount rates to be used in accordance with rule 23; and

(d) ensure that the model used is verifiable and reasonably consistent results are capable to be reproduced.

(4) Where a stochastic simulation approach has never before been applied by an applicable insurer for a group of contracts of insurance, the insurer may adopt 20% of the deterministic current estimate as the time value of options and guarantees for that group of contracts.

(5) Time value of options and guarantees must not be negative for the insurer as a whole.

(6) In this rule—

market consistent basis (市場一致基準) means a basis that will reproduce prices at which assets and liabilities are exchanged in the market;

risk neutral scenarios (風險中性情景) means a set of stochastic simulation scenarios generated based on risk neutral probability measures such that the average of the values calculated under all scenarios is arbitrage-free;

stochastic simulation (隨機模擬) means a simulation of a system that has variables that can change stochastically (randomly) with individual probabilities;

time value (時間價值) means, in the case of contractual options and financial guarantees, the value of liabilities over the intrinsic value of such liabilities, taking into account the possibility of future fluctuations in such values.

20. Allowance for policy holder behaviour

An applicable insurer must allow for expected policy holder behaviour in valuing its long term insurance liabilities. If contractual options and financial guarantees under contracts of insurance that are long term business allow policy holders to take actions to change the amount, timing or nature of the benefits they will receive under the contracts, where appropriate, the insurer may also allow for dynamic policy holder behaviour in projecting future cash flows used to derive the current estimate of its long term insurance liabilities arising under such contracts.

21. Management actions

For the purpose of valuing its long term insurance liabilities, an applicable insurer may allow for future management actions in projecting future cash flows, provided the following conditions are satisfied—

(a) the management actions considered are objective, realistic and verifiable;

(b) the management actions are not contrary to the applicable insurer's obligations to policy holders or to legal requirements applicable to the insurer;

(c) the management actions are consistent with the insurer's current business practices and business strategy unless there is sufficient evidence that the insurer will change its practices or strategy;

(d) the management actions are reasonably expected to be carried out under the specific circumstances to which they apply, and not contrary to any public indication by the insurer as to the actions that it would expect to take, or not take in such circumstances;

(e) the management actions are consistent with each other;

(f) assumptions about the future management actions take into account the time needed to implement such actions and any resulting incremental expense;

(g) the insurer is able to justify that assumptions about future management actions are realistic based on a comparison with management actions actually taken by the insurer in the past;

(h) the insurer takes into account expected policy holder reactions to the management actions; and

(i) the management actions considered are regularly reviewed and are subject to adequate internal governance controls and procedures before they are taken.

22. Funds on deposit

(1) Subject to subrule (2), an applicable insurer must unbundle any funds on deposit and value them separately from other liabilities under the contract at their account balance.

(2) As an alternative to subrule (1), future cash flow projection method may be adopted to value funds on deposit, provided that—

(a) the cash flows are within the boundary of the contract of insurance to which the funds on deposit relate;

(b) the applicable insurer assumes in its projections that no future deposits will be made into the funds on deposit account; and

(c) the applicable insurer considers expected policy holder behaviour relating to the withdrawal of deposits.

23. Discount rate for long term insurance liabilities

(1) Subject to subrules (2), (3) and (4), to obtain the current estimate of its long term insurance liabilities, an applicable insurer must discount future cash flows using the discount rate derived from the applicable specified risk-free yield curve.

(2) For the purposes of subrule (1) and subject to subrule (3), an applicable insurer must ensure that the currency for the applicable specified risk-free yield curve it uses to derive the discount rate is the same as the currency for the underlying insurance obligations.

(3) If the currency for the underlying insurance obligations is not a currency specified in Schedule 4, an applicable insurer may use a specified risk-free yield curve that it considers appropriate for discounting cash flows.

(4) Where an applicable insurer constructs one or more than one MA portfolios to match its long term insurance liabilities, or a part of those liabilities, with corresponding backing assets, the insurer may apply the matching adjustment for each MA portfolio determined based on rule 24 to adjust the risk-free yield curve used to derive the discount rate for the valuation of long term insurance liabilities.

(5) For the purposes of subrule (4), an applicable insurer must construct its MA portfolio based on its asset and liability management practice.

24. Matching adjustment

(1) For the purposes of rule 23(4), an applicable insurer must apply the matching adjustment to each MA portfolio as a parallel adjustment to the entire specified risk-free yield curve in accordance with the following formula—

$$\text{Discount rate}_{t,\ \text{currency, each MA portfolio}} = \text{risk free rate}_{t,\ \text{currency}} + \text{matching adjustment}_{\text{each MA portfolio}}$$

where—

$\text{risk free rate}_{t,\ \text{currency}}$ means the rate in the specified risk-free yield curve for a point of time and specific currency; and

$\text{matching adjustment}_{\text{each MA portfolio}}$ means the amount of matching adjustment of a particular MA portfolio, as determined in accordance with subrule (2).

(2) For each of its MA portfolios, the applicable insurer must calculate the matching adjustment as the sum of the applicable portion of the adjusted spread, the constant prescribed spread component and (subject to subrule (3)) the qualified LTA, in accordance with the following formula—

$$\text{Matching adjustment}_{\substack{\text{each MA}\\\text{portfolio}}} = \text{adjusted spread}_{\substack{\text{each MA}\\\text{portfolio}}} \times \text{application ratio}_{\substack{\text{each MA}\\\text{portfolio}}} +$$

$$\text{weighted constant prescribed spread} \times \text{predictability factor} \times \text{Max}\left[\text{Min}\left(20\%, \text{eligible asset percentage} - \frac{\text{asset dollar duration}}{\text{liability dollar duration}}\right), 0\right] +$$

$$\text{qualified LTA}_{\text{each MA portfolio}}$$

where each component is determined in accordance with Schedule 5.

(3) An applicable insurer may include a qualified LTA in calculating the matching adjustment for a MA portfolio, only if the portfolio satisfies all of the following criteria—

(a) the MA portfolio is a subset of a physically segregated participating business fund or universal life business fund, or the physically segregated fund itself of participating business or universal life business, and to avoid doubt, the following portfolios are not eligible for inclusion of qualified LTA—

(i) portfolios that are not physically segregated;

(ii) physically segregated portfolios containing both participating and universal life businesses; or

(iii) physically segregated portfolios containing long term business other than participating and universal life businesses;

(b) the underlying participating and universal life policies provide discretionary benefits to policy holders, and the determination of such discretionary benefits is governed by dividend or crediting rate policies pursuant to guidelines published by the Authority; and

(c) the assets covering the insurance liabilities in the MA portfolio are identified by the applicable insurer and, together with the corresponding liabilities, are managed separately by the insurer and are not to be used to cover losses from other business.

(4) For each MA portfolio constructed by an applicable insurer, the insurer must ensure that the amount of assets is no less than the amount of liabilities.

(5) An applicable insurer must consider the cost of hedging in calculating the matching adjustment for a MA portfolio.

(6) An applicable insurer which has practical difficulty in performing the full matching adjustment calculation may opt to adopt simplified alternatives specified by the Authority.

(7) In calculating the matching adjustment for a MA portfolio, the input parameters related to liability used by an applicable insurer must be net of reinsurance, unless otherwise specified.

25. Margin over current estimate for long term insurance liabilities

(1) The margin over current estimate to be used by an applicable insurer in valuing its long term insurance liabilities is an amount, calculated net of reinsurance, added to the current estimates for such liabilities which reflects the uncertainty of liability cash flows related to the following life insurance sub-risk modules—

(a) mortality risk;

(b) longevity risk;

(c) morbidity risk;

(d) expense risk; and

(e) the level and trend lapse component of lapse risk.

(2) The margin over current estimate for each sub-risk mentioned in subrule (1) must be calculated by the applicable insurer as the 75th percentile of the normal distribution characterized by—

(a) a mean equal to the current estimate of long term insurance liabilities as determined in accordance with rule 16; and

(b) a 99.5th percentile equal to the capital requirement for the corresponding sub-risk as determined in accordance with Division 3 of Part 5.

(3) For the purposes of subrule (1), the margin over current estimate for each sub-risk calculated in accordance with subrule (2) is to be aggregated pursuant to the following formula—

$$\text{Margin over current estimate} = \sqrt{\sum_{i,\,j} \text{correlation matrix}_{i,\,j} \times \text{margin over current estimate}_i \times \text{margin over current estimate}_j}$$

where—

correlation matrix refers to the correlation matrix set out in Table 1 of Schedule 7; and

i and j represent the sub-risks in each paragraph in subrule (1).

(4) An applicable insurer must calculate and include an allocated margin over current estimate as part of the long term insurance liabilities attributable to each of its long term business funds. The margin over current estimate for each long term business fund is first calculated on a standalone basis using the formula in subrule (3) and reflects the diversification between risks within that fund. Further diversification benefits between the insurer's different long term business funds are allocated back to the funds proportionately to determine the allocated margin over current estimate at fund level.

26. Prepaid premiums

An applicable insurer must value the prepaid premiums at the account balance. In addition, the insurer must make provision for any shortfall arising from future guaranteed interest associated with the prepaid premiums.

Subdivision 3—Valuation of General Insurance Liabilities

27. Determination of general insurance liabilities

(1) Rules 27 to 32 apply to an applicable insurer for the purpose of valuing the amount of its general insurance liabilities.

(2) An applicable insurer must value its general insurance liabilities as the sum of the current estimates for such liabilities calculated under rules 28 to 31 and the margins over current estimates for such liabilities calculated under rule 32.

(3) To avoid doubt, general insurance liabilities include amounts set aside by the applicable insurer for outstanding claims in respect of such liabilities (including claims that have been reported but not yet settled and claims that have been incurred but not yet reported).

28. Calculation of current estimate for general insurance liabilities

(1) Subject to subrule (3), the current estimate of a general insurance liability must be calculated as the probability-weighted averages of the present values of the future cash flows required to settle the obligations giving rise to the liability within the relevant boundary as determined under rule 14.

(2) To calculate the present values as mentioned in subrule (1), an applicable insurer must use the discount rates determined in accordance with rule 31.

(3) The current estimate for a general insurance liability must be calculated gross of reinsurance. The recoverables from contracts of reinsurance to which the insurer is a cedant must be calculated separately in accordance with Subdivision 4.

29. Cash flows projection

(1) The projection of future cash flows used to calculate the current estimate of a general insurance liability under rule 28 must—

(a) take into account the probability of occurrence, timing, frequency and severity of the insured events and their corresponding cash flows;

(b) be based on best estimate assumptions which reflect expected realistic future demographic, legal, medical, technological, social or economic developments; and

(c) avoid double counting by excluding cash flows related to a liability where such cash flows have already been accounted for and recognized as assets in the insurer's economic balance sheet.

(2) Subject to subrule (3), the projection of future cash flows referenced in subrule (1) is performed separately for the general insurance liabilities under each contract of insurance or unbundled part of a contract of insurance, as the case may be.

(3) Despite subrule (2), an applicable insurer may project the future cash flows referenced in subrule (1) based on grouped contracts of insurance or grouped claims if—

(a) the grouping does not misrepresent the underlying risk, key risk drivers, and claims patterns, and does not result in a material misstatement of the current estimate of the general insurance liabilities under the contracts of insurance in the grouping; and

(b) the grouping has not resulted in the loss of any significant attributes of the general insurance liabilities under the relevant contracts of insurance in the grouping.

(4) Where relevant, all future cash inflows and outflows associated with, and within the boundary of a general insurance liability as determined in accordance with rule 14 should be included in the projection of future cash

flows referenced in subrule (1), including but not limited to the following—

(a) cash inflows from premiums and any other amounts to be received from the policy holder;

(b) cash inflows from non-reinsurance recoveries related to the claims;

(c) cash outflows for all types of benefits and payments payable to policy holder and beneficiaries;

(d) cash outflows for expenses that will be incurred in servicing the contract of insurance or relevant part of the contract, including allocated overhead expenses, investment expenses, claims handling expenses and acquisition expenses; and

(e) cash outflows for taxation payments which are, or are expected to be, charged based on policy holder premiums or are required to settle the insurance liability.

30. Outstanding claims liabilities and premium liabilities

(1) An applicable insurer must calculate the current estimates for its general insurance liabilities separately for outstanding claims liabilities and premium liabilities.

(2) For the purposes of subrule (1)—

(a) outstanding claims liabilities relate to claim events that have already occurred, regardless of whether the claims arising from those events have been reported or not; and

(b) premium liabilities relate to future claim events that are expected to be incurred after the valuation date, attributable to the unexpired coverage of the insurer's contracts of insurance or relevant part of the

contracts as at the valuation date, within the boundary referred to in rule 14.

31. Discount rate for general insurance liabilities

(1) Subject to subrules (2) and (3), an applicable insurer may discount expected future cash flows to obtain the current estimate of its general insurance liabilities.

(2) For the purposes of subrule (1) and subject to subrule (3), an applicable insurer must use the discount rate derived from the applicable specified risk-free yield curve and ensure that the currency for the applicable specified risk-free yield curve it uses to derive the discount rate is the same as the currency for the underlying insurance obligations.

(3) If the currency for the underlying insurance obligations is not a currency specified in Schedule 4, an applicable insurer may use a specified risk-free yield curve that it considers appropriate for discounting cash flows.

32. Margin over current estimate for general insurance liabilities

(1) The margin over current estimate to be used by an applicable insurer in valuing its general insurance liabilities is an amount, calculated net of reinsurance, added to the current estimates for such liabilities, such that the sum of current estimates and margin over current estimate provides for a 75% probability of adequacy for its general insurance liabilities.

(2) In calculating the margin over current estimate for the purpose of valuing its general insurance liabilities, an applicable insurer may take into account the diversification of such liabilities to the extent such liabilities arise from obligations in different general insurance lines of business.

Subdivision 4—Recoverables from Reinsurance Contracts

33. Valuation of reinsurance recoverables

(1) An applicable insurer must value its reinsurance recoverables—

(a) in a way that is consistent with the current estimates of the underlying insurance liabilities, including the assumptions and the boundary of the underlying insurance liabilities ceded as determined in accordance with rule 14; and

(b) including cash flows associated with all contracts of reinsurance to which the insurer is a cedant.

(2) For the purposes of subrule (1), an applicable insurer must—

(a) only recognize those reinsurance recoverables arising from the contracts of reinsurance that meet the criteria under rule 41(2);

(b) discount a reinsurance recoverable with the same discount rate used for valuing the underlying insurance liabilities ceded; and

(c) classify its reinsurance recoverables as assets or liabilities on a contract-by-contract basis, with no offsetting between reinsurance contracts.

(3) An applicable insurer, for the purpose of valuing its reinsurance recoverables, must adjust the value of the reinsurance recoverables for the expected losses due to potential default of the counterparty of the reinsurance contracts to which the insurer is a cedant.

(4) In valuing its reinsurance recoverables, to avoid any double counting of assets and liabilities, an applicable insurer must adjust the amount of the recoverable to take account of any deposit made to cover cash flows under the reinsurance contract.

Division 3—Valuation of Assets and Other Items

34. Valuation of assets

(1) Unless otherwise specified in these Rules, an applicable insurer must value its assets at market value.

(2) An applicable insurer must value the following assets in accordance with the applicable accounting standards—

(a) investment holdings in any subsidiary or affiliate, except investment holdings in and amounts due from a non-consolidated subsidiary; and

(b) leases.

(3) Where impairment exists for an asset and the asset's market value does not fully reflect the impairment, an applicable insurer must ensure the value of the asset is decreased to reflect the full effect of the impairment.

(4) An applicable insurer must measure goodwill and intangible assets at zero.

(5) An applicable insurer must value the investment holdings in and amount due from non-consolidated subsidiary at cost.

35. Deferred tax assets and liabilities

(1) Subject to subrule (2), an applicable insurer must recognize deferred tax assets and liabilities (other than those arising from the carryforward of unused tax credits and the carryforward of unused tax losses), in accordance with the principles in Hong Kong Accounting Standard 12 or International Accounting Standard 12.

(2) For the purposes of subrule (1), recognition of deferred tax assets and liabilities is based on the temporary difference between—

(a) the values of the assets and liabilities of the applicable insurer as determined in accordance with these Rules; and

(b) the values of such assets and liabilities for tax purposes.

36. Contingent liabilities

(1) Subject to subrule (2), an applicable insurer must recognize and value its contingent liabilities based on the probability and amount of future cash outflows required to settle a contingent liability over the lifetime of that liability, discounted using the discount rate derived from the applicable specified risk-free yield curve for the currency in which the liability is denominated.

(2) If the currency in which the underlying contingent liability is denominated is not a currency specified in Schedule 4, an applicable insurer may use a specified risk-free yield curve that it considers appropriate for discounting cash flows.

Part 5

Determination of Prescribed Capital Amount

Division 1—General Requirements for Determination of Prescribed Capital Amount

37. Determination of the prescribed capital amount

(1) Subject to subrules (2), (3) and (4), an applicable insurer must determine its prescribed capital amount by—

(a) determining risk capital amounts for its risk exposures to—

(i) market risk, in accordance with rules 45 to 51;

(ii) life insurance risk, in accordance with rules 52 to 59;

(iii) general insurance risk, in accordance with rules 60 to 80; and

(iv) counterparty default and other risk, in accordance with rules 81 to 85;

(b) determining a risk capital amount for operational risk, in accordance with rule 86;

(c) aggregating the risk capital amounts determined for paragraph (a) and adding the risk capital amount determined for paragraph (b), using the following formula—

$$\text{Prescribed capital amount} = \sqrt{\sum_{x,\,y} \text{correlation matrix}_{x,\,y} \times \text{risk capital amount}_{x} \times \text{risk capital amount}_{y}} + \text{risk capital amount}_{\text{operational risk}}$$

where—

correlation matrix refers to the correlation matrix set out in Table 2 of Schedule 7; and

x and y represent the risk in each subparagraph in paragraph (a);

(d) adding the amount, if any, as calculated in accordance with rule 43, by which the insurer's adjustment for the loss absorbing capacity of future discretionary benefits exceeds the cap on such adjustment; and

(e) deducting the amount, if any, calculated in accordance with rule 44 to reflect the loss absorbing capacity of any change in the deferred tax impact after applying the steps in paragraphs (a), (b), (c) and (d).

(2) In the case of the risk capital amounts mentioned in subrule (1) which, in accordance with these Rules, are required to be determined by the application of scenarios as prescribed by these Rules, in applying those prescribed scenarios to determine the relevant risk capital amounts, an applicable insurer must not change any—

(a) margin over current estimates; or

(b) deferred tax assets and liabilities.

(3) An applicable insurer, for the purposes of subrule (1), should exclude from the calculation of its relevant risk capital amounts, the risk exposures in respect of the amount of any direct holdings, indirect holdings and synthetic holdings by the insurer in relation to a non-consolidated subsidiary of the insurer or an affiliate of the insurer which is a regulated financial entity under rules 8(3)(f) and (h), 9(2)(a) and (b) and 10(2)(a) and (b).

(4) An applicable insurer, for the purposes of subrule (1), may exclude from the calculation of its prescribed capital amount, its risk exposures in respect of assets and liabilities attributable to any separate fund it maintains—

(a) for the part of its long term business that is long term reinsurance business with offshore risk, in accordance with section 21B(5)(e) of the Ordinance; and

(b) for the part of its general business that is general reinsurance business with offshore risk, in accordance with section 25AA(4)(a) of the Ordinance.

(5) Where a restricted capital component exists in respect of any separate sub-fund of participating business maintained by an applicable insurer, for the purpose of determining its prescribed capital amount, the insurer must—

(a) determine a separate prescribed capital amount based on the assets and liabilities in respect of the restricted capital component of each sub-fund of participating business, using the approach in subrule (1);

(b) determine a separate prescribed capital amount based on all its assets and liabilities, other than those in respect of the restricted capital component, using the approach in subrule (1); and

(c) determine its prescribed capital amount as the sum of the separate prescribed capital amounts in paragraphs (a) and (b).

38. Look-through approach in general

Subject to rule 39, if an applicable insurer holds an asset or liability whose profit, income or other return is dependent on an underlying risk exposure, it must identify the underlying risk exposure in determining the relevant risk capital amounts under rule 37(1).

39. Look-through approach for portfolio investments

(1) If an applicable insurer holds a portfolio investment, in determining each relevant risk capital amount in rule 37(1) an applicable insurer must—

(a) identify the underlying assets or liabilities of the portfolio investment, using the approaches mentioned in subrules (2), (3), (4) and (5); and

(b) in determining each relevant risk capital amount, use the underlying assets or liabilities identified in accordance with paragraph (a) in proportion to the insurer's holding in the portfolio investment.

(2) For the purposes of subrule (1)(a)—

(a) subject to paragraph (b), an applicable insurer must identify all the underlying assets or liabilities of the portfolio investment, to the extent of the granularity required to determine each relevant risk capital amount in accordance with these Rules (***full look-through approach***);

(b) subject to paragraph (c), if the insurer cannot identify some or all of the underlying assets or liabilities of the portfolio investment after applying the full look-through approach, the insurer must use the approach in subrule (3) (***actual allocation-based look-through approach***);

(c) subject to paragraph (d), if the insurer cannot identify some or all of the underlying assets or liabilities of the portfolio investment after applying the full look-through approach and actual allocation-based look-through approach (if applicable), the insurer must use the approach referred to in subrule (4) to determine the unidentified underlying assets or liabilities (***mandate-based look-through approach***); and

(d) if, after applying the full look-through approach, actual allocation-based look-through approach (if applicable) and mandate-based look-through approach, there remains an amount of underlying assets or liabilities of the portfolio investment which the insurer cannot identify, the insurer must classify such amount as a portfolio investment of no look-through.

(3) In the actual allocation-based look-through approach, an applicable insurer must treat all underlying debt securities of the same currency as a single debt security with a duration, maturity and credit rating band that is the weighted average duration, maturity and credit rating band of such debt securities.

(4) For the purposes of the mandate-based look-through approach in subrule (2)(c)—

(a) subject to paragraph (b), in relation to the amount of underlying assets and liabilities of the portfolio investment which cannot be identified, an applicable insurer must assume that these are assets and liabilities that result from the amount being invested, to the maximum extent allowed, in the class of assets under the investment mandate or governing instrument of the portfolio investment that would

result in the highest prescribed capital amount for the insurer;

(b) subject to paragraph (c), if there is any amount of unidentified underlying assets or liabilities of the portfolio investment remaining after the application of the approach in paragraph (a), the insurer must assume that this remaining amount is invested, to the maximum extent allowed, in the class of assets under the investment mandate or governing instrument, other than the class mentioned in paragraph (a), that would result in the next highest prescribed capital amount for the insurer; and

(c) if there continues to be any amount of unidentified assets or liabilities of the portfolio investment remaining after the application of the approaches in paragraphs (a) and (b), the insurer must continue to use the approach in paragraph (b) until either the entire amount of underlying assets or liabilities of the portfolio investment has been identified by reference to the classes of assets under the investment mandate or governance instrument of the investment, or it is impractical for the insurer to continue to use the approach in paragraph (b) to identify the remaining underlying assets or liabilities.

(5) If—

(a) any underlying asset of a portfolio investment held by an applicable insurer is in turn a portfolio investment (***underlying portfolio investment***); or

(b) any underlying asset held by an underlying portfolio investment mentioned in paragraph (a) in turn is a portfolio investment, such that there are 3 or more layers of underlying portfolio investments between the portfolio investment held by the insurer and the

ultimate underlying assets and liabilities from which the profit, income and other returns of the portfolio investment held by the insurer derive,

the insurer, for the purposes of subrule (1), must apply the approaches in subrule (2) in accordance with subrule (6).

(6) For the purposes of subrule (5)—

(a) subject to paragraph (b), an applicable insurer must apply the full look-through approach in subrule (2)(a), to identify the underlying assets or liabilities ultimately held through all the layers of the portfolio investments;

(b) subject to paragraph (c), if the insurer cannot identify some or all of the ultimate underlying assets or liabilities after applying the approach in paragraph (a), the insurer must apply the actual allocation-based look-through approach in subrule (2)(b);

(c) subject to paragraph (d), if the insurer cannot identify some or all of the ultimate underlying assets or liabilities after applying the approaches in paragraphs (a) and (b) (if applicable), the insurer must, for the purpose of identifying such unidentified underlying assets and liabilities, apply the mandate-based look-through approach in subrule (2)(c) by reference to the investment mandate or governing instrument of the portfolio investment in the layer at which the insurer ceased being able to identify the underlying assets or liabilities held by such portfolio investment in applying the full look-through approach or actual allocation-based look-through approach (if applicable); or

(d) if, after applying the approaches in paragraphs (a), (b) and (c), there remains an amount of such ultimate underlying assets or liabilities which the insurer has not identified, the insurer must classify such amount as a portfolio investment of no look-through.

(7) In this rule—

portfolio investment of no look-through (無法穿透的組合投資) means some or all of the underlying assets or liabilities of the portfolio investment classified using the approach in subrule (2)(d) or (6)(d).

40. Valuation of contractual options and financial guarantees in determining risk capital amounts

(1) This rule applies to an applicable insurer which adopts 20% of the deterministic current estimate as the time value of options and guarantees pursuant to rule 19(4).

(2) For the risk capital amounts mentioned in rule 37(1) which are determined by the application of scenarios as prescribed by these Rules, an applicable insurer, when determining the relevant risk capital amounts, must ensure it maintains 20% of the deterministic current estimate (after applying those scenarios), as adopted pursuant to rule 19(4), as the time value of options and guarantees.

41. Recognition of insurance risk mitigating effect

(1) In determining the relevant risk capital amounts mentioned in rule 37(1), an applicable insurer may utilize a contract of reinsurance as an insurance risk mitigation arrangement to reduce its potential losses under adverse events, if the contract is recognized in accordance with subrule (2).

(2) A contract of reinsurance is recognized for the purposes of subrule (1) if—

(a) the applicable insurer, as the ceding insurer under the contract of reinsurance, transfers insurance risk to a reinsurer;

(b) the transfer of risk to the reinsurer under the contract of reinsurance is effective and is clearly defined in the contract;

(c) the contract of reinsurance is binding on the parties, legally effective and enforceable in all relevant jurisdictions;

(d) the insurer has taken all appropriate steps to ensure the effectiveness of the arrangement and operation of the contract of reinsurance and to address the risks related to the contract, including any risk that may result in a discontinuation of the transfer of risk under the contract;

(e) in the event of a default, insolvency or bankruptcy of the reinsurer, or other credit event adversely impacting the reinsurer set out in the contract of reinsurance, the insurer has a direct legally enforceable claim on the reinsurer under the contract of reinsurance;

(f) there is no double counting by the insurer of the insurance risk mitigating effect of the contract of reinsurance in valuing its assets or liabilities for the purposes of these Rules and in determining the relevant risk capital amounts mentioned in rule 37(1);

(g) if the contract of reinsurance results in the insurer being materially exposed to basis risk resulting from a potential mismatch between the coverage under the contract of reinsurance and the insurance risk to which the insurer is exposed, the insurer allows for such basis risk in deriving the insurance risk mitigation effect of the contract of reinsurance;

(h) the derivation of the insurance risk mitigation effect of the contract of reinsurance by the insurer does not result in creating other risks or adding material basis risk to the insurer, unless such risk is well addressed;

(i) the insurer is able to demonstrate that the contract of reinsurance adequately mitigates its insurance risk under a range of gross loss scenarios; and

(j) the reinsurer which is a party to the contract of reinsurance has adequate credit quality to guarantee, with appropriate certainty, that the insurer will receive the protection in the cases specified by the contracting parties in the contract.

(3) For the purposes of subrule (1) and subject to subrule (4), if the term of the contract of reinsurance is due to expire within 365 days from the valuation date, an applicable insurer must adjust the risk mitigating effect of the contract to reflect only the outstanding term of the contract as of the valuation date, using the following multiplicative adjustment—

$$\text{Min}\left[1, \frac{\text{number of days to expiry of contract of reinsurance as at valuation date}}{\text{Min}\left(365, \text{number of days of outstanding term of underlying risk exposure}\right)}\right].$$

(4) If the term of the contract of reinsurance is due to expire within 365 days from the valuation date, instead of applying the adjustment in subrule (3), the applicable insurer may make an assumption that the contract will be renewed on expiry, provided that in making that assumption the insurer satisfies following conditions—

(a) the insurer takes into account the costs of renewing the contract in its assumptions and reflects such costs in the valuation of assets and liabilities; and

(b) the insurer—

(i) can justify as realistic its assumption that the contract will renew on expiry and that the risk mitigating effect will thus continue after expiry;

(ii) has credible evidence to support its assumption in subparagraph (i); and

(iii) provides the Authority, upon request, with the justification and evidence of its assumption in subparagraph (i).

42. Recognition of financial risk mitigation effect

(1) In determining the relevant risk capital amounts mentioned in rule 37(1), an applicable insurer may utilize a financial risk mitigation arrangement to reduce its potential financial losses under adverse events in accordance with subrule (2).

(2) For the purposes of subrule (1), an applicable insurer may recognize the financial risk mitigation effect of contractual arrangements only if the following criteria are met—

(a) the contractual arrangement has a risk mitigating effect on a specific exposure, specific exposures or a pool of specific exposures of the insurer;

(b) the transfer of risk to the counterparty under the contractual arrangement is effective and is clearly defined in the contract;

(c) the contractual arrangement is binding on the parties, legally effective and enforceable in all relevant jurisdictions;

(d) the insurer has taken all appropriate steps to ensure the effectiveness of the arrangement (such as clear documentation on the undertaking of the counterparty to pay the protection in specified circumstances), and to address the risks related to that arrangement, including any risk that may result in a discontinuation of the transfer of risk under the arrangement;

(e) in the event of a default, insolvency or bankruptcy of a counterparty, or other credit event adversely impacting the counterparty set out in the relevant contractual arrangement, the insurer has a direct legally enforceable claim on the counterparty under the contractual arrangement;

(f) there is no double counting by the insurer of the market risk mitigation effect of the arrangement in valuing its assets or liabilities for the purposes of these Rules and in determining the relevant risk capital amounts mentioned in rule 37(1);

(g) the derivation of the financial risk mitigation effect does not result in material basis risk or in the creation of other risks, unless such risk is well addressed;

(h) the insurer is able to demonstrate that the arrangement adequately mitigates its financial risk under a range of loss scenarios; and

(i) the counterparty of the contractual arrangement has adequate credit quality to guarantee, with appropriate certainty, that the insurer will receive the protection in the cases specified by the contracting parties in the contract.

(3) For the purposes of subrule (1) and subject to subrule (4), if the term of the contractual arrangement is due to expire within 365 days from the valuation date, an applicable insurer must adjust the risk mitigating effect to reflect only the outstanding term of the arrangement as of the valuation date, using the following multiplicative adjustment—

$$\text{Min}\left(1, \frac{\text{number of days to expiry of contract as at valuation date}}{365}\right).$$

(4) If the contract term of a financial risk mitigation arrangement is due to expire within 365 days from the valuation date, instead of applying the adjustment in subrule (3), the applicable insurer may make an assumption that the risk mitigation arrangement will roll over on expiry and recognize the mitigating effect of the arrangement in accordance with subrule (5), provided that in making that assumption the insurer satisfies the following conditions—

(a) the insurer takes into account the costs of the roll over in its assumptions and reflect such costs in the valuation of assets and liabilities; and

(b) the insurer—

(i) can justify as realistic its assumption that the arrangement will renew on expiry and that the risk mitigating effect will thus continue after expiry;

(ii) has credible evidence to support its assumption in subparagraph (i); and

(iii) provides the Authority, upon request, with the justification and evidence of its assumption in subparagraph (i).

(5) If, in relation to a financial risk mitigating arrangement with a contract term that is due to expire within 365 days of the valuation date, an applicable insurer satisfies the conditions in subrule (4), the insurer may maintain the same risk mitigating effect of the arrangement up to the end of the assumed period for which the arrangement is rolled over.

43. Adjustment to prescribed capital amount to reflect the loss absorbing capacity of future discretionary benefits

(1) In determining the relevant risk capital amounts mentioned in rule 37(1), an applicable insurer may only take into account the effect of additional management actions that comply with rule 21 and impact on future discretionary benefits in relation to its long term business.

(2) Subject to subrule (1), the effect of additional management actions on future discretionary benefits taken into account in the calculation of the risk capital amounts mentioned in rule 37(1) is subject to a cap determined in accordance with subrule (5).

(3) The applicable insurer must, using the formula in subrule (4), determine the amount of usage of the loss absorbing capacity of future discretionary benefits under each sub-risk module by—

(a) calculating the difference in the present value of future discretionary benefits before and after additional management actions based on the same stressed assumptions;

(b) multiplying the difference calculated in paragraph (a) by—

(i) in the case of the interest rate risk, credit spread risk and equity risk, the ratio of the present value of future discretionary benefits based on the base assumptions before additional management actions to the present value of future discretionary benefits based on the stressed assumptions before additional management actions; and

(ii) in the case of other sub-risks, 100%.

(4) The formula mentioned in subrule (3) is—

$$\text{LAC usage} = (\text{PV FDB}_{\text{without add mgmt action}}@\text{stressed assumptions} - \text{PV FDB}_{\text{with add mgmt action}}@\text{stressed assumptions}) \times \text{adjustment ratio}$$

where—

LAC usage means the amount of usage of the loss absorbing capacity of future discretionary benefits;

$$\text{adjustment ratio} = \begin{cases} \dfrac{\text{PV FDB}_{\text{without add mgmt action}}@\text{base assumptions}}{\text{PV FDB}_{\text{without add mgmt action}}@\text{stressed assumptions}}, & \text{for interest rate, credit spread and equity risks} \\ 100\%, & \text{for other risks} \end{cases}$$

where—

PV $FDB_{without\ add\ mgmt\ action}$@stressed assumptions means the present value of future discretionary benefits before additional management actions based on stressed assumptions;

PV $FDB_{with\ add\ mgmt\ action}$@stressed assumptions means the present value of future discretionary benefits after additional management actions based on stressed assumptions; and

PV $FDB_{without\ add\ mgmt\ action}$@base assumptions means the present value of future discretionary benefits before additional management actions based on the base assumptions.

(5) An applicable insurer must determine a cap on the total amount of adjustment for the loss absorbing capacity of future discretionary benefits it may make in calculating its prescribed capital amount, by using the following formula—

$$LAC\ cap = Max\ (PV\ FDB_{base} - PV\ FDB_{min}, 0)$$

where—

LAC cap means the cap on the total amount of adjustment for the loss absorbing capacity of future discretionary benefits the insurer may make in calculating its prescribed capital amount;

PV FDB_{base} means the present value of future discretionary benefits under the base scenario, net of reinsurance, based on the base assumptions; and

PV FDB_{min} means the present value of the lowest allowed future discretionary benefits in accordance with the insurer's board-approved policy, net of reinsurance, based on the base assumptions.

(6) If the total amount of adjustment for the loss absorbing capacity of future discretionary benefits applied by an applicable insurer in determining its prescribed capital amount exceeds the cap calculated in accordance with subrule (5), the insurer, in accordance with rule 37(1)(d), must add the amount of the excess, as calculated using the following formula, for the purpose of determining its prescribed capital amount—

$$\text{Max}\ (0, PCA_{\text{without add mgmt action}} - PCA_{\text{with add mgmt action}} - \text{LAC cap})$$

where—

$PCA_{\text{without add mgmt action}}$ means the prescribed capital amount as aggregated using the formula in rule 37(1)(c) with each risk capital amount before applying the additional management actions on future discretionary benefits; and

$PCA_{\text{with add mgmt action}}$ means the prescribed capital amount as aggregated using the formula in rule 37(1)(c) with each risk capital amount after applying the additional management actions on future discretionary benefits.

(7) For the purposes of subrule (6), the applicable insurer must determine the risk capital amounts before the additional management actions on future discretionary benefits by adding the amount of usage of the loss absorbing capacity as determined in accordance with subrule (3) to the risk capital amounts after the additional management actions on future discretionary benefits.

$$\text{Risk capital amount}_{\text{without add mgmt action}} = \text{risk capital amount}_{\text{with add mgmt action}} + \text{LAC usage}$$

(8) In this rule—

additional management actions (額外管理行動) means the management actions assumed in the valuation of insurance liabilities after stress is applied in determining the relevant risk capital amount, beyond those assumed in the valuation of insurance liabilities before any stress is applied;

base assumptions (基本假設) means the assumptions as used for the valuation of insurance liabilities before any stress is applied;

stressed assumptions (受壓假設) means the assumptions as used for the valuation of insurance liabilities after stress is applied in determining the relevant risk capital amount.

44. Adjustment to prescribed capital amount to reflect loss absorbing capacity of deferred tax

(1) Subject to subrule (4), an applicable insurer may make a deduction in accordance with rule 37(1)(e) to reflect the loss absorbing capacity of the deferred tax impact resulting from the steps in rule 37(1)(a) to (d) for the purposes deriving its prescribed capital amount.

(2) The applicable insurer must calculate the amount of the deduction referred to in subrule (1) by applying the effective tax rate to the pre-tax prescribed capital amount, where—

(a) the pre-tax prescribed capital amount of the insurer is the amount calculated in accordance with rule 37(1)(a) to (d); and

(b) the effective tax rate is the amount calculated as follows and capped at 16.5%—

(i) if the total current tax amount excluding premium-based tax recognized is negative, while the change in retained earnings (after adjustment for any dividends of the insurer), during the period to which the current tax amount relates is positive, the insurer must calculate the effective tax rate using the following formula—

$$\text{Effective tax rate} = \text{Min}\left[16.5\%, \text{Absolute}\left(\frac{\text{total current tax amount excluding premium-based tax recognized}}{\Delta\text{retained earnings} + \text{total current tax amount excluding premium-based tax recognized}}\right)\right]$$

where—

current tax amount refers to the insurer's current tax amount excluding any tax amount associated with the adjustment to assessable profits due to change in insurance capital requirements in section 23AAAD, 23AAAE or 23AD of the Inland Revenue Ordinance (Cap. 112); and

Δretained earnings means the insurer's retained earnings at the end of the period to which the current tax amount relates minus the insurer's retained earnings at the beginning of such period, after adjustment for any dividends of the insurer during such period;

(ii) otherwise, the insurer must calculate the effective tax rate using the following formula—

$$\text{Effective tax rate} = \text{Max}\left[0, \text{Min}\left(16.5\%, \frac{\text{total current tax amount excluding premium-based tax recognized}}{\Delta\text{retained earnings} + \text{total current tax amount excluding premium-based tax recognized}}\right)\right]$$

where—

current tax amount refers to the insurer's current tax amount excluding any tax amount associated with the adjustment to assessable profits due to change in insurance capital requirements in section 23AAAD, 23AAAE or 23AD of the Inland Revenue Ordinance (Cap. 112); and

Δretained earnings means the insurer's retained earnings at the end of the period to which the current tax amount relates minus the insurer's retained earnings at the beginning of such period, after adjustment for any dividends of the insurer during such period.

(3) For the purposes of subrule (2)(b), subject to subrules (4) and (5), an applicable insurer must base its determination of the effective tax rate on the latest available tax assessment for the specified period as of the valuation date.

(4) For the purposes of subrule (3), the specified period is—

(a) if the latest financial year end of the applicable insurer is earlier than the commencement date—the period between the commencement date and the valuation date;

(b) if the period between the commencement date and the latest financial year end of the applicable insurer covers less than 3 consecutive financial years before the valuation date—the period between the commencement date and the latest financial year end date; or

(c) if the period between the commencement date and the latest financial year end of the applicable insurer covers at least 3 consecutive financial years before the valuation date—the period of 3 consecutive financial years ending on the latest financial year end date.

(5) If the specified period determined in subrule (4) is more than one year, the effective tax rate for the purposes of subrule (2)(b) is the average of the effective tax rates of each of the financial reporting periods, as the case may be, as determined in accordance with subrule (2)(b) for each year.

(6) If the amount for the loss absorbing capacity of the deferred tax impact determined under subrule (1) would result in an increase in the deferred tax assets of the applicable insurer, the insurer may make the deduction in rule 37(1)(e) in determining its prescribed capital amount, provided that the insurer considers, and is able to justify, that it is probable that future taxable profit will be available against which the deferred tax asset can be utilized.

(7) In this rule—

commencement date (生效日期) means the commencement of these Rules or the date on which an applicable insurer commences carrying on insurance business in or from Hong Kong, whichever is the later;

current tax amount (當期課稅額) means the amount of taxes payable or recoverable based on the taxable profit or tax loss for a period.

Division 2—Market Risk

45. Risk capital amount of market risk

(1) To determine its risk capital amount for market risk, an applicable insurer must—

(a) in respect of its assets and liabilities that are sensitive to market risk, determine the risk capital amount for each of the following sub-risks—

(i) interest rate risk, in accordance with rule 47;

(ii) credit spread risk, in accordance with rule 48;

(iii) equity risk, in accordance with rule 49;

(iv) property risk, in accordance with rule 50; and

(v) currency risk, in accordance with rule 51; and

(b) aggregate the risk capital amounts for the sub-risks mentioned in paragraph (a)(i), (ii), (iii), (iv) and (v) according to the formula mentioned in subrule (2).

(2) The formula mentioned in subrule (1)(b) is—

$$\text{Risk capital amount}_{\text{market risk}} = \sqrt{\sum_{s,\,t} \text{correlation matrix}_{s,\,t} \times \text{risk capital amount}_{s} \times \text{risk capital amount}_{t}}$$

where—

correlation matrix refers to the correlation matrix set out in—

(a) Table 3A of Schedule 7, if interest rate upward stress is applied in determining the risk capital amount of interest rate risk under rule 47(1); and

(b) Table 3B of Schedule 7, if interest rate downward stress is applied in determining the risk capital amount of interest rate risk under rule 47(1); and

s and t represent the corresponding sub-risks in each subparagraph in subrule (1)(a).

(3) For the purposes of subrule (1)(a), any reduction in the change in net asset value resulting from the revaluation of derivatives for which the contractual arrangements do not meet the criteria in rule 42 must be excluded when determining the risk capital amount for any sub-risk referred in subrule (1)(a)(i), (ii), (iii), (iv) or (v).

(4) If any risk capital amount for a sub-risk referred in subrule (1)(a)(i), (ii), (iii), (iv) or (v) is negative, the risk capital amount for that sub-risk must be set to zero before being aggregated under subrule (2).

46. Recalculation of matching adjustment under interest rate, credit spread and equity risks

(1) Subject to subrule (5), for the purpose of calculating the risk capital amounts for interest rate risk (under both interest rate upward and interest rate downward stress scenarios), credit spread risk and equity risk, an applicable insurer to which Schedule 5 applies must re-value the long term insurance liabilities in its MA portfolios by recalculating the matching adjustment in accordance with the formula set out in subrule (2). To avoid doubt, no recalculation of the matching adjustment under Schedule 5 must be made for the other sub-risks of market risk, or for risks other than market risk.

(2) The formula mentioned in subrule (1) is—

$$\text{Matching adjustment}_{\text{stressed}} = \text{adjusted spread}_{\text{stressed}} \times \text{application ratio}_{\text{stressed}} +$$

$$\text{weighted constant prescribed spread}_{\text{base}} \times \text{predictability factor}_{\text{base}} \times$$

$$\text{Max}\left[\text{Min}\left(20\%, \text{eligible asset percentage}_{\text{base}} - \frac{\text{asset dollar duration}_{\text{stressed}}}{\text{liability dollar duration}_{\text{stressed}}}\right), 0\right] +$$

$$\text{qualified LTA}_{\text{base}}$$

where—

(a) each component is determined in accordance with Schedule 5; but

(b) application ratio$_{\text{stressed}}$, asset dollar duration$_{\text{stressed}}$, liability dollar duration$_{\text{stressed}}$ are recalculated under interest rate risk stress, credit spread risk stress and equity risk stress, and adjusted spread$_{\text{stressed}}$ is recalculated under credit spread risk stress.

(3) For purpose of recalculating the matching adjustment under subrules (1) and (2), in the case of interest rate risk stress, credit spread risk stress and equity risk stress, an applicable insurer must—

(a) recalculate the application ratio in section 6 of Schedule 5 using a duration factor which is recalculated in accordance with section 8 of Schedule 5 under stress, but with the predictability factor unchanged; and

(b) recalculate the constant prescribed spread component in section 9(1) of Schedule 5 by recalculating and applying the asset dollar duration and liability dollar duration under stress, but with no change to the constant prescribed spread, predictability factor and eligible asset percentage.

(4) For purpose of recalculating the matching adjustment under subrules (1) and (2), in the case of credit spread risk stress, for eligible assets that are subject to credit spread risk (other than sovereign bonds as described in rule 48(3)(a)), an applicable insurer may recalculate the adjusted spread in accordance with section 5 of Schedule 5 by adding the corresponding credit spread stress factor under rule 48 as reduced by the relevant reduction factor in accordance with the following formula—

$$\text{Adjusted spread}_{\text{stressed}} = \text{adjusted spread}_{\text{base}} + \sum_{\substack{\text{eligible assets subject to} \\ \text{credit spread risk i}}} \omega_i \times \frac{\text{credit spread}}{\text{stress factor}_i} \times (1 - \text{reduction factor}_i)$$

where—

ω_i means weight assigned to the eligible assets calculated in accordance with section 5 of Schedule 5;

credit spread stress factor means the credit spread stress factor under rule 48; and

reduction factor means the factor set out in Table 1 (according to the whether the eligible asset is rated, and if so, credit rating band of eligible assets).

Table 1

Prescribed Reduction Factor (%)

Column 1	Column 2
Credit rating band	Reduction factor (%)
1	40
2	40
3	45
4	55
5 or below	100
Unrated	77.5

(5) An applicable insurer which has practical difficulty in performing full calculation of the matching adjustment of a MA portfolio under credit spread risk, interest rate risk and equity risk scenarios may opt to adopt simplified alternatives specified by the Authority.

47. Risk capital amount for interest rate risk

(1) Subject to rule 46, an applicable insurer must determine the risk capital amount for interest rate risk as the reduction in its net asset value based on the scenario as specified in paragraph (a) or (b) that results in the lowest net asset value for the insurer as a whole—

(a) applying the upward stressed risk-free yield curve and upward stressed prime rate (if applicable) under subrules (2) and (5) to all assets and liabilities sensitive to interest rate risk; or

(b) applying the downward stressed risk-free yield curve and downward stressed prime rate (if applicable) under subrules (2) and (5) to all assets and liabilities sensitive to interest rate risk.

(2) Subject to subrules (3) and (4), the interest rate upward and downward stressed risk-free yield curves for each specified currency are generated in accordance with Schedule 4, but with the following adjustments—

(a) multiplying each observable market rate of the respective risk-free yield curve by X, where X is calculated as 1 plus—

(i) the corresponding upward stress factor in column 2 of Table 2, in the case of the upward stressed risk-free yield curve; and

(ii) the corresponding downward stress factor in column 3 of Table 2, in the case of the downward stressed risk-free yield curve,

for each relevant term in column 1 of Table 2 until the last liquid point (as prescribed in Schedule 4) for the specified currency; and

Table 2

Upward and Downward Stress Factors—Risk-free Yield Curve

Column 1 Term (in year)	Column 2 Upward	Column 3 Downward
1	307%	-75%
2	194%	-66%
3	181%	-64%
4	173%	-63%
5	160%	-61%
6	144%	-59%
7	134%	-57%
8	125%	-55%
9	119%	-54%
10	114%	-53%
15	99%	-49%
20	76%	-43%
30	73%	-42%
50	73%	-42%

(b) multiplying the ultimate forward rate of the respective risk-free yield curve (as prescribed in Schedule 4) by—

(i) 1.1, in the case of the upward stressed risk-free yield curve; and

(ii) 0.9, in the case of the downward stressed risk-free yield curve.

(3) If any observable market rate is negative, in generating the stressed risk-free yield curves, the applicable insurer may not apply the adjustments in subrule (2)(a) to the negative rate.

(4) Each point on the interest rate upward and downward stressed risk-free yield curves generated pursuant to subrule (2) is capped at the corresponding point on the risk-free yield curve plus 200 basis points, and floored at corresponding point on the risk-free yield curve minus 200 basis points.

(5) In the case of an applicable insurer with onshore reverse mortgage insurance—

(a) the additive upward stress to the prime rate associated with the contract of insurance that the insurer must also apply to its onshore reverse mortgage insurance for the purposes of subrule (1)(a) is the stress factor determined in accordance with column 2 of Table 3; and

(b) the additive downward stress to the prime rate associated with the contract of insurance that the insurer must also apply to its onshore reverse mortgage insurance for the purposes of subrule (1)(b) is the stress factor determined in accordance with column 3 of Table 3.

Table 3

Upward and Downward Stress Factors—Prime Rate

Column 1 Prime rate	Column 2 Upward	Column 3 Downward
Lower than or equal to 5%	2.50%	-1.00%
Higher than 5% but lower than or equal to 6%	3.25%	-1.75%
Higher than 6% but lower than or equal to 7%	3.75%	-2.25%
Higher than 7% but lower than or equal to 8%	4.25%	-3.00%
Higher than 8% but lower than or equal to 9%	4.75%	-3.75%
Higher than 9% but lower than or equal to 10%	5.25%	-4.50%
Higher than 10% but lower than or equal to 11%	6.00%	-5.25%
Higher than 11% but lower than or equal to 12%	6.50%	-6.00%
Higher than 12% but lower than or equal to 13%	7.00%	-6.75%

Column 1 Prime rate	Column 2 Upward	Column 3 Downward
Higher than 13% but lower than or equal to 14%	7.50%	-7.50%
Higher than 14% but lower than or equal to 15%	7.50%	-8.25%
Higher than 15% but lower than or equal to 16%	6.50%	-9.00%
Higher than 16% but lower than or equal to 17%	5.50%	-9.75%
Higher than 17% but lower than or equal to 18%	4.50%	-10.50%
Higher than 18% but lower than or equal to 19%	3.50%	-11.25%
Higher than 19%	2.50%	-11.75%

(6) For an asset with a callable option, an applicable insurer must determine whether such option is exercisable and reflect the effect in deriving the risk capital amount under subrule (1)(a) or (b).

48. Risk capital amount for credit spread risk

(1) Subject to rule 46, an applicable insurer must determine the risk capital amount for credit spread risk as the reduction in its net asset value resulting from applying the credit spread stress factor to its assets and liabilities which

are sensitive to changes in the level and volatility of credit spreads.

(2) Subject to subrule (3), the credit spread stress factors set out in Table 4 are applied additive to the credit spread at base scenario, corresponding to the credit rating band and remaining term to maturity of the relevant asset or liability.

Table 4

Credit Spread Stress Factors in Basis Points

Credit rating band	Remaining term to maturity						
	Not more than 5 years	More than 5 years but not more than 10 years	More than 10 years but not more than 15 years	More than 15 years but not more than 20 years	More than 20 years but not more than 25 years	More than 25 years but not more than 30 years	More than 30 years
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
1	95	85	75	70	65	60	55
2	110	100	90	85	75	70	60
3	175	145	130	120	110	100	90
4	275	220	200	180	165	150	135
5	425	390	355	325	295	265	245
6	640	585	530	485	440	400	365
7	640	585	530	485	440	400	365

Credit rating band	Remaining term to maturity						
	Not more than 5 years	More than 5 years but not more than 10 years	More than 10 years but not more than 15 years	More than 15 years but not more than 20 years	More than 20 years but not more than 25 years	More than 25 years but not more than 30 years	More than 30 years
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Unrated	350	305	277.5	252.5	230	207.5	190

(3) For the purpose of determining the credit spread stress factor under subrule (2)—

(a) despite the stress factors in Table 4, a sovereign bond may be assigned a credit spread stress factor of 0 basis point only if—

(i) its credit rating is in credit rating band 1 or 2; or

(ii) it is a government bond issued in a jurisdiction whose specified currency is set out in Table 1 of Schedule 4 and it is denominated in that specified currency;

(b) to avoid doubt, an asset which is issued by a recognized multilateral development bank or supranational organization is treated as a sovereign bond and paragraph (a)(i) applies to it;

(c) in the case of a recognized green bond, a factor of 0.9 is multiplied to the stress factor in Table 4;

(d) in the case of an asset, under which a portion of the obligations of the issuer is guaranteed by an eligible guarantee, the portion of the asset which is guaranteed maybe assigned with a credit spread stress factor based on the credit rating band of the guarantee provider rather than the issuer; and

(e) to avoid doubt, an asset which is issued by a public sector entity without an eligible guarantee from a sovereign, must be assigned with a credit rating stress factor based on the credit rating band of the entity as a corporate.

(4) In this rule—

recognized green bond (認可的綠色債券) refers to a bond for which pre-issuance external verification has been obtained from an independent and qualified international third party that the bond meets the green criteria or principles issued by the Authority in a notice published in the Gazette.

49. Risk capital amount for equity risk

(1) Subject to rule 46, an applicable insurer must determine the risk capital amount for equity risk as the reduction in its net asset value resulting from applying the adjusted equity downward stress factor determined pursuant to subrule (2) to its assets and liabilities which are sensitive to changes in market prices or volatility of equity.

(2) Subject to subrules (3), (4) and (5), the adjusted equity downward stress factor is applied multiplicatively and—

(a) the adjusted equity downward stress factor for developed market listed equities, emerging market listed equities, portfolio investments of no look-through and other equities is determined pursuant to Table 5 as the sum of—

(i) the equity downward stress factor in column 2 of Table 5 corresponding to the type of equities in column 1 of Table 5; and

(ii) the most recent countercyclical adjustment specified by the Authority from time to time for developed market listed equities, emerging market listed equities, portfolio investments of no look-through and other equities, as the case may be; and

(b) the adjusted equity downward stress factor for non-regulated investments in affiliates (if not consolidated) and strategic investments, is the equity downward stress factor in column 2 of Table 5 corresponding to the type of equities in column 1 of Table 5.

Table 5

Equity Downward Stress Factors

Column 1 Type of equities	Column 2 Stress factor
Developed market listed equities	40%
Emerging market listed equities	50%
Non-regulated investment in affiliates (if not consolidated)	20%

Column 1 Type of equities	Column 2 Stress factor
Strategic investments	20%
Portfolio investments of no look-through	50%
Other equities (equities other than the above categories)	50%

(3) For purposes of subrule (2)(a)(ii), the countercyclical adjustment is capped at 10% and floored at -10%.

(4) Where an equity is secondary listed, the equity downward stress factor set out in Table 5 must be applied based on the exchange on which the equity has its primary listing.

(5) Where an equity is listed on more than one securities exchange, there is no offset for net long and short positions in that equity exposure from its listing on different exchanges.

(6) An applicable insurer may only classify an equity as a strategic investment for the purpose of applying the corresponding stress factor set out in Table 5, if it obtains approval from the Authority to do so under subrule (9).

(7) To obtain an approval under subrule (9), an applicable insurer must make an application to the Authority for such approval in accordance with subrule (8) and make payment of a prescribed fee.

(8) An application under subrule (7) must—

(a) be made in writing;

(b) contain or be accompanied by particulars of—

(i) the details of the investment; and

(ii) any other information as may be reasonably required by the Authority to consider the application, having regard to guidelines published by the Authority under section 133 of the Ordinance; and

(c) be served on the Authority.

(9) On an application made under subrule (7), the Authority may, by written notice to the applicable insurer, approve or reject the application and if it approves the application it may do so subject to any conditions it may impose including in relation, but not limited to—

(a) the period for which the approval is to remain in effect; and

(b) a limit on the amount or value of the investment classified as a strategic investment.

(10) In this rule—

countercyclical adjustment (逆周期調節) means the adjustment reflecting risk arising from changes in the level of equity prices, which is based on a function of the current level of an appropriate equity index and a weighted average level of that index;

developed market listed equities (已發展市場上市股權) means equities listed on the securities exchanges of the jurisdictions set out in Table 1 of Schedule 8;

emerging market listed equities (新興市場上市股權) means listed equities which are not developed market listed equities;

portfolio investment of no look-through (無法穿透的組合投資) has the meaning given by rule 39.

50. Risk capital amount of property risk

(1) An applicable insurer must determine the risk capital amount for property risk as the reduction in its net asset value resulting from applying a property downward stress factor of 25% to its assets and liabilities that are sensitive to changes in the market prices or volatility of property.

(2) In the case of an applicable insurer with onshore reverse mortgage insurance, the insurer must apply the property stress in subrule (1) in respect of its onshore reverse mortgage insurance.

51. Risk capital amount for currency risk

(1) An applicable insurer must determine the risk capital amount for currency risk as the sum of the risk capital amounts for currency risk for each currency in which the insurer's assets and liabilities are denominated, as determined pursuant to subrule (2).

(2) An applicable insurer must determine the risk capital amount for currency risk for each currency against Hong Kong dollars, by multiplying—

(a) the relevant currency risk factor in column 2 of Table 6 corresponding to the relevant currency in column 1 of Table 6; and

(b) the value of the net long or net short position in the relevant currency exposure determined for the insurer's assets and liabilities as a whole, after adjusting the impact of any financial risk mitigation arrangement pursuant to rule 42.

Table 6

Currency Risk Factors for Currencies against Hong Kong Dollars

Column 1 Currency	Column 2 Risk factor
AUD	25%
BRL	55%
CAD	25%
CHF	35%
CLP	30%
COP	35%
CZK	35%
DKK	30%
EUR	25%
GBP	25%
HKD	0%
HUF	45%
IDR	35%
ILS	25%
INR	15%
JPY	30%
KRW	25%
MOP	1%
MXN	30%
MYR	15%

Column 1 Currency	Column 2 Risk factor
NOK	35%
NZD	40%
PEN	15%
PHP	15%
PLN	40%
RMB	10%
RON	30%
RUB	35%
SAR	5%
SEK	35%
SGD	15%
THB	20%
TRY	60%
TWD	10%
USD	1%
ZAR	55%
Others	60%

(3) In determining its net long or net short position in a relevant currency exposure against Hong Kong dollars under subrule (2)(b), the insurer must exclude the margin over current estimate.

Division 3—Life Insurance Risk

52. Risk capital amount for life insurance risk

(1) To determine its risk capital amount for life insurance risk, an applicable insurer must—

(a) in respect of its assets and liabilities that are sensitive to life insurance risk, determine the risk capital amount for each of the following sub-risks—

(i) mortality risk, in accordance with rule 54;

(ii) longevity risk, in accordance with rule 55;

(iii) life catastrophe risk, in accordance with rule 56;

(iv) morbidity risk, in accordance with rule 57;

(v) expense risk, in accordance with rule 58; and

(vi) lapse risk, in accordance with rule 59; and

(b) aggregate the risk capital amounts for the sub-risks mentioned in paragraphs (a)(i) to (vi) in accordance with the formula in subrule (2).

(2) The formula mentioned in subrule (1)(b) is—

$$\text{Risk capital amount}_{\text{life insurance risk}} = \sqrt{\sum_{m,\,n} \text{correlation matrix}_{m,\,n} \times \text{risk capital amount}_{m} \times \text{risk capital amount}_{n}}$$

where—

correlation matrix refers to the correlation matrix set out in Table 4 of Schedule 7; and

m and n represent the corresponding sub-risks in each subparagraph in subrule (1)(a).

(3) For the purposes of subrule (1), where onshore reverse mortgage insurance is sensitive to life insurance risk, an applicable insurer must include such business in the calculation of the risk capital amounts for mortality risk, longevity risk and lapse risk in rules 54, 55 and 59.

(4) If any risk capital amount for a sub-risk referred in subrule (1)(a)(i), (ii), (iii), (iv), (v) or (vi) is negative, the risk capital amount for that sub-risk must be set to zero before being aggregated in accordance with subrule (1)(b).

53. Homogenous risk group

(1) To determine its risk capital amount for each sub-risk mentioned in rule 52(1), an applicable insurer must group its insurance liabilities with exposure to life insurance risk into homogenous risk groups.

(2) For the purposes of subrule (1), a homogeneous risk group is a collection of insurance liabilities with similar risk characteristics, such that there is no significant offset between the risks associated with the insurance liabilities in the group when calculating the risk capital amount for each sub-risk mentioned in rule 52(1).

54. Risk capital amount for mortality risk

(1) An applicable insurer must calculate the risk capital amount for mortality risk by—

(a) applying the mortality stress factor in subrule (2) to the best estimate mortality rates for each homogenous risk group and determining the resulting reduction to its net asset value; and

(b) determining the total sum of the reductions to its net asset value for each homogenous risk group determined in paragraph (a) in accordance with the formula in subrule (3).

(2) For the purposes of subrules (1)(a) and (3), an applicable insurer applies the mortality stress factor by—

(a) applying a multiplicative permanent increase of 12.5% to the best estimate mortality rates for a homogenous risk group; and

(b) capping the stressed mortality rates resulting from the application of the permanent increase mentioned in paragraph (a) at 100%.

(3) The formula mentioned in subrule (1)(b) is—

$$\text{Risk capital amount}_{\text{mortality}} = \sum_{i} \text{Max}\left(\Delta\text{NAV}_{\text{stressed}}, 0\right)$$

where—

i refers to each homogeneous risk group; and

$\Delta\text{NAV}_{\text{stressed}}$ refers to the reduction in the net asset value resulting from the application of the mortality stress factor in subrule (2) to the homogenous risk group.

55. Risk capital amount for longevity risk

(1) An applicable insurer must calculate the risk capital amount for longevity risk by—

(a) applying the longevity stress factor in subrule (2) to the best estimate mortality rates for each homogenous risk group and determining the resulting reduction to its net asset value; and

(b) determining the total sum of the reductions to its net asset value for each homogenous risk group determined in paragraph (a) in accordance with the formula in subrule (3).

(2) For the purposes of subrules (1)(a) and (3), an applicable insurer applies the longevity stress factor by applying a multiplicative permanent decrease of 17.5% to the best estimate mortality rates for a homogenous risk group.

(3) The formula mentioned in subrule (1)(b) is—

$$\text{Risk capital amount}_{\text{longevity}} = \sum_{i} \text{Max}\left(\Delta\text{NAV}_{\text{stressed}}, 0\right)$$

where—

i refers to each homogeneous risk group; and

$\Delta\text{NAV}_{\text{stressed}}$ refers to the reduction in net asset value resulting from the application of the longevity stress factor in subrule (2) to the homogenous risk group.

56. Risk capital amount for life catastrophe risk

(1) An applicable insurer must determine the risk capital amount for life catastrophe risk as the reduction in its net asset value resulting from applying the life catastrophe stress factor mentioned in subrule (2) for the insurer as a whole.

(2) For the purposes of subrule (1), an applicable insurer applies the life catastrophe stress factor by—

(a) adding an absolute increase of 1.5 per mille to its best estimate mortality rates for all its contracts of insurance with exposure to life insurance risk in the first 12 months from the valuation date; and

(b) capping the stressed mortality rates resulting from the application of the additive amount mentioned in paragraph (a) at 100%.

57. Risk capital amount for morbidity risk

(1) An applicable insurer must determine the risk capital amount for morbidity risk by—

(a) assigning each disability benefit and morbidity benefit under its contracts of insurance with exposure to life insurance risk to categories 1, 2, 3, or 4 as mentioned in subrule (2), based on the category which most appropriately describes the benefit;

(b) in the case of each homogenous risk group with disability benefits and morbidity benefits assigned to categories 1, 2 and 3 mentioned in subrule (2)—

(i) applying the morbidity stress factors mentioned in subrule (3) to each such homogenous risk group and determining the resulting reduction in its net asset value for each homogenous risk group; and

(ii) determining the total sum of the reductions to its net asset value mentioned in subparagraph (i) for each category using the formula in subrule (5);

(c) in the case of each homogenous risk group with disability benefits and morbidity benefits assigned to category 4 mentioned in subrule (2)—

(i) applying the morbidity stress factors mentioned in subrule (4) to each such homogenous risk group; and

(ii) determining the resulting reduction in its net asset value in accordance with subrule (4)(e); and

(d) determining the total sum of the reductions in its net asset value for disability or morbidity benefits from paragraphs (b) and (c).

(2) The categories of disability or morbidity benefits mentioned in subrule (1)(a) are—

(a) Category 1: Medical expenses—benefits under contracts of insurance that provide compensation for medical expenses, based on the treatment or expenses incurred by the policy holders, and not on the time spent in a given health status;

(b) Category 2: Lump sum in case of a health event—benefits under contracts of insurance that provide for one or more lump sum compensation upon the occurrence of a specified, and usually severe, health event, such as the diagnosis of cancer or another type of dread disease, or the occurrence of an accident resulting in a certain level of disability;

(c) Category 3: Short-term recurring payments—benefits under contracts of insurance that provide for recurring amounts of compensation for a period that depends on the time spent in a temporary health status, such as inability to work, hospitalization, or similar status; and

(d) Category 4: Long-term recurring payments—benefits under contracts of insurance that provide for a fixed annuity in case of a long-term or permanently deteriorated health status.

(3) For the purposes of subrule (1)(b)(i), in relation to the disability benefits and morbidity benefits assigned to categories 1, 2 and 3—

(a) if the applicable insurer has used disability and morbidity inception rates to model its claim costs, the insurer applies the morbidity stress factor by—

(i) applying a multiplicative permanent increase to such best estimate inception rates for each homogenous risk group, with such permanent increase being the percentage in Table 7 corresponding to the relevant benefit category and contract term; and

(ii) capping the stressed inception rates resulting from the application of the permanent increase mentioned in subparagraph (i) at 100%;

(b) if the insurer has not used inception rates to model its claim costs, but modelled recovery rates, the insurer applies the morbidity stress factor by applying a multiplicative permanent decrease to its modelled recovery rates for each homogenous risk group, with such permanent decrease being the percentage in Table 7 corresponding to the relevant benefit category and contract term; and

(c) if the insurer has not modelled inception rates or recovery rates, the insurer applies the morbidity stress factor by applying a multiplicative increase to the medical claim payment amounts for each homogenous risk group, with such increase being the percentage in Table 7 corresponding to the relevant benefit category and contract term.

Table 7

Morbidity Stress Factors

Column 1 Benefit Category	Column 2 Coverages with original term (based on the boundary determined under rule 14) shorter or equal to 5 years	Column 3 Coverages with original term (based on the boundary determined under rule 14) longer than 5 years
1: Medical expenses	20%	8%
2: Lump sum in case of a health event	25%	20%
3: Short-term recurring payments	20%	12%
4: Long-term recurring payments	25%	20%

(4) For the purposes of subrule (1)(c), in relation to the disability benefits and morbidity benefits assigned to category 4, an applicable insurer applies the morbidity stress factor by—

(a) for each homogeneous risk group—

(i) applying a multiplicative permanent increase to the best estimate disability and morbidity inception rates for the homogenous risk group, with such permanent increase being the percentage in Table 7 corresponding to the relevant benefit category and contract term, subject to the stressed inception rate resulting

from application of the permanent increase being capped at 100%; and

(ii) determining the resulting reduction in its net asset value for the homogenous risk group;

(b) determining the sum of the reductions in its net asset value for each homogenous risk group mentioned in paragraph (a) using the formula in subrule (5);

(c) applying a multiplicative 20% permanent decrease to the best estimate recovery rates for each same homogenous risk group mentioned in paragraph (a), and determining the resulting reduction in its net asset value for each homogenous risk group;

(d) determining the sum of the reductions in its net asset value for each homogenous risk group mentioned in paragraph (c) using the formula in subrule (5); and

(e) taking the greater of the reductions in its net asset value determined in paragraphs (b) and (d) as the reduction in its net asset value for purposes of subrule (1)(c).

(5) The formula mentioned in subrules (1)(b)(ii) and (4)(b) and (d) is—

$$\text{Risk capital amount}_{\text{morbidity, benefit category}} = \sum_{i} \text{Max}\left(\Delta \text{NAV}_{\text{stressed}}, 0\right)$$

where—

i refers to each homogeneous risk group; and

$\Delta NAV_{stressed}$ refers to the reduction in the net asset value resulting from the application of the morbidity stress factors determined in accordance with subrule (1)(b) or (c), as the case may be.

58. Risk capital amount for expense risk

(1) An applicable insurer must calculate the risk capital amount for expense risk as the reduction in its net asset value resulting from the application of the expense stress factors in subrule (2) to all homogeneous risk groups.

(2) For the purposes of subrule (1), an applicable insurer applies the following expense stresses factors simultaneously by—

(a) applying a multiplicative increase of x% to its best estimate expense assumptions for all homogeneous risk groups for all years, with x% being the percentage set out in column 2 of Table 8 for the applicable geographical region in column 1 of Table 8, based on the location of expense risk, or the location where the business is written; and

(b) adding y% to its best estimate expense inflation assumptions for all homogeneous risk groups for all years, with y% being the percentage set out in column 3 of Table 8 for the applicable geographical region in column 1 of Table 8, based on the location of expense risk or the location where the business is written.

Table 8

Expense Stress Factors

Column 1	Column 2	Column 3
Geographical region	x%	y%
Canada, Japan, Switzerland, the United Kingdom and the United States of America	6%	1%
A member state of the European Economic Area	6%	1%
Hong Kong and other developed markets defined in Table 2 of Schedule 8	8%	Year 1–10: 2% Year 11 onwards: 1%
Markets not listed in the regions above	8%	Year 1–10: 3% Year 11–20: 2% Year 21 onwards: 1%

59. Risk capital amount for lapse risk

(1) An applicable insurer must determine the risk capital amount for lapse risk as the greater of the following—

(a) the level and trend lapse component determined in accordance with subrules (2) and (3) for the insurer as a whole; and

(b) the mass lapse component determined in accordance with subrule (4) for the insurer as a whole.

(2) For the purposes of subrule (1)(a), an applicable insurer must determine the level and trend lapse component by—

(a) for each homogenous risk group—

(i) applying the upward lapse risk stress mentioned in subrule (3)(b)(i) to the legal or contractual options mentioned in subrule (3)(a) for the homogenous risk group and determining the resulting reduction to its net asset value; and

(ii) applying the downward lapse risk stress mentioned in subrule (3)(b)(ii) to the legal or contract options mentioned in subrule (3)(a) for the homogenous risk group and determining the resulting reduction to its net asset value;

(b) taking the greater of the reductions in its net asset value determined in paragraph (a)(i) and (ii), as the reduction in its net asset value for the homogeneous risk group for the level and trend lapse component and determining the sum of the reductions in its net asset value for all homogenous risk groups in accordance with the following formula (to avoid doubt, with the amount in respect of any homogenous risk group being zero if there is no resulting reduction in the net asset value)—

$$\text{Risk capital amount}_{\text{level and trend}} = \sum_{i} \text{Max}\left(\Delta\text{NAV} \mid \text{stress}_{\text{up}}, \Delta\text{NAV} \mid \text{stress}_{\text{down}}, 0\right)$$

where—

i refers to each homogeneous risk group;

$\Delta NAV \mid stress_{up}$ refers to the reduction in the net asset value for the homogeneous risk group resulting from the application of the upward lapse risk stress in paragraph (a)(i); and

$\Delta NAV \mid stress_{down}$ refers to the reduction in the net asset value for the homogeneous risk group resulting from the application of the downward lapse risk stress in paragraph (a)(ii).

(3) For the purposes of subrule (2)(a)—

(a) an applicable insurer must apply the stresses to all legal or contractual options which can significantly change the value of the future cash flows, including but not limited to—

(i) policy lapse or surrender;

(ii) partial withdrawal;

(iii) premium persistency, such as premium holiday; and

(iv) optional changes to insurance cover;

(b) the stresses which the insurer must apply are, subject to paragraph (c)—

(i) for the upward stress in subrule (2)(a)(i), a multiplicative permanent increase of 40% to its best estimates for the exercise rates of the legal or contractual options, subject to the stressed exercise rate resulting from application of the permanent increase to each option being capped at 100%; and

(ii) for the downward stress in subrule (2)(a)(ii), a multiplicative permanent decrease of 40% to its best estimates for the exercise rates of the legal or contractual options; and

(c) the upward stress mentioned in paragraph (b)(i) must only be applied in a manner that increases policy lapses or reduces insurance cover, while the downward stress mentioned in paragraph (b)(ii) must only be applied in a manner that decreases policy lapses or increases insurance cover, as the case may be.

(4) For the purposes of subrule (1)(b), an applicable insurer must determine the mass lapse component by—

(a) applying the following one-off instantaneous stresses to each homogeneous risk group, and determining the resulting reduction in its net asset value from the application of such stresses—

(i) an immediate 30% lapse or surrender of contracts of insurance which are individual insurance policies or onshore reverse mortgage insurance policies; and

(ii) an immediate 50% lapse or surrender of contracts of insurance which are non-individual insurance policies; and

(b) in accordance with the following formula, determining the sum of the reductions in its net asset value for all homogenous risk groups determined in paragraph (a) (to avoid doubt, with the amount in respect of any homogenous risk group being zero if there is no resulting reduction in the net asset value)—

$$\text{Risk capital amount}_{\text{mass}} = \sum_{i} \text{Max}\left(\Delta\text{NAV} \mid \text{shock}_{\text{mass}}, 0\right)$$

where—

i refers to each homogeneous risk group; and

$\Delta NAV \mid shock_{mass}$ refers to the reduction in the net asset value resulting from the application of the stresses in paragraph (a) to the homogenous risk group.

(5) In this rule—

individual insurance policy (個人保險保單) means a contract of insurance which is held by a natural person as policy holder or by a trust of which a natural person is the settlor;

non-individual insurance policy (非個人保險保單) means a contract of insurance which is not an individual insurance policy.

Division 4—General Insurance Risk

Subdivision 1—Preliminary

60. Interpretation

(1) In this Division—

earned premium (滿期保費) means, in relation to a period of time, the portion of the premium under a contract of insurance that relates to the insurance coverage under the contract that elapses during that period;

net earned premium (滿期淨保費) means earned premium that is net of reinsurance;

net-down procedures (淨下調程序) means the process of estimating the net loss to an applicable insurer under its general insurance business, by deducting from the gross loss, the estimated insurance risk mitigation effect of any

contract of reinsurance (being the amount of the gross loss that is recoverable under that contract) that is recognized under rule 41.

(2) For the purpose of determining any risk capital amount under this Division which is determined by applying prescribed catastrophe loss scenarios—

(a) if the prescribed loss scenario consists of more than one loss event, in applying the net-down procedures to those loss events an applicable insurer must assume that—

(i) the loss events are independent; and

(ii) the insurer does not enter into any new contract of reinsurance, as a cedant, between the loss events;

(b) if the prescribed loss scenario does not prescribe how losses arising from the scenario are to be attributed to specific individual risks, the applicable insurer must not recognize the insurance risk mitigation effect of any contract of reinsurance which is a per risk excess of loss reinsurance, even if that contract is recognized under rule 41; and

(c) if applying the prescribed loss scenario would result in premium being payable by an applicable insurer to reinstate coverage under a contract of reinsurance under which it is a cedant (***outward reinstatement premium***), or premium being receivable by the insurer to reinstate coverage under a contract of reinsurance under which it is a reinsurer (***inward reinstatement premium***), for determining its net losses arising from the scenario in accordance with the applicable approaches prescribed in this Division, the insurer—

(i) must add any outward reinstatement premium; and

(ii) may deduct any inward reinstatement premium.

(3) In this rule—

per risk excess of loss reinsurance (險位超額賠款再保險) means a form of excess of loss reinsurance which indemnifies a cedant against the amount of loss on an individual risk (for example, a building) in excess of a specified retention with respect to each individual risk.

61. Risk capital amount for general insurance risk

(1) To determine its risk capital amount for general insurance risk, an applicable insurer must—

(a) for its general insurance liabilities, determine the risk capital amount for each of the following sub-risks—

(i) general insurance risk (other than mortgage insurance risk), in accordance with rules 62 to 70; and

(ii) mortgage insurance risk, in accordance with rules 71 to 80; and

(b) aggregate the risk capital amounts for the sub-risks mentioned in paragraph (a)(i) and (ii) in accordance with the formula in subrule (2).

(2) The formula mentioned in subrule (1)(b) is—

$$\text{Risk capital amount}_{\text{general insurance risk}} = \sqrt{\sum_{u1, v1} \text{correlation matrix}_{u1, v1} \times \text{risk capital amount}_{u1} \times \text{risk capital amount}_{v1}}$$

where—

correlation matrix refers to the correlation matrix set out in Table 5 of Schedule 7; and

u1 and v1 represent the corresponding sub-risks in each subparagraph in subrule (1)(a).

Subdivision 2—General Insurance Risk (other than Mortgage Insurance Risk)

62. Risk capital amount for general insurance risk (other than mortgage insurance risk)

(1) To determine its risk capital amount for general insurance risk (other than mortgage insurance risk), an applicable insurer must—

(a) determine the risk capital amount for each of the following sub-risks—

(i) reserve and premium risk, in accordance with rules 63 to 65; and

(ii) general insurance catastrophe risk, in accordance with rules 66 to 70; and

(b) aggregate the risk capital amounts for the sub-risks mentioned in paragraph (a)(i) and (ii) in accordance with the formula in subrule (2).

(2) The formula mentioned in subrule (1)(b) is—

$$\text{Risk capital amount}_{\text{general insurance risk (other than mortgage insurance risk)}} = \sqrt{\sum_{u2,\,v2} \text{correlation matrix}_{u2,\,v2} \times \text{risk capital amount}_{u2} \times \text{risk capital amount}_{v2}}$$

where—

correlation matrix refers to the correlation matrix set out in Table 6 of Schedule 7; and

u2 and v2 represent the corresponding sub-risks in each subparagraph in subrule (1)(a).

63. Risk capital amount for reserve and premium risk

(1) To determine its risk capital amount for reserve and premium risk, an applicable insurer—

(a) must determine its risk capital amount for each of the following sub-risks—

(i) reserve risk for each general insurance line of business, in accordance with rule 64; and

(ii) premium risk for each general insurance line of business, in accordance with rule 65;

(b) must determine its risk capital amounts for reserve and premium risk for each general insurance line of business by aggregating the risk capital amounts for the sub-risks mentioned in paragraph (a)(i) and (ii) for the corresponding general insurance lines of business, in accordance with the formula in subrule (2);

(c) may apply the adjustment, if any, to the risk capital amounts for reserve and premium risk for each general insurance line of business in accordance with subrule (3) to take account of geographical diversification; and

(d) must aggregate the risk capital amounts for reserve and premium risk for each general insurance line of business after the adjustment mentioned in paragraph (c), if any, in accordance with the formula in subrule (4).

(2) The formula mentioned in subrule (1)(b) is—

$$\text{Risk capital amount}_{\text{reserve and premium risk\_LOB}} = \sqrt{\sum_{u3,\,v3} \text{correlation matrix}_{u3,\,v3} \times \text{risk capital amount}_{u3} \times \text{risk capital amount}_{v3}}$$

where—

correlation matrix refers to the correlation matrix set out in Table 7 of Schedule 7; and

u3 and v3 represent the corresponding sub-risks in each subparagraph in subrule (1)(a).

(3) For the purposes of subrule (1)(c), an applicable insurer may adjust the risk capital amount for reserve and premium risk for each general insurance line of business to take account of geographical diversification using the formula—

$$\text{Risk capital amount}_{\substack{\text{reserve and premium risk after} \\ \text{geographical diversification}}} = \text{risk capital amount}_{\substack{\text{reserve and premium risk before} \\ \text{geographical diversification}}} \times \left[0.75 + 0.25 \times \frac{\sum_i x_i^2}{(\sum_i x_i)^2}\right]$$

where x_i is the sum of—

(a) the exposure base of reserve risk determined under rule 64(2) for a general insurance line of business in a risk region as defined in Table 3 of Schedule 8; and

(b) the exposure base for premium risk determined under rule 65(2) for the same general insurance line of business and same risk region.

(4) The formula mentioned in subrule (1)(d) is—

$$\text{Risk capital amount}_{\text{reserve and premium risk}} = \sqrt{\sum_{u4,\,v4} \text{correlation matrix}_{u4,\,v4} \times \text{risk capital amount}_{\text{reserve and premium risk\_u4}} \times \text{risk capital amount}_{\text{reserve and premium risk\_v4}}}$$

where—

correlation matrix refers to the correlation matrix in Table 8 of Schedule 7; and

u4 and v4 represent the corresponding general insurance lines of business.

(5) If the insurance risk mitigation effect of a contract of reinsurance that is recognized under rule 41 is not fully taken into account in the risk capital amount of reserve and premium risk, an applicable insurer may only take into account the additional insurance risk mitigation effect of such contract in determining its risk capital amount for reserve and premium risk if it obtains approval from the Authority to do so under subrule (8).

(6) To obtain an approval under subrule (8), an applicable insurer must make an application to the Authority for such approval in accordance with subrule (7) and make payment of a prescribed fee.

(7) An application under subrule (6) must—

(a) be made in writing;

(b) contain or be accompanied by particulars of—

(i) the contract of reinsurance;

(ii) how the applicable insurer proposes to take account of the insurance risk mitigation effect of the contract in determining its risk capital amount for reserve and premium risk; and

(iii) any other information as may be reasonably required by the Authority to consider the application, having regard to guidelines published by the Authority under section 133 of the Ordinance; and

(c) be served on the Authority.

(8) On an application made under subrule (6), the Authority may, by written notice to the applicable insurer, approve or reject the application and if it approves the application, it may do so subject to any conditions it may impose including in relation, but not limited, to—

(a) the period for which the approval is to remain in effect; and

(b) the approach or manner in which the insurance risk mitigation effect of the contract of reinsurance may be taken into account in the determination of the risk capital amount for reserve and premium risk.

64. Risk capital amount for reserve risk

(1) An applicable insurer must determine its risk capital amount for reserve risk for each general insurance line of business in column 2 of Table 9 as the amount resulting from multiplying its exposure base for reserve risk for that line of business by the corresponding reserve risk factor in column 3 of Table 9.

Table 9

Reserve Risk Factors

Column 1 Business	Column 2 General insurance line of business	Column 3 Reserve risk factor
Direct	Accident and health	25%
	Motor	30%
	Aviation	40%
	Ships	40%
	Goods in transit	40%
	Property damage	35%
	Employees' compensation—construction	30%
	Employees' compensation—non-construction	25%
	General liability—public liability	30%
	General liability—other liability	40%
	Pecuniary loss—credit and other	55%
Proportional reinsurance	Accident and health	25%
	Motor	30%
	Aviation	40%

Column 1 Business	Column 2 General insurance line of business	Column 3 Reserve risk factor
	Ships	40%
	Goods in transit	40%
	Property damage	35%
	Employees' compensation	30%
	General liability	40%
	Pecuniary loss—credit and other	55%
Non-proportional reinsurance	Accident and health	50%
	Motor	50%
	Marine, aviation, and transport	50%
	Property damage	50%
	Employees' compensation	50%
	General liability	50%
	Pecuniary loss—credit and other	50%

(2) For the purposes of subrule (1), an applicable insurer's exposure base for reserve risk for a general insurance line of business, subject to subrule (3), is its outstanding claims liabilities net of reinsurance for the line of business as at the valuation date, floored at zero.

(3) Subject to subrule (4), in determining its exposure base for reserve risk for a general insurance line of business, an applicable insurer may exclude a loss event's outstanding claims liability where the insurer's maximum liability for

the loss event is already reflected in the outstanding claims liability and cannot be exceeded due to—

(a) the amount of such outstanding claims liability, considered together with any relevant settled amount, being not less than the maximum limit of liability of the insurer under the contract of insurance; or

(b) the amount of such outstanding claims liability, considered together with any relevant settled amount, being not less than the maximum amount of liability retained by the insurer for the loss event, with any amount of liability exceeding this being covered by contracts of reinsurance recognized under rule 41 for which there is no dispute with any reinsurer on the reinsurance recoveries assumed.

(4) An applicable insurer may only exclude outstanding claims liabilities mentioned in subrule (3) from its exposure base for reserve risk if such liabilities—

(a) arise from an unexpected and extreme loss event; and

(b) form a significant portion of the insurer's total outstanding claims liabilities net of reinsurance.

65. Risk capital amount for premium risk

(1) An applicable insurer must determine its risk capital for premium risk for each general insurance line of business in column 2 of Table 10 as the amount resulting from multiplying its exposure base for premium risk for that line of business by the corresponding premium risk factor in column 3 of Table 10.

Table 10

Premium Risk Factors

Column 1 Business	Column 2 General insurance line of business	Column 3 Premium risk factor
Direct	Accident and health	10%
	Motor	20%
	Aviation	30%
	Ships	30%
	Goods in transit	30%
	Property damage	20%
	Employees' compensation—construction	40%
	Employees' compensation—non-construction	30%
	General liability—public liability	20%
	General liability—other liability	35%
	Pecuniary loss—credit and other	25%
Proportional reinsurance	Accident and health	10%
	Motor	20%
	Aviation	30%

Column 1 Business	Column 2 General insurance line of business	Column 3 Premium risk factor
	Ships	30%
	Goods in transit	30%
	Property damage	30%
	Employees' compensation	30%
	General liability	30%
	Pecuniary loss—credit and other	25%
Non-proportional reinsurance	Accident and health	30%
	Motor	30%
	Marine, aviation, and transport	30%
	Property damage	30%
	Employees' compensation	30%
	General liability	30%
	Pecuniary loss—credit and other	30%

(2) For the purposes of subrule (1), an applicable insurer's exposure base for premium risk for a general insurance line of business in column 2 of Table 10, is the sum of—

(a) the greater of—

(i) the insurer's net earned premium for the general insurance line of business for the period commencing 12 months immediately preceding the valuation date and ending on the valuation date, floored at zero; and

(ii) the insurer's estimated net earned premium for the same line of business during the period commencing on the date immediately after the valuation date and ending 12 months after that date, floored at zero; and

(b) in respect of a multi-year insurance contract recognized as at the valuation date, 25% of the net earned premium to be earned during the period under such contract commencing 12 months immediately after the valuation date up to the boundary of the contract, floored at zero.

(3) In this rule—

multi-year insurance contract recognized as at the valuation date (於估值日已確認的多年期保險合約) means a contract of insurance, the insurance liabilities under which are recognized at the valuation date to have a boundary of longer than 12 months as determined in accordance with rule 14.

66. Risk capital amount for general insurance catastrophe risk

(1) An applicable insurer must determine its risk capital amount for general insurance catastrophe risk by—

(a) determining the risk capital amount for each of the following sub-risks—

(i) natural catastrophe risk, in accordance with rule 67 or 68;

(ii) man-made non-systemic catastrophe risk, in accordance with rule 69; and

(iii) man-made systemic catastrophe risk, in accordance with rule 70; and

(b) aggregating the risk capital amounts mentioned in paragraph (a)(i) to (iii) according to the formula in subrule (2).

(2) The formula mentioned in subrule (1)(b) is—

$$\text{Risk capital amount}_{\text{general insurance catastrophe risk}} = \sqrt{\sum_{u5,\, v5} \text{correlation matrix}_{u5,\, v5} \times \text{risk capital amount}_{u5} \times \text{risk capital amount}_{v5}}$$

where—

correlation matrix refers to the correlation matrix set out in Table 9 of Schedule 7; and

u5 and v5 represent the corresponding sub-risks in each subparagraph in subrule (1)(a).

67. Risk capital amount for natural catastrophe risk

(1) An applicable insurer—

(a) subject to obtaining approval from the Authority in accordance with subrule (4) and no subsequent objection having been made by the Authority in accordance with subrule (6), may use its own assessment, subject to any conditions imposed by the Authority on its approval under subrule (4), to determine its risk capital amount for natural catastrophe risk; or

(b) must determine its risk capital amount for natural catastrophe risk in accordance with rule 68.

(2) For the purposes of subrule (1)(a), to obtain an approval under subrule (4), an applicable insurer must make an application to the Authority in accordance with subrule (3) and make payment of a prescribed fee.

(3) An application made under subrule (2) must—

(a) be made in writing;

(b) contain—

(i) the particulars in relation to the own assessment specified by the Authority; and

(ii) any other information as may reasonably be required by the Authority to consider the application, having regard to guidelines published under section 133 of the Ordinance; and

(c) be served on the Authority.

(4) On an application made under subrule (2), the Authority may, by written notice to the applicable insurer, approve or reject the application and if it approves the application, it may do so subject to such conditions it may impose including in relation, but not limited, to—

(a) the period for which the approval is to remain in effect; and

(b) the approach or manner in which the insurer must apply in its own assessment to determine its risk capital amount for natural catastrophe risk.

(5) After obtaining an approval from the Authority under subrule (4) and during the period in which the approval remains in effect, an applicable insurer must—

(a) submit to the Authority such information in relation to the use of own assessment as specified by the Authority in a specified form and within the period specified in the specified form, including such information as may reasonably be required by the Authority to monitor the continued effectiveness of the own assessment in determining the insurer's risk

capital amount for natural catastrophe risk, having regard to guidelines published under section 133 of the Ordinance; and

(b) pay the prescribed fee on submission of information under paragraph (a).

(6) The Authority may, by serving a notice in writing on the applicable insurer, object to the applicable insurer continuing to adopt the risk capital amount for natural catastrophe risk based on the insurer's own assessment if it appears to the Authority that the own assessment is no longer suitable to be adopted by the insurer.

(7) Where the Authority makes an objection pursuant to subrule (6), the applicable insurer must determine its risk capital amount for natural catastrophe risk in accordance with rule 68.

68. Risk capital amount for natural catastrophe risk-factor based

(1) This rule applies to an applicable insurer which does not have an approval from the Authority under rule 67(4) or in respect of which the Authority has made an objection under rule 67(6).

(2) To determine its risk capital amount for natural catastrophe risk, an applicable insurer must—

(a) determine its—

(i) net loss for windstorm, in accordance with subrules (3), (4), (5), (6) and (7); and

(ii) net loss for earthquake, in accordance with subrules (3), (4), (5), (6) and (8);

(b) aggregate the net losses mentioned in paragraph (a)(i) and (ii), by using the following formula—

$$\text{Net loss} = \sqrt{\text{net loss}^2_{\text{windstorm}} + \text{net loss}^2_{\text{earthquake}}}$$; and

(c) add to the net loss determined in accordance with paragraph (b), the risk capital amounts for counterparty default and other risk for the reinsurance recoverables made through the net-down procedures under subrules (7)(b) and (c) and (8)(b), in accordance with subrule (9).

(3) To determine its net loss for windstorm and net loss for earthquake, an applicable insurer must first determine its exposure base for natural catastrophe in accordance with subrules (4), (5) and (6).

(4) Subject to subrule (5), an applicable insurer's exposure base for natural catastrophe is, for each region and contract type as specified in Table 11—

(a) the gross aggregated limit of coverage under each contract of insurance under which the insurer is providing coverage for losses incurred for property related damage in the region at any time within the 12 months immediately after the valuation date; and

(b) in the case of a contract of insurance mentioned in paragraph (a) which is a proportional treaty without an event limit, a gross 1-in-200 year annual aggregate loss for the 12 months immediately after the valuation date.

(5) If any part of an applicable insurer's exposure base includes exposure from a region or jurisdiction not explicitly specified in Table 11, and would thus be from "any other region or jurisdiction" as stated in that table, an applicable insurer—

(a) may define such regions or jurisdictions based on its own risk management framework;

(b) must group such regions or jurisdictions which are correlated and prone to be impacted by the same earthquake or windstorm as a single region for the purpose of determining the risk capital amount for natural catastrophe risk; and

(c) must, for each such region or jurisdiction determined under paragraph (b), separately determine the exposure base and, for the purposes of subrules (7) and (8), apply the risk factors for "any other region or jurisdiction" in Table 11.

(6) For the purposes of subrules (4) and (5), to avoid doubt, an applicable insurer must include in the determination of its exposure base any risk types where losses could be incurred in the event of property related damages due to the relevant natural catastrophe.

(7) For the purposes of subrule (2)(a), to determine its net loss for windstorm, an applicable insurer must—

(a) determine a 1-in-200 year gross annual aggregate loss for windstorm for each region in Table 11, by—

(i) multiplying the exposure base for each region by the risk factors for windstorm in Table 11 applicable to the types of contracts of insurance (as stated in Table 11) in the exposure base; and

(ii) determining the sum of the amounts resulting from subparagraph (i) for each region;

Table 11

Natural Catastrophe Risk Factor

Type	Natural catastrophe risk factor								
	Direct and facultative business		Proportional treaty business with event limit		Proportional treaty business without event limit		Non-proportional treaty business		
Peril Region	Windstorm	Earthquake	Windstorm	Earthquake	Windstorm	Earthquake	Windstorm	Earthquake	
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	
Hong Kong	0.20%	Not applicable	35%	Not applicable	100%	Not applicable	50%	Not applicable	
Macau	0.60%	Not applicable	35%	Not applicable	100%	Not applicable	80%	Not applicable	
Mainland China	0.30%	0.40%	35%	65%	100%	100%	80%	80%	
Taiwan	1.00%	3.50%	80%	80%	100%	100%	80%	80%	
Japan	1.00%	9.00%	45%	40%	100%	100%	80%	80%	
South Korea	0.30%	Not applicable	30%	Not applicable	100%	Not applicable	80%	Not applicable	
Indonesia	Not applicable	2.00%	Not applicable	80%	Not applicable	100%	Not applicable	80%	

Type	Natural catastrophe risk factor									
	Direct and facultative business		Proportional treaty business with event limit			Proportional treaty business without event limit		Non-proportional treaty business		
Peril Region	Windstorm	Earthquake	Windstorm	Earthquake		Windstorm	Earthquake	Windstorm	Earthquake	
Column 1	Column 2	Column 3	Column 4	Column 5		Column 6	Column 7	Column 8	Column 9	
Any other region or jurisdiction	2.00%	5.00%	80%	80%		100%	100%	80%	80%	

(b) determine the net loss for windstorm in Hong Kong, by—

(i) applying scenario 1 in Table 12 to its 1-in-200 year gross annual aggregate loss for windstorm in Hong Kong determined in accordance with paragraph (a) for each of the 2 events in scenario 1;

(ii) applying to both resulting amounts determined in subparagraph (i) for each of the 2 events—

(A) the net-down procedures; and

(B) any reinstatement adjustments in accordance with rule 60(2)(c); and

(iii) determining the sum of the resulting amounts derived from subparagraph (ii) relating to each of the 2 events;

(c) determine the net loss for windstorm in each region other than Hong Kong as the greater of the net loss for scenario 1 defined in Table 12 and the net loss for scenario 2 defined in Table 12, where—

(i) the net loss for scenario 1 is determined by—

(A) applying scenario 1 in Table 12 to its 1-in-200 year gross annual aggregate losses for windstorm in a region other than Hong Kong determined in accordance with paragraph (a) for each of the 2 events in scenario 1;

(B) applying to both resulting amounts determined in sub-subparagraph (A) for each of the 2 events—

(I) the net-down procedures; and

(II) any reinstatement adjustments in accordance with rule 60(2)(c); and

(C) determining the sum of the resulting amounts derived from sub-subparagraph (B) relating to each of the 2 events; and

(ii) the net loss for scenario 2 is determined in the same manner as stated in subparagraph (i), as if the references to scenario 1 in that subparagraph were a reference to scenario 2; and

Table 12

Scenarios for Windstorm

Column 1 Windstorm	Column 2 Scenario 1	Column 3 Scenario 2
Size of gross losses from the first event within the next 12 months	83% of 1-in-200 year gross annual aggregate losses	67% of 1-in-200 year gross annual aggregate losses
Size of gross losses from the second event within the next 12 months	17% of 1-in-200 year gross annual aggregate losses	33% of 1-in-200 year gross annual aggregate losses

(d) aggregating the net losses for windstorm by region determined in paragraphs (b) and (c) using the following formula—

$$\text{Net loss}_{\text{windstorm}} = \sqrt{\sum_{u6,\,v6} \text{correlation matrix}_{u6,\,v6} \times \text{net loss}_{\text{windstorm\_u6}} \times \text{net loss}_{\text{windstorm\_v6}}}$$

where—

correlation matrix refers to the correlation matrix set out in Table 10 of Schedule 7; and

u6 and v6 represent corresponding regions.

(8) For the purposes of subrule (2)(b), to determine its net loss for earthquake, an applicable insurer must—

(a) determine a 1-in-200 year gross annual aggregate loss for earthquake by each region in Table 11, by—

(i) multiplying the exposure base for each region by the risk factors for earthquake in Table 11 applicable to the types of contracts of insurance (as stated in Table 11) in the exposure base; and

(ii) determining the sum of the amounts resulting from subparagraph (i) for each region or jurisdiction;

(b) applying to each 1-in-200 year gross annual aggregate loss for earthquake for each region determined from paragraph (a)—

(i) the net-down procedures; and

(ii) any reinstatement adjustments in accordance with rule 60(2)(c); and

(c) aggregating the net losses for earthquake by region determined from paragraph (b) using the following formula—

$$\text{Net loss}_{\text{earthquake}} = \sqrt{\sum_{u7,\,v7} \text{correlation matrix}_{u7,\,v7} \times \text{net loss}_{\text{earthquake\_u7}} \times \text{net loss}_{\text{earthquake\_v7}}}$$

where—

correlation matrix refers to the correlation matrix set out in Table 11 of Schedule 7; and

u7 and v7 represent corresponding regions.

(9) For the purposes of subrule (2)(c), an applicable insurer—

(a) must determine the risk capital amounts for counterparty default and other risk by—

(i) treating each reinsurance recoverable from each reinsurer through the net-down procedures applied under subrules (7)(b) and (c) and (8)(b), as a risk exposure for the purposes of Division 5; and

(ii) multiplying each risk exposure mentioned in subparagraph (i) by the counterparty default risk factor applicable to the relevant reinsurer, in accordance with Division 5; and

(b) for the purposes of paragraph (a), may adjust the value of the relevant reinsurance recoverable if such reinsurance recoverable is covered by any eligible collateral in accordance with rule 83.

69. Risk capital amount for man-made non-systemic catastrophe risk

(1) This rule applies to an applicable insurer which is not a professional reinsurer.

(2) To determine the risk capital amount for man-made non-systemic catastrophe risk, an applicable insurer must—

(a) determine the risk capital amount for each of the following sub-risks—

(i) explosion and conflagration of property and engineering, in accordance with subrules (3) and (4);

(ii) loss of marine vessel, in accordance with subrules (5) and (6);

(iii) loss of aircraft, in accordance with subrules (7) and (8); and

(iv) default of large principal, in accordance with subrules (9) and (10); and

(b) aggregate the risk capital amounts determined in paragraph (a)(i), (ii), (iii) and (iv) using the following formula—

$$\text{Risk capital amount}_{\text{man-made non-systemic}} = \sqrt{\sum_{i=\text{scenario (a)(i)}}^{\text{scenario (a)(iv)}} \text{risk capital amount}_i^2}$$

where i represents the corresponding scenario in each subparagraph in paragraph (a).

(3) For purposes of subrule (2)(a)(i), the risk capital amount for explosion and conflagration of property and engineering must be determined by an applicable insurer as the largest risk capital amount for a unit of exposure, being a block of buildings, for which the insurer is providing coverage for loss arising from explosion and conflagration of property and engineering under one or more contracts of insurance, where the risk capital amount for each unit of exposure is determined in accordance with subrule (4).

(4) The risk capital amount for each unit of exposure mentioned in subrule (3) is calculated by—

(a) determining the gross loss for a unit of exposure as—

(i) the maximum foreseeable loss the applicable insurer would incur under contracts of insurance providing coverage for a loss at the block of buildings that is the unit of exposure at the point in time during the 12 months immediately after the valuation date at which the insurer's exposure to loss for the unit of exposure would be at its highest; and

(ii) multiplied by a damage ratio of 100%;

(b) applying to the gross loss determined in paragraph (a)—

(i) the net-down procedures; and

(ii) any reinstatement adjustments in accordance with rule 60(2)(c); and

(c) adding to the net loss derived from paragraph (b), the risk capital amount for counterparty default and other risk for the reinsurance recoverables made through the net-down procedures under paragraph (b) in accordance with subrule (12).

(5) For the purposes of subrule (2)(a)(ii), the risk capital amount for loss of marine vessel must be determined by an applicable insurer as the largest risk capital amount for a unit of exposure, being a marine vessel, for which the insurer is providing coverage for loss of marine vessel under one or more contracts of insurance, where the risk capital amount for each such unit of exposure is determined in accordance with subrule (6).

(6) The risk capital amount for each such unit of exposure mentioned in subrule (5) is calculated by—

(a) determining the gross loss for a unit of exposure as—

(i) the total of the agreed values relating to the hull and machinery coverage for the vessel that is the unit of exposure and the liability limit relating to the protection and indemnity coverage for that vessel during the 12 months immediately after the valuation date; and

(ii) multiplied by a damage ratio of 100%;

(b) applying to the gross loss determined in paragraph (a)—

(i) the net-down procedures; and

(ii) any reinstatement adjustments in accordance with rule 60(2)(c); and

(c) adding to the net loss derived from paragraph (b), the risk capital amounts for counterparty default and other risk for the reinsurance recoverables made through the net-down procedures under paragraph (b) in accordance with subrule (12).

(7) For the purposes of subrule (2)(a)(iii), the risk capital amount for loss of aircraft must be determined by an applicable insurer as the largest risk capital amount for a unit of exposure, being an aircraft, for which the insurer is providing coverage for loss of aircraft under one or more contracts of insurance, where the risk capital amount for each unit of exposure is determined in accordance with subrule (8).

(8) The risk capital amount for each unit of exposure mentioned in subrule (7) is calculated by—

(a) determining the gross loss for a unit of exposure as—

(i) the total sum insured for the hull and liability coverage for the aircraft that is the unit of exposure during the 12 months immediately after the valuation date; and

(ii) multiplied by a damage ratio of 100%;

(b) applying to the gross loss determined in paragraph (a)—

(i) the net-down procedures; and

(ii) any reinstatement adjustments in accordance with rule 60(2)(c); and

(c) adding to the net loss derived from paragraph (b), the risk capital amounts for counterparty default and other risk for the reinsurance recoverables made through the net-down procedures under paragraph (b) in accordance with subrule (12).

(9) For the purposes of subrule (2)(a)(iv), the risk capital amount for default of large principal must be determined by an applicable insurer—

(a) determining, in accordance with subrule (10), its risk capital amounts for each unit of exposure, being a principal or group of principals within the same group of companies, for which the insurer is providing coverage for default of the principal or principals in the group; and

(b) determining the sum of the largest 2 risk capital amounts derived from paragraph (a).

(10) The risk capital amount for each unit of exposure mentioned in subrule (9) is calculated by—

(a) determining the gross loss for a unit of exposure as—

(i) subject to subrule (11), the gross of the penal sums under the contracts of insurance for which the applicable insurer is providing coverage in respect of each principal or group of principals within the same group of companies, as the case may be, that is the unit of exposure, during the 12 months immediately after the valuation date; and

(ii) multiplied by a maximum probable loss factor 30%;

(b) applying to the gross loss determined in paragraph (a)—

(i) the net-down procedures; and

(ii) any reinstatement adjustments in accordance with rule 60(2)(c); and

(c) adding to the net loss derived from paragraph (b), the risk capital amounts for counterparty default and other risk for the reinsurance recoverables made through the net-down procedures under paragraph (b) in accordance with subrule (12).

(11) An applicable insurer may adjust the gross loss derived from subrule (10)(a) to take account of any eligible collateral which would cover such loss in accordance with rule 83.

(12) For the purposes of subrules (4)(c), (6)(c), (8)(c) and (10)(c), an applicable insurer—

(a) must determine the risk capital amounts for counterparty default and other risk by—

(i) treating each reinsurance recoverable from each reinsurer through the net-down procedures applied under subrules (4)(b), (6)(b), (8)(b) and

(10)(b), as a risk exposure for the purposes of Division 5; and

(ii) multiplying each risk exposure mentioned in subparagraph (i) by the counterparty default risk factor applicable to the relevant reinsurer, in accordance with Division 5; and

(b) for the purposes of paragraph (a), may adjust the value of the relevant reinsurance recoverable if such reinsurance recoverable is covered by any eligible collateral in accordance with rule 83.

(13) In this rule—

maximum foreseeable loss (最大可預見損失), in relation to a contract of insurance providing coverage for loss arising from explosion and conflagration of property and engineering, means the anticipated maximum loss that could result from an explosion or conflagration, based on the highest value of covered property or equipment, at any point in time over the next 12 months.

70. Risk capital amount for man-made systemic catastrophe risk

(1) To determine its risk capital amount for man-made systemic catastrophe risk, an applicable insurer must—

(a) determine the gross loss under its contracts of insurance providing coverage for trade credit in accordance with subrule (2);

(b) apply to the gross loss derived from paragraph (a)—

(i) the net-down procedure; and

(ii) any reinsurance adjustments in accordance with rule 60(2)(c); and

(c) add to the net loss derived from paragraph (b), the risk capital amounts for counterparty default and other risk for the reinsurance recoverables made through the net-down procedures under paragraph (b) in accordance with subrule (3).

(2) An applicable insurer must determine its gross loss under subrule (1)(a) as the sum of—

(a) 100% of the expected gross earned premium during the 12 months immediately after the valuation date, floored at zero, for each of direct and proportional trade credit business; and

(b) 250% of the expected gross earned premium during the 12 months immediately after the valuation date in respect of non-proportional trade credit business, floored at zero.

(3) For the purposes of subrule (1)(c), an applicable insurer—

(a) must determine the risk capital amounts for counterparty default and other risk by—

(i) treating each reinsurance recoverable from each reinsurer through applying the net-down procedures under subrule (1)(b), as a risk exposure for the purposes of Division 5; and

(ii) multiplying each risk exposure mentioned in subparagraph (i) by the counterparty default risk factor applicable to the relevant reinsurer, in accordance with Division 5; and

(b) for the purposes of paragraph (a), may adjust the value of the relevant reinsurance recoverable if such reinsurance recoverable is covered by any eligible collateral in accordance with rule 83.

Subdivision 3—Mortgage Insurance Risk

71. Interpretation

In this Subdivision—

general business with onshore risk (具在岸風險的一般業務) has the meaning given by section 25A of the Ordinance;

insurance coverage starting level (保險範圍起始成數), in relation to a contract of mortgage insurance, means the ratio, expressed as a percentage, of the amount of the mortgage loan for which the lender is not covered by the contract of mortgage insurance, to the value of the property that is the subject of the mortgage loan at the inception of the contract of mortgage insurance;

loss given default factor (違約損失率因子) means the factor representing the proportion of loss in terms of risk exposure upon default of a loan covered under a contract of mortgage insurance provided by an applicable insurer, as stipulated in Table 13, determined by reference to the insurance coverage starting level under the contract and the original loan-to-value ratio of the mortgage loan covered under the contract;

Table 13

Loss Given Default Factor

Insurance coverage starting level	Original loan-to-value ratio		
	Lower than or equal to 70%	Higher than 70% but lower than or equal to 80%	Higher than 80%
Column 1	Column 2	Column 3	Column 4
40% or 50%	0.40	0.60	0.75
60%	0.55	0.75	0.85
70%	Not applicable	0.90	0.95

mortgage insurance (按揭保險) means insurance in the nature of general business against the risk of loss to lenders arising from—

(a) the default of mortgage loans; or

(b) reverse mortgage loans;

offshore mortgage insurance (離岸按揭保險) means mortgage insurance which is not onshore standard mortgage insurance or onshore reverse mortgage insurance;

onshore reverse mortgage insurance (在岸逆按揭保險) means insurance against the risk of loss to lenders arising from reverse mortgage loans and which is general business with onshore risk;

onshore standard mortgage insurance (在岸標準按揭保險) means insurance against risk of loss to the lenders arising from the default of mortgage loans (not being reverse mortgage loans) and which is general business with onshore risk;

original loan-to-value ratio (原定按揭成數) means the ratio, expressed as a percentage, of the original mortgage loan amount to the lower of the value of the property at mortgage loan origination and the property transaction price.

72. Risk capital amount for mortgage insurance risk

(1) An applicable insurer must determine its risk capital amount for mortgage insurance risk by—

(a) determining its risk capital amount for each of the following sub-risks—

(i) onshore mortgage insurance, in accordance with subrule (3); and

(ii) offshore mortgage insurance, in accordance with subrule (4); and

(b) aggregating the risk capital amounts for the sub-risks mentioned in paragraph (a)(i) and (ii) in accordance with the formula in subrule (2).

(2) The formula mentioned in subrule (1)(b) is—

$$\text{Risk capital amount}_{\text{mortgage insurance risk}} = \sqrt{\sum_{u8,\, v8} \text{correlation matrix}_{u8,\, v8} \times \text{risk capital amount}_{u8} \times \text{risk capital amount}_{v8}}$$

where—

correlation matrix refers to the correlation matrix set out in Table 12 of Schedule 7; and

u8 and v8 represent the corresponding sub-risks in each subparagraph in subrule (1)(a).

(3) An applicable insurer must determine its risk capital amount for onshore mortgage insurance by—

(a) determining its risk capital amount for each of the following sub-risks—

(i) onshore standard mortgage insurance in accordance with rule 73; and

(ii) reserve risk for onshore reverse mortgage insurance in accordance with rule 76; and

(b) determining the sum of the risk capital amounts mentioned in paragraph (a)(i) and (ii).

(4) An applicable insurer must determine its risk capital amount for offshore mortgage insurance by—

(a) determining its risk capital amount for each of the following sub-risks—

(i) reserve and premium risk for offshore mortgage insurance, in accordance with rule 77; and

(ii) catastrophe risk for offshore mortgage insurance, in accordance with rule 80; and

(b) aggregating the risk capital amounts for the sub-risks mentioned in paragraph (a)(i) and (ii) in accordance with the formula in subrule (5).

(5) The formula mentioned in subrule (4)(b) is—

$$\text{Risk capital amount}_{\text{offshore mortgage insurance}} = \sqrt{\sum_{u10,\, v10} \text{correlation matrix}_{u10,\, v10} \times \text{risk capital amount}_{u10} \times \text{risk capital amount}_{v10}}$$

where—

correlation matrix refers to the correlation matrix set out in Table 14 of Schedule 7; and

u10 and v10 represent the corresponding sub-risks in each subparagraph in subrule (4)(a).

73. Risk capital amount for onshore standard mortgage insurance

(1) An applicable insurer must determine its risk capital amount for onshore standard mortgage insurance by—

(a) determining its risk capital amount for each of the following sub-risks—

(i) reserve risk for onshore standard mortgage insurance, in accordance with rule 74; and

(ii) catastrophe and premium risk for onshore standard mortgage insurance, in accordance with rule 75; and

(b) aggregating the risk capital amounts for the sub-risks mentioned in paragraph (a)(i) and (ii) in accordance with the formula in subrule (2).

(2) The formula mentioned in subrule (1)(b) is—

$$\text{Risk capital amount}_{\text{onshore standard mortgage insurance}} = \sqrt{\sum_{u9,\, v9} \text{correlation matrix}_{u9,\, v9} \times \text{risk capital amount}_{u9} \times \text{risk capital amount}_{v9}}$$

where—

correlation matrix refers to the correlation matrix set out in Table 13 of Schedule 7; and

u9 and v9 represent the corresponding sub-risks in each subparagraph in subrule (1)(a).

74. Risk capital amount for reserve risk for onshore standard mortgage insurance

(1) An applicable insurer must determine its risk capital amount for reserve risk for onshore standard mortgage insurance as the greater of the amounts X and Y, where—

(a) X is the amount determined by—

(i) identifying, in relation to each of the insurer's outstanding claims liabilities under its contracts of onshore standard mortgage insurance, the amount of expected recovery from property disposal which has not yet been settled, determined on a net of reinsurance basis, and used by the insurer in determining its net best estimate for the outstanding claims liabilities, floored at zero;

(ii) multiplying each amount mentioned in subparagraph (i) by the applicable loss given default factor; and

(iii) determining the sum of the amounts derived from subparagraph (ii); and

(b) Y is the amount determined by—

(i) identifying the outstanding claims liabilities net of reinsurance for the insurer's onshore standard mortgage insurance, floored at zero, for each of direct business, proportional business and non-proportional business;

(ii) multiplying the amounts mentioned in subparagraph (i) by the applicable reserve risk factor prescribed in Table 14; and

(iii) determining the sum of the amounts derived from subparagraph (ii).

Table 14

Reserve Risk Factor for Onshore Standard Mortgage Insurance

Column 1 Business	Column 2 Reserve risk factor
Direct	55%
Proportional	55%
Non-proportional	50%

(2) Subject to subrule (3), in determining the amount of outstanding claims liabilities net of reinsurance in subrule (1)(b)(i), an applicable insurer may exclude a loss event's outstanding claims liability where the insurer's maximum liability for the loss event is already reflected in the outstanding claims liability and cannot be exceeded due to—

(a) the amount of such outstanding claims liability, considered together with any relevant settled amount, being not less than the maximum limit of liability of the insurer under the contract of insurance; or

(b) the amount of such outstanding claims liability, considered together with any relevant settled amount, being not less than the maximum amount of liability retained by the insurer for the loss event, with any amount of liability exceeding this being covered by contracts of reinsurance recognized under rule 41 for which there is no dispute with any reinsurer on the reinsurance recoveries assumed.

(3) An applicable insurer may only exclude outstanding claims liabilities mentioned in subrule (2) from its exposure base for reserve risk if such liabilities—

(a) arise from an unexpected and extreme loss event; and

(b) form a significant portion of the insurer's total outstanding claims liabilities net of reinsurance.

75. Risk capital amount for catastrophe and premium risk for onshore standard mortgage insurance

(1) An applicable insurer must determine its risk capital amount for catastrophe and premium risk for onshore standard mortgage insurance by—

(a) determining the amount of net loss in respect of its onshore standard mortgage insurance business, in accordance with subrule (2); and

(b) adding to the amount of the net loss determined in paragraph (a), the risk capital amounts for counterparty default and other risk for the reinsurance recoverables made through the net-down

procedures under subrule (2)(e), in accordance with subrule (4).

(2) For the purposes of subrule (1)(a), an applicable insurer must determine the amount of net loss in respect of its onshore standard mortgage insurance by—

(a) determining the amount of its gross risk-in-force in relation to each contract of onshore standard mortgage insurance, as the outstanding loan balance less the amount of mortgage loan not covered by the contract, adjusted up with the percentage of accrued interest and allowable expense in accordance with subrule (3), floored at zero;

(b) multiplying each amount of gross risk-in-force determined in paragraph (a) by a base rate of 2.72%;

(c) multiplying the LTV factor in Table 15 to each amount resulting from paragraph (b) by reference to the original loan-to-value ratio of the mortgage loan covered under the contract of onshore standard mortgage insurance;

(d) multiplying each amount derived from paragraph (c) by the applicable loss given default factor in Table 13;

(e) applying to the amounts derived from paragraph (d)—

(i) the net-down procedures; and

(ii) any reinstatement adjustments in accordance with rule 60(2)(c); and

(f) taking the sum of the amounts derived from applying paragraphs (a), (b), (c), (d) and (e) as the insurer's net loss in respect of its onshore standard mortgage insurance.

Table 15

LTV Factor

Column 1 Original loan-to-value ratio	Column 2 LTV factor
Lower than or equal to 65%	0.4
Higher than 65% but lower than or equal to 70%	0.55
Higher than 70% but lower than or equal to 75%	0.7
Higher than 75% but lower than or equal to 80%	1
Higher than 80% but lower than or equal to 85%	1.55
Higher than 85%	2.5

(3) For the purposes of subrule (2)(a), the percentage of accrued interest and allowable expense to be applied as an upward adjustment is the percentage of allowance made to cover legal fees and other expenses borne by lenders in accordance with the contract.

(4) For the purposes of subrule (1)(b), an applicable insurer—

(a) must determine of the risk capital amounts for counterparty default and other risk by—

(i) treating each reinsurance recoverable from each reinsurer through applying the net-down procedures under subrule (2)(e), as a risk exposure for the purposes of Division 5; and

(ii) multiplying each risk exposure mentioned in subparagraph (i) by the counterparty default risk factor applicable to the relevant reinsurer, in accordance with Division 5; and

(b) for the purposes of paragraph (a), may adjust the value of the relevant reinsurance recoverable if the reinsurance recoverable is covered by any eligible collateral in accordance with rule 83.

76. Risk capital amount for reserve risk for onshore reverse mortgage insurance

An applicable insurer must determine its risk capital amount for reserve risk for onshore reverse mortgage insurance by—

(a) identifying, in relation to each of the insurer's outstanding claims liabilities under its contracts of onshore reverse mortgage insurance, the amount of expected recovery from property disposal which has not yet been settled, determined on a net of reinsurance basis, and used by the insurer in determining its net best estimate for the outstanding claims liabilities, floored at zero; and

(b) determining the sum of the amounts in paragraph (a); and

(c) multiplying the amount derived from paragraph (b) by a reserve risk factor of 30%.

77. Risk capital amount for reserve and premium risk for offshore mortgage insurance

(1) An applicable insurer must determine its risk capital amount for reserve and premium risk for offshore mortgage insurance by—

(a) determining its risk capital amount for each of the following sub-risks—

(i) reserve risk for offshore mortgage insurance, in accordance with rule 78; and

(ii) premium risk for offshore mortgage insurance, in accordance with rule 79; and

(b) aggregating the risk capital amounts for the sub-risks mentioned in paragraph (a)(i) and (ii) in accordance with the formula in subrule (2).

(2) The formula mentioned in subrule (1)(b) is—

$$\text{Risk capital amount}_{\text{reserve and premium risk of offshore mortgage insurance}} = \sqrt{\sum_{u11,\,v11} \text{correlation matrix}_{u11,\,v11} \times \text{risk capital amount}_{u11} \times \text{risk capital amount}_{v11}}$$

where—

correlation matrix refers to the correlation matrix set out in Table 15 of Schedule 7; and

u11 and v11 represent the corresponding sub-risks in each subparagraph in subrule (1)(a).

78. Risk capital amount for reserve risk for offshore mortgage insurance

(1) An applicable insurer must determine its risk capital amount for reserve risk for offshore mortgage insurance by—

(a) identifying its exposure base for reserve risk for offshore mortgage insurance, by applying rule 64(2) to its offshore mortgage insurance business;

(b) multiplying its exposure base identified in paragraph (a) by the applicable reserve risk factors prescribed in Table 16; and

(c) determining the sum of the amounts derived from paragraph (b).

Table 16

Reserve Risk Factor for Offshore Mortgage Insurance

Column 1 Business	Column 2 Reserve risk factor
Direct	55%
Proportional	55%
Non-proportional	50%

(2) Subject to subrule (3), in determining its exposure base for reserve risk in subrule (1)(a), an applicable insurer may exclude a loss event's outstanding claims liability where the insurer's maximum liability for the loss event is already reflected in the outstanding claims liability and cannot be exceeded due to—

(a) the amount of such outstanding claims liability, considered together with any relevant settled amount, being not less than the maximum limit of liability of the insurer under the contract of insurance; or

(b) the amount of such outstanding claims liability, considered together with any relevant settled amount, being not less than the maximum amount of liability retained by the insurer for the loss event, with any amount of liability exceeding this being covered by contracts of reinsurance recognized under rule 41 for

which there is no dispute with any reinsurer on the reinsurance recoveries assumed.

(3) An applicable insurer may only exclude outstanding claims liabilities mentioned in subrule (2) from its exposure base for reserve risk if such liabilities—

(a) arise from an unexpected and extreme loss event; and

(b) form a significant portion of the insurer's total outstanding claims liabilities net of reinsurance.

79. Risk capital amount for premium risk for offshore mortgage insurance

An applicable insurer must determine its risk capital amount for premium risk for offshore mortgage insurance by—

(a) identifying its exposure base of premium risk for offshore mortgage insurance by applying rule 65(2) to its offshore mortgage insurance business;

(b) multiplying its exposure base identified in paragraph (a) by the applicable premium risk factors prescribed in Table 17; and

(c) determining the sum of the amounts derived from paragraph (b).

Table 17

Premium Risk Factor for Offshore Mortgage Insurance

Column 1 Business	Column 2 Premium risk factor
Direct	25%
Proportional	25%
Non-proportional	30%

80. Risk capital amount for catastrophe risk for offshore mortgage insurance

An applicable insurer must determine its risk capital amount for catastrophe risk for offshore mortgage insurance by—

(a) determining its expected net earned premium during the 12 months immediately after the valuation date, floored at zero, in respect of offshore mortgage insurance for each of direct business, proportional business and non-proportional business;

(b) multiplying the net earned premium determined in paragraph (a) by the applicable catastrophe risk factors prescribed in Table 18; and

(c) determining the sum of the amounts derived from paragraph (b).

Table 18

Catastrophe Risk Factor for Offshore Mortgage Insurance

Column 1 Business	Column 2 Catastrophe risk factor
Direct	150%
Proportional	150%
Non-proportional	250%

Division 5—Counterparty Default and Other Risk

81. Risk capital amount of counterparty default and other risk

(1) An applicable insurer must determine its risk capital amount for counterparty default and other risk by—

(a) determining, in accordance with subrules (3) to (5), the individual risk capital amount for each of its risk exposures arising from the balance sheet items mentioned in subrule (2);

(b) if rule 85(2) applies, determining the individual risk capital amount in accordance with rule 85; and

(c) determining the sum of the individual risk capital amounts derived from paragraphs (a) and (b).

(2) The balance sheet items mentioned in subrule (1)(a) are—

(a) deposits with a bank or deposit taking institution;

(b) loans for non-investment purpose and receivables;

(c) outstanding premiums;

(d) reinsurance recoverables;

(e) reinsurance receivables;

(f) derivative contracts that are not traded at an exchange platform; and

(g) assets recognized on the balance sheet other than—

(i) balance sheet items mentioned in paragraphs (a), (b), (c), (d), (e) and (f);

(ii) assets that have been addressed by risk modules under Divisions 2, 3 and 4;

(iii) a deferred tax asset;

(iv) a right-of-use asset; and

(v) a cash item.

(3) Subject to rule 85, an applicable insurer must determine the individual risk capital amount for each risk exposure mentioned in subrule (1)(a) by—

(a) determining the amount of the relevant risk exposure in accordance with subrule (4) or (5); and

(b) subject to subrules (6), (7), (8) and (9), multiplying the amount of the relevant risk exposure determined in accordance with paragraph (a) by the risk factor corresponding to the credit rating band in Table 19 of the counterparty to the risk exposure.

Table 19

Counterparty Default and Other Risk Factors

Column 1 Credit rating band	Column 2 Risk factors
1	0.4%
2	0.8%
3	1.6%
4	4.0%
5	8.4%
6	16.0%
7	38.8%
Unrated	6.2%

(4) In the case of a risk exposure arising from an asset mentioned in subrule (2)(a), (b), (c), (d), (e) or (g), for the purposes of subrule (3)(a), the amount of the risk exposure is—

(a) the value of the relevant asset determined in accordance with Part 4;

(b) in the case of any risk exposure covered by an eligible bilateral netting agreement or eligible collateral, subject to paragraph (c), the value of the relevant asset determined in accordance with Part 4,

after the adjustment made in accordance with rule 82 (in the case of an eligible bilateral netting agreement), or rule 83 (in the case of eligible collateral), as the case may be; or

(c) zero, if the valuation of the risk exposure in accordance with paragraph (b) would result in a negative amount.

(5) In the case of a risk exposure arising from a derivative contract mentioned in subrule (2)(f) that is not a credit derivative contract, for the purposes of subrule (3)(a), the amount of the risk exposure is the sum of—

(a) the total replacement cost or market value of the contract if the contract is of positive fair value; and

(b) the potential future credit exposure, calculated by multiplying the notional amount of the contract by the credit exposure factor corresponding to the residual maturity and type of contract as set out in Table 20.

Table 20

Credit Exposure Factors for Derivative Contract

Column 1	Column 2	Column 3	Column 4	Column 5
Residual Maturity	Interest rate-related contract	Exchange rate-related contract	Equity-related contract	Commodity-related contract
Not more than one year	0.0%	1.0%	6.0%	10.0%

Column 1	Column 2	Column 3	Column 4	Column 5
Residual Maturity	Interest rate-related contract	Exchange rate-related contract	Equity-related contract	Commodity-related contract
More than one year but not more than 5 years	0.5%	5.0%	8.0%	10.0%
More than 5 years	1.5%	7.5%	10.0%	10.0%

(6) In the case of a deposit with a bank or deposit taking institution as mentioned in subrule (2)(a), if that deposit can be withdrawn unconditionally within 3 months, an applicable insurer may use 50% of the corresponding risk factor in Table 19 to determine the individual risk capital amount for the risk exposure in accordance with subrule (3).

(7) Despite the credit rating band of the relevant counterparty, an applicable insurer must use a risk factor of 100% to determine the individual risk capital amount for the risk exposure in accordance with subrule (3) for any risk exposure arising from—

(a) a loan for non-investment purpose and receivables as mentioned in subrule (2)(b), that are past due for more than one year; and

(b) outstanding premiums as mentioned in subrule (2)(c), that are past due for more than one year.

(8) In the case of a risk exposure arising from an asset mentioned in subrule (2)(a), (b), (c), (d), (e) or (g) that is covered by an eligible guarantee or an eligible credit derivative contract, for the purposes of subrule (3)(b), the applicable insurer may apply rule 84 in determining the risk factor to apply to the risk exposure.

(9) In the case of reinsurance recoverables as mentioned in subrule (2)(d), if any portion of the reinsurance recoverables cannot be allocated by the applicable insurer between 2 or more counterparties, to determine the individual risk capital amount for the risk exposure arising from that portion, the insurer must assume that portion of reinsurance recoverables is allocated to the counterparty with the lowest credit rating band.

(10) In the case of reinsurance recoverables and reinsurance receivables mentioned in subrule (2)(d) and (e) from a reinsurance counterparty that is a special purpose vehicle under a contract of reinsurance that is fully funded, the applicable insurer may take the assets held under the terms of the contract of reinsurance for the benefit of the insured as collateral covering the risk exposures arising from such reinsurance recoverables and reinsurance receivables and, if such collateral is eligible collateral, may adjust the value of such risk exposures in accordance with rule 83.

(11) In this rule—

bank or deposit taking institution (銀行或接受存款機構) means—

(a) an authorized institution with the meaning of section 2(1) of the Banking Ordinance (Cap. 155), except an authorized institution the authorization of which is for the time being suspended under section 24 or 25 of the Banking Ordinance (Cap. 155); or

(b) a bank licensed or authorized outside Hong Kong which is not an authorized institution, except a bank the license or other authorization to carry on banking business of which is for the time being suspended;

cash item (現金項目), in relation to an applicable insurer, means legal tender notes or other notes, and coins, representing the lawful currency of a jurisdiction;

notional amount (名義數額) means the reference amount used to calculate a payment obligation between the parties to an off-balance sheet exposure, such as a derivative contract;

reinsurance receivables (應收分保款項), in relation to an applicable insurer, means the receivables relating to any requests for payments issued to the reinsurers of the insurer that have not yet been fulfilled, whether in terms of claims recovery, reinsurance commissions, or other related receivables;

right-of-use asset (使用權資產), in relation to an applicable insurer, means a leased asset that the insurer as lessee has the right to use for the lease term.

82. Adjustment for eligible bilateral netting agreement

(1) In the case of risk exposures of an applicable insurer which are subject to an eligible bilateral netting agreement, for the purposes of rule 81(4)(b), an applicable insurer may adjust the value of such risk exposures, by—

(a) applying a haircut to the liabilities of the insurer to the counterparty to the eligible bilateral netting agreement, using the formulae in subrule (2), if there is a mismatch in denominated currency between the insurer's risk exposures to the counterparty and the

insurer's liabilities to the counterparty which are subject to the eligible bilateral netting agreement; and

(b) reducing the value of its risk exposures to the counterparty to the eligible bilateral netting agreement, by the amount of its liabilities to the counterparty under the eligible bilateral netting agreement after the haircut mentioned in paragraph (a).

(2) The haircut mentioned in subrule (1)(a) is determined using the following formula—

$$\text{Adjustment}_{\text{netting}} = \text{liabilities} \times (1 - H_{FX})$$

where H_{FX} is the haircut for currency mismatch if the risk exposures of the applicable insurer to the counterparty are denominated in a currency different from that in which the liabilities of the insurer to the counterparty are denominated, as mentioned in subrule (1)(a), with such haircut being calculated using the following formula—

$$H_{FX} = \sqrt{\left(1 + RF_{\text{FX of risk exposure}}\right) \times \left[1 + \sum_{i} \left(RF_{\text{FX of liability}_i} \times \omega_i\right)\right]} - 1$$

where for the purpose of the adjustment in subrule (1)(a)—

$RF_{\text{FX of risk exposure}}$ is the risk factor for the currency of risk exposure of the insurer to the counterparty set out in Table 6 in rule 51;

i refers to each relevant currency of liabilities of the insurer to the counterparty;

$RF_{\text{FX of liability}_i}$ is the risk factor for each relevant currency of liabilities of the insurer to the counterparty set out in Table 6 in rule 51; and

ω_i is the weighting of the liabilities of the insurer to the counterparty denominated in each relevant currency over the total liabilities of the insurer to the counterparty.

(3) If an applicable insurer makes an adjustment to its risk exposures which are subject to an eligible bilateral netting agreement, pursuant to subrule (1)—

(a) the insurer must perform such adjustment in respect of the risk exposures by each eligible bilateral netting agreement; and

(b) the total amount of the adjustment must not exceed the valuation of the liabilities recognized in the insurer's balance sheet in relation to the eligible bilateral netting agreement.

(4) In this rule—

eligible bilateral netting agreement (合資格雙邊淨額結算協議), in relation to an applicable insurer, means an agreement which satisfies the following conditions—

(a) the agreement is in writing;

(b) the agreement creates a single legal obligation for all individual contracts or transactions covered by the agreement, and provides, in effect, that—

(i) the insurer has a single claim or obligation to receive or pay only the net amount owed to or by the insurer in respect of the transactions covered by the agreement; and

(ii) the insurer has the claim or obligation in the event that the counterparty to the agreement, or a counterparty to whom the agreement has been validly assigned, fails to comply with any

obligation under the agreement due to default, insolvency, bankruptcy, or similar circumstance;

(c) the insurer has obtained impartial and objective legal advice in writing, either internally or from an external source, to the effect that in the event of a challenge in a court of law, including a challenge resulting from default, insolvency, bankruptcy, or similar circumstance, the relevant court or administrative authority would find the insurer's exposure to be the net amount under—

(i) the law of the jurisdiction in which the counterparty is incorporated or the equivalent location in the case of non-corporate entities, and if a branch of the counterparty is involved, then also under the law of the jurisdiction in which the branch is located;

(ii) the law which governs the individual contracts or transactions covered by the agreement; and

(iii) the law which governs the agreement;

(d) the insurer establishes and maintains procedures to monitor developments in any law relevant to the agreement and to ensure that the agreement continues to satisfy this definition;

(e) the insurer maintains in its files documentation adequate to support the netting of the contracts or transactions covered by the agreement; and

(f) the agreement is not subject to a provision that permits the non-defaulting counterparty to make only limited payment, or no payment at all, to the defaulter or the estate of the defaulter, regardless of whether or not the defaulter is a net creditor under the agreement.

83. Adjustment for eligible collateral

(1) In the case of a risk exposure which is covered by eligible collateral, for the purposes of rule 81(4)(b), an applicable insurer may adjust the value of such risk exposure, by—

(a) applying a haircut to the value of the eligible collateral, using the formulae in subrule (2), to take account of the counterparty default risk and equity risk for the eligible collateral and any currency mismatch between the currency in which the eligible collateral is denominated and the currency in which the risk exposure it covers is denominated; and

(b) deducting from the value of the risk exposure, the value of the eligible collateral after the haircut mentioned in paragraph (a).

(2) The formula mentioned in subrule (1)(a) is—

$$\text{Adjustment}_{\text{collateral}} =$$

$$\text{value of eligible collateral} \times (1 - H_{CPD}) \times (1 - H_E) \times (1 - H_{FX})$$

where—

H_{CPD} is the haircut for counterparty default risk for eligible collateral which is collateral mentioned in subrule (4)(e)(i), (ii), (iii) and (iv) determined in accordance with the risk factor corresponding to the credit rating band of the counterparty in Table 19 in rule 81;

H_E is the haircut for equity risk for eligible collateral which is collateral mentioned in subrule (4)(e)(v) determined in accordance with the stress factor in Table 5 in rule 49; and

H_{FX} is the haircut for currency mismatch if the eligible collateral is denominated in a currency different from that in which the risk exposure covered by the eligible collateral is denominated, which is calculated using the following formula—

$$H_{FX} = \sqrt{\left(1 + RF_{FX\ of\ risk\ exposure}\right) \times \left(1 + RF_{FX\ of\ eligible\ collateral}\right)} - 1$$

where—

$RF_{FX\ of\ risk\ exposure}$ is the risk factor for the currency of the risk exposure set out in Table 6 in rule 51; and

$RF_{FX\ of\ eligible\ collateral}$ is the risk factor for the currency of the eligible collateral set out in Table 6 in rule 51.

(3) An applicable insurer—

(a) must not double count the risk mitigation impact of any eligible collateral in determining the risk capital amounts mentioned in rule 37(1); and

(b) without limiting paragraph (a), must ensure that no more than the total amount of the eligible collateral, before any haircut in accordance with subrule (1)(b), is used as risk mitigation impact in determining all risk capital amounts under rule 37(1)(a).

(4) In this rule—

eligible collateral (合資格抵押品), in relation to an applicable insurer, means collateral in respect of which the following conditions are satisfied—

(a) all documentation creating the collateral and providing for the obligations of the parties with respect to each other in respect of the collateral is binding on all parties and legally enforceable in all relevant jurisdictions;

(b) the legal mechanism by which the collateral is pledged or transferred ensures that the insurer has the right to realize, or to take legal possession of, the collateral in a timely manner in the event of a default by, or the insolvency or bankruptcy of, or any other event specified in the relevant legal documentation applicable to any of—

(i) the obligor in respect of the exposure; or

(ii) the custodian, if any, holding the collateral;

(c) the insurer has taken all steps to fulfil requirements under the law applicable to the insurer's interest in the collateral which are necessary to obtain and maintain an enforceable security interest, whether by registration or otherwise, or to exercise a right to set-off in relation to title transfer collateral;

(d) there is no material positive correlation between the credit quality of the obligor in respect of which the insurer has an exposure and the current market value of the collateral provided in respect of the exposure; and

(e) the collateral is—

(i) cash or certificates of deposit;

(ii) letters of credit that are irrevocable, clean and unconditional;

(iii) debt securities with credit rating band 1, 2, 3 or 4;

(iv) debt securities issued by a sovereign; or

(v) equities which are included in any main indices of developed markets specified in Table 1 of Schedule 8.

84. Adjustment for eligible guarantee or eligible credit derivative contract

(1) In the case of a risk exposure which is covered in whole or in part by an eligible guarantee or eligible credit derivative contract, an applicable insurer may, for the purposes of rule 81(8)—

(a) for the portion of the risk exposure covered by the eligible guarantee or eligible credit derivative contract, after applying a haircut in accordance with subrule (2) or (3), as the case may be, apply the risk factor corresponding to the credit rating band of the guarantor or protection seller; and

(b) for the uncovered portion of the risk exposure (if any), apply the risk factor corresponding to the credit rating band of the counterparty to the relevant exposure.

(2) If the eligible guarantee covering the applicable insurer's risk exposure mentioned in subrule (1) is denominated in a different currency to the risk exposure it covers, the portion of the risk exposure covered by the eligible guarantee, for the purposes of subrule (1)(a), must be adjusted using the following formula—

$$\text{Covered portion}_{\text{guarantee}} = \text{guarantee exposure} \times (1 - H_{FX})$$

where H_{FX} is the haircut for the currency mismatch if the covered portion of the risk exposure is denominated in a currency different from that in which the eligible guarantee is denominated, which is calculated using the following formula—

$$H_{FX} = \sqrt{\left(1 + RF_{FX\ of\ covered\ portion}\right) \times \left(1 + RF_{FX\ of\ eligible\ guarantee}\right)} - 1$$

where—

$RF_{FX\ of\ covered\ portion}$ is the risk factor for the currency of the covered portion of the risk exposure set out in Table 6 in rule 51; and

$RF_{FX\ of\ eligible\ guarantee}$ is the risk factor for the currency of the eligible guarantee set out in Table 6 in rule 51.

(3) If the eligible credit derivative contract covering the applicable insurer's risk exposure referred to in subrule (1) is denominated in a different currency to the risk exposure it covers, the portion of the risk exposure covered by the eligible credit derivative contract, for the purposes of subrule (1)(a), must be adjusted using the following formula—

$$\text{Covered portion}_{\text{credit derivative}} = \text{protected exposure} \times (1 - H_{FX}) \times \frac{\text{remaining term to maturity (in days)}}{365}$$

where H_{FX} is the haircut for the currency mismatch if the covered portion of the risk exposure is denominated in a currency different from that in which the eligible credit derivative contract is denominated, which is calculated using the following formula—

$$H_{FX} = \sqrt{\left(1 + RF_{FX\ of\ covered\ portion}\right) \times \left(1 + RF_{FX\ of\ eligible\ credit\ derivative\ contract}\right)} - 1$$

where—

$RF_{FX\ of\ covered\ portion}$ is the risk factor for the currency of the covered portion of the risk exposure set out in Table 6 in rule 51; and

$RF_{FX\ of\ eligible\ credit\ derivative\ contract}$ is the risk factor for the currency of the eligible credit derivative contract set out in Table 6 in rule 51.

(4) In this rule—

eligible credit derivative contract (合資格信用衍生工具合約), in relation to an applicable insurer, means a credit derivative contract entered by the insurer as a credit protection buyer and in respect of which the following conditions are satisfied for the risk exposure covered by the credit derivative contract (***protected exposure***)—

(a) the credit derivative contract is a credit default swap or total return swap (other than a restricted return swap);

(b) the protection seller of the credit derivative contract is—

(i) a sovereign; or

(ii) a regulated financial entity with a credit rating band higher than that of the protected exposure;

(c) the credit derivative contract gives the insurer a direct claim against the protection seller;

(d) the credit protection provided by the credit derivative contract relates to a specific exposure, specific exposures, or a pool of specific exposures, of the insurer;

(e) the undertaking of the protection seller under the credit derivative contract to make payment in specified circumstances relating to the protected exposure is clearly documented so that the extent of the credit protection provided by the credit derivative contract is clearly defined;

(f) there is no clause in the credit derivative contract, the satisfaction of which is outside the direct control of the insurer, which would allow the protection seller to cancel the contract unilaterally or which would increase the effective cost of the credit protection offered by the credit derivative contract as a result of the deteriorating credit quality of the protected exposure;

(g) there is no clause in the credit derivative contract, the satisfaction of which is outside the direct control of the insurer, which could operate to prevent the protection seller from being obliged to pay out promptly in the event that the obligor in respect of the protected exposure defaults in making any payments due to the insurer in respect of the protected exposure;

(h) the jurisdiction in which the protection seller is located and from which the protection seller may be obliged to make payment has no existing exchange controls in place or, if there are existing exchange controls in place, approval has been obtained for the funds to be remitted freely in the event that the protection seller is called upon under the terms of the credit derivative contract to make payment to the insurer;

(i) the protection seller has no recourse to the insurer for any losses suffered as a result of the protection seller being obliged to make any payment to the insurer pursuant to the credit derivative contract;

(j) the credit derivative contract obliges the protection seller to make payment to the insurer in the credit events of the obligor's failure to pay amounts due or bankruptcy or insolvency of the obligor; and

(k) the credit derivative contract is binding on all parties and legally enforceable in all relevant jurisdictions;

eligible guarantee (合資格擔保), in relation to an applicable insurer, means a guarantee in respect of which the following conditions are satisfied for the remaining term to maturity of the risk exposure of the insurer in respect of which the guarantee has been given (***guaranteed exposure***)—

(a) the guarantee is given by—

(i) a sovereign; or

(ii) a corporate with a credit rating band higher than that of the guaranteed exposure;

(b) the guarantee gives the insurer a direct claim against the guarantor;

(c) the credit protection provided by the guarantee relates to a specific exposure, specific exposures, or specific pools of exposures, of the insurer;

(d) the undertaking of the guarantor to make payment in specified circumstances relating to the guaranteed exposure is clearly documented so that the extent of the credit protection provided by the guarantee is clearly defined;

(e) there is no clause in the guarantee, the satisfaction of which is outside the direct control of the insurer, which would allow the guarantor to cancel the guarantee unilaterally or which would increase the effective cost of the credit protection provided by the guarantee as a result of the deteriorating credit quality of the guaranteed exposure;

(f) there is no clause in the guarantee, the satisfaction of which is outside the direct control of the insurer, which could operate to prevent the guarantor from being obliged to pay out promptly in the event that the obligor in respect of the guaranteed exposure defaults in making any payments due to the insurer in respect of the guaranteed exposure;

(g) the jurisdiction in which the guarantor is located and from which the guarantor may be obliged to make payment has no existing exchange controls in place or, if there are existing exchange controls in place, approval has been obtained for the funds to be remitted freely in the event that the guarantor is called upon under the terms of the guarantee to make payment to the insurer;

(h) the guarantor has no recourse to the insurer for any losses suffered as a result of the guarantor being obliged to make any payment to the insurer pursuant to the guarantee;

(i) the insurer has the right to receive payment from the guarantor without having to take legal action in order to pursue the obligor in respect of the guaranteed exposure for payment; and

(j) the guarantee is binding on all parties and legally enforceable in all relevant jurisdictions;

restricted return swap (受限制回報掉期) means a total return swap where the applicable insurer as protection buyer records the net payments received by it under the swap as net income but does not record, either through deductions in fair value in the accounts of the insurer or by an addition to its reserves or provisions, the extent to which the value of the protected exposure has deteriorated.

85. Credit derivative contract other than eligible credit derivative contract

(1) A credit derivative contract entered into by an applicable insurer as a protection buyer other than an eligible credit derivative contract is not recognized under rule 84 and an insurer must not use such contract to reduce any risk capital amounts mentioned in rule 37(1).

(2) Where an applicable insurer enters a credit derivative contract as a protection seller, the insurer must determine the risk capital amount for the credit derivative contract for the purposes of rule 81(1)(b), in accordance with subrule (3).

(3) The risk capital amount for a credit derivative contract mentioned in subrule (2) is determined by multiplying the protected exposure by the risk factor corresponding to the credit rating band of the underlying reference obligation set out in Table 19 of rule 81.

Division 6—Operational Risk

86. Risk capital amount for operational risk

(1) An applicable insurer must determine the risk capital amount for operational risk as the lower of A and B where—

(a) A is the sum of—

(i) the risk capital amount for operational risk in respect of Class C business and Class H business as determined in accordance with subrule (3);

(ii) the risk capital amount for operational risk in respect of specified long term business as determined in accordance with subrule (4); and

(iii) the risk capital amount for operational risk in respect of general business as determined in accordance with subrule (5); and

(b) B is 30% of the insurer's prescribed capital amount before operational risk.

(2) For subrule (1)(b), the prescribed capital amount before operational risk refers to the amount determined in accordance with rule 37(1)(a) and aggregated in accordance with rule 37(1)(c) but without the inclusion of any risk capital amount for operational risk in the aggregation.

(3) For the purposes of subrule (1)(a)(i), the risk capital amount for operational risk for any Class C business and any Class H business under Part 2 of Schedule 1 to the Ordinance, is determined as 0.4% of the simple average of the current estimates of insurance liabilities (gross of reinsurance) for Class C and Class H business as at the three referenced dates, floored at zero.

(4) For the purposes of subrule (1)(a)(ii), the risk capital amount for operational risk for specified long term business is the sum of—

(a) the amount that is the higher of C and D, where—

(i) C is the amount determined as 4% of annual gross premiums for specified long term business of the applicable insurer as a whole for its most recent financial year ending on or before the valuation date, floored at zero; and

(ii) D is the amount determined as 0.45% of the simple average of the current estimates of the insurance liabilities (gross of reinsurance) for the applicable insurer's specified long term business as a whole as at the three referenced dates, floored at zero; and

(b) 4% of the portion of the premium growth for the applicable insurer's specified long term business as a whole that exceeds 20% of such premium growth, floored at zero.

(5) For the purposes of subrule (1)(a)(iii), the risk capital amount for operational risk for general business is the sum of—

(a) the amount that is the higher of E and F, where—

(i) E is the amount determined as 2.75% of annual gross premiums for general business of the applicable insurer as a whole for its most recent financial year ending on or before the valuation date, floored at zero; and

(ii) F is the amount determined as 2.75% of the simple average of the current estimates of the insurance liabilities (gross of reinsurance) for the applicable insurer's general business as a whole as at the three referenced dates, floored at zero; and

(b) 2.75% of the portion of the premium growth for the applicable insurer's general business as a whole that exceeds 20% of such premium growth, floored at zero.

(6) In this rule—

annual gross premiums (年度毛保費) means gross written premiums in a financial year;

premium growth (保費增長) means the annual gross premium of the relevant business for the applicable insurer's most recent financial year ending on or before the valuation date, less the annual gross premium of such business for the financial year immediately preceding the most recent financial year;

specified long term business (指明長期業務) means long term business other than Class C business and Class H business;

three referenced dates (三個參考日期), for purposes of calculating the average of current estimates of insurance liabilities (gross of reinsurance) under this rule, means—

(a) the valuation date;

(b) the date 12 months prior to the valuation date; and

(c) the date 24 months prior to the valuation date,

subject to the following adjustments—

(i) if the commencement date of these Rules or the date on which an applicable insurer commences carrying on insurance business in or from Hong Kong is less than one year before the valuation date, then the dates referred to in paragraphs (b) and (c) are both replaced by the valuation date referred to in paragraph (a) for purposes of calculating the average

of current estimates as at the three referenced dates; and

(ii) if the commencement date of these Rules or the date on which an applicable insurer commences carrying on insurance business in or from Hong Kong is at least one year but less than 2 consecutive years before the valuation date, then the date referred to in paragraph (c) is replaced by the date referred to in paragraph (b) for purpose of calculating the average of current estimates as at the three referenced dates.

Part 6

Fund Requirements

87. Determination of allocated minimum capital amounts

(1) An applicable insurer must determine the allocated minimum capital amount required to be held for the purposes of sections 22(3B)(b) and (3C)(b) and 25AAB(3)(b) of the Ordinance, as applicable, in accordance with subrules (2), (3), (4), (5), (6), (7) and (8).

(2) For the purposes of subrule (1), an applicable insurer must, in accordance with subrules (3) and (4), determine—

(a) a notional minimum capital amount based on its assets and liabilities attributable to any restricted capital component in respect of each separate sub-fund of participating business;

(b) a notional minimum capital amount based on its assets and liabilities attributable to any long term business not included in paragraph (a);

(c) a notional minimum capital amount based on its assets and liabilities attributable to general business; and

(d) a notional minimum capital amount based on its assets and liabilities not included in paragraphs (a), (b) and (c).

(3) To determine the notional minimum capital amounts mentioned in subrule (2), an applicable insurer must first determine a notional prescribed capital amount based on each set of assets and liabilities mentioned in subrule (2)(a), (b), (c) and (d) in accordance with rule 37(1), with the following variations—

(a) in applying rule 37(1)(a)—

(i) the insurer must determine the risk capital amounts mentioned in that rule based on each set of assets and liabilities mentioned in subrule (2)(a), (b), (c) and (d), as applicable;

(ii) to determine the risk capital amounts for market risk in respect of each set of assets and liabilities mentioned in subrule (2)(a), (b), (c) and (d)—

(A) the risk capital amount for interest rate risk under rule 47 must be determined based on the same scenario in rule 47(1)(a) or (b), as the case may be, which determines the risk capital amount for interest rate risk for the insurer as a whole; and

(B) the risk capital amount for currency risk under rule 51 must be determined based on the same scenario for each currency exposure, which determines the risk capital amount for currency risk for the insurer as a whole; and

(iii) to determine the risk capital amount for life insurance risk in respect of each set of assets and liabilities mentioned in subrule (2)(a), (b) and (c), the risk capital amount for lapse risk under rule 59 must be determined based on the same component in rule 59(1)(a) or (b), as the case may be, which determines the risk capital amount for lapse risk for the insurer as a whole;

(b) in applying rule 37(1)(b), the insurer must determine the risk capital amount for operational risk in respect of each part of its business mentioned in subrule (2)(a), (b) and (c) in accordance with rule 86, with the use of premiums or current estimates, as the case may be, being consistent with that determined under rule 86(4) for long term business and rule 86(5) for general business;

(c) in applying rule 37(1)(c), using the methodology stated in that rule the insurer must aggregate the risk capital amounts determined in respect of each set of assets and liabilities mentioned in subrule (2)(a), (b), (c) and (d);

(d) in applying rule 37(1)(d), the insurer must add the amount, if any, determined in accordance with rule 43 for the purpose of determining the notional prescribed capital amounts in respect of each set of assets and liabilities mentioned in subrule (2)(a) and (b); and

(e) in applying rule 37(1)(e), the amount of the deduction to be made, if any, in determining the notional prescribed capital amounts in respect of each set of assets and liabilities mentioned in subrule (2)(a), (b), (c) and (d), must be calculated in accordance with rule 44, and use the same effective tax rate which is determined for the insurer as a whole.

(4) Each notional minimum capital amount mentioned in subrule (2) is the amount obtained by multiplying each notional prescribed capital amount determined in subrule (3) by 50%.

(5) The allocated minimum capital amount required to be held under section 22(3B)(b) or (3C)(b) of the Ordinance, as the case may be, is calculated as the sum of—

(a) the notional minimum capital amount in respect of the set of assets and liabilities referenced in subrule (2)(a); and

(b) the notional minimum capital amount in respect of the set of assets and liabilities in subrule (2)(b), less the diversification benefit determined in accordance with subrule (6).

(6) The diversification benefit mentioned in subrule (5)(b) is determined by multiplying the amount A by the percentage B, where—

(a) A is the amount obtained by subtracting the minimum capital amount of the applicable insurer determined for the purposes of rule 5(3) from the sum of the notional minimum capital amounts in respect of each set of assets and liabilities mentioned in subrule (2)(a), (b), (c) and (d); and

(b) B is the notional minimum capital amount in respect of the set of assets and liabilities mentioned in subrule (2)(b) as a proportion of the sum of the notional minimum capital amounts in respect of each set of assets and liabilities mentioned in subrule (2)(b), (c) and (d), expressed as a percentage.

(7) The allocated minimum capital amount required to be held under section 25AAB(3)(b) of the Ordinance, is calculated as the notional minimum capital amount in respect of the set of assets and liabilities mentioned in subrule (2)(c), less the diversification benefit determined in accordance with subrule (8).

(8) The diversification benefit mentioned in subrule (7) is determined by multiplying the amount C by the percentage D, where—

(a) C is the amount obtained by subtracting the minimum capital amount of the applicable insurer determined for the purposes of rule 5(3) from the sum of the notional minimum capital amounts in respect of each set of assets and liabilities mentioned in subrule (2)(a), (b), (c) and (d); and

(b) D is the notional minimum capital amount in respect of the set of assets and liabilities mentioned in subrule (2)(c) as a proportion of the sum of the notional minimum capital amounts in respect of each set of assets and liabilities mentioned in subrule (2)(b), (c) and (d), expressed as a percentage.

(9) In this rule—

allocated minimum capital amount (獲分配最低資本額) means the amount of assets required to be held by an applicable insurer—

(a) in relation to its long term insurance business—

(i) in accordance with section 22(3B)(b) of the Ordinance for all funds under section 21B(2) or (8) of the Ordinance, in addition to the amount of liabilities mentioned in section 22(3B)(a) of the Ordinance; or

(ii) in accordance with section 22(3C)(b) of the Ordinance for all the funds maintained under section 21B(5)(a), (b), (c) and (d) of the Ordinance, in addition to the amount of liabilities mentioned in section 22(3C)(a) of the Ordinance; or

(b) in relation to its general insurance business, in accordance with section 25AAB(3)(b) of the Ordinance for each fund under section 25AA (other than under section 25AA(4)(a)) of the Ordinance, in addition to the amount of liabilities mentioned in section 25AAB(3)(a) of the Ordinance.

Part 7

Transitional Arrangement

88. Application to use transitional arrangement

(1) An applicable insurer may make an application to the Authority for approval of a transitional arrangement under subrule (5) to reduce its risk capital amount for market risk during the transitional period using the approach stated in subrule (2).

(2) After obtaining an approval from the Authority under subrule (5), subject to subrule (3), the applicable insurer may reduce its risk capital amount for market risk during the periods stated in column 1 of Table 21 for the purpose of determining its prescribed capital amount in accordance with rule 37, by—

(a) multiplying the risk capital amount for market risk determined in accordance with Division 2 of Part 5, by the applicable percentage in column 2 of Table 21; and

(b) using the reduced risk capital amount for market risk determined in accordance with paragraph (a), in place of the risk capital amount for market risk determined in accordance with Division 2 of Part 5, for determining its prescribed capital amount in accordance with rule 37.

Table 21

Phasing Percentage of Risk Capital Amount for Market Risk

Column 1 Period in which percentage is applied	Column 2 Percentage to be applied
Within 12 months immediately after the commencement date of these Rules	50%
From 13th month to 24th month after the commencement date of these Rules	60%
From 25th month to 36th month after the commencement date of these Rules	80%
From 37th month after the commencement date of these Rules and onwards	100%

(3) Despite any approval granted under subrule (5), during the transitional period, an applicable insurer must continue to use the risk capital amount for market risk determined in accordance with Division 2 of Part 5 without applying the reduction under subrule (2), to determine—

(a) its minimum capital amount under rule 5(3);

(b) the limit of Limited Tier 1 capital under rule 7(b);

(c) the limit of Tier 2 capital under rule 7(c); and

(d) its notional prescribed capital amount and notional minimum capital amount under Part 6.

(4) An application made under subrule (1) must—

(a) be made in writing;

(b) contain particulars of the information that the Authority reasonably requires to enable it to consider the application; and

(c) be served on the Authority.

(5) On receiving an application made under subrule (1), the Authority may by written notice to the applicable insurer approve or reject the application, and if it approves the application, it may do so subject to such conditions as it may impose.

(6) If the Authority grants an approval to an applicable insurer under subrule (5), at any time while the approval remains in effect, the Authority may, by a written notice served on the insurer—

(a) prohibit the insurer from making any of the payments mentioned in subrule (7), or require the insurer to obtain prior approval from the Authority before making any of the payments mentioned in subrule (7); and

(b) impose other conditions.

(7) The payments by an applicable insurer mentioned in subrule (6)(a) are—

(a) dividends to shareholders;

(b) purchase of the insurer's own shares;

(c) discretionary payment on Tier 1 capital; and

(d) any payment that is in substance a distribution of Tier 1 capital.

(8) After obtaining approval from the Authority under subrule (5), an applicable insurer may, by notice in writing to the Authority, revoke its reliance on the approval for using a transitional arrangement for the remaining part of the transitional period, or for a specified part of such period. If such revocation is made, the insurer must, on the revocation becoming effective, cease reducing its risk capital amount for market risk in accordance with subrule (2) for the remaining part of the transitional period or specified part of such period, as the case may be.

(9) For the purposes of subrule (8), a notice revoking reliance on the approval for using a transitional arrangement becomes effective on the date it is served on the Authority or, if later, on the date stated in the notice for the revocation to come into effect.

(10) Where, during the transitional period, an applicable insurer is approved under subrule (5) to use a transitional arrangement, or revokes its reliance on the approval for using a transitional arrangement under subrule (8), the Authority must publish a notice in the Gazette stating the name of the insurer and the fact that the insurer has been so approved or made such revocation, as the case may be.

(11) In this rule—

transitional period (過渡期) means the 36-month period beginning on the date on which these Rules come into operation.

Schedule 1

[rr. 2 & 8]

Unlimited Tier 1 Capital

1. Qualifying criteria for capital instrument

A capital instrument qualifies as Unlimited Tier 1 capital of an applicable insurer only if all of the following criteria are met—

(a) the instrument is issued and fully paid-up in cash, where only the amount of net cash proceeds received from the issuance of instruments (that is, the paid-up amount) is to be included as Unlimited Tier 1 capital;

(b) the instrument is in the form of issued capital such that it is the first instrument to absorb losses as they occur;

(c) the instrument absorbs losses on a going concern basis proportionately and pari passu with all other Unlimited Tier 1 capital instruments of the same quality issued by the insurer;

(d) the instrument entitles the holder of the instrument to the most subordinated claim in a liquidation of the insurer;

(e) the instrument entitles the holders to a claim on the residual assets of the insurer, that, in the event of its liquidation, and after the payment of all senior claims, is proportional with the holder's share of the issued share capital, and is not fixed or subject to a cap (that is, the holder has an unlimited and variable claim);

(f) the instrument is perpetual;

(g) the principal amount of the instrument is not repaid outside liquidation (except discretionary repurchase or other discretionary means of reducing capital that is permitted under the applicable law);

(h) the insurer has not created, and has not done anything to create, an expectation at issuance that the instrument will be bought back, redeemed or cancelled, and there are no statutory or contractual terms which might reasonably give rise to such an expectation;

(i) for distributions to holders of the instrument—

(i) distributions are paid only out of distributable items;

(ii) the level of distributions is not in any way tied or linked to the amount paid up at issuance;

(iii) the terms and conditions governing the instrument do not include a cap or other restrictions on the maximum level of distributions except to the extent that the insurer is unable to pay distributions that exceed the level of distributable items;

(iv) there are no circumstances under which a distribution for the insurer to holders of the instrument is obligatory;

(v) the non-payment of distributions does not constitute an event of default of the insurer; and

(vi) there are no preferential distributions, including in respect of other Unlimited Tier 1 capital instruments, and distributions are paid only after all outstanding legal and contractual obligations have been met and payments on more senior capital instruments have been made;

(j) the instrument is neither undermined nor rendered ineffective by encumbrances, and in particular, the instrument is not secured or covered by a guarantee of the insurer or any of its affiliates, and is not subject to any other arrangement that legally or economically enhances the seniority of the claim;

(k) the insurer has not directly or indirectly funded the purchase of the instrument;

(l) the paid-up amount is recognized as equity capital for the purpose of determining balance sheet insolvency;

(m) the paid-up amount is classified as equity within the meaning of applicable accounting standards; and

(n) the instrument is clearly and separately disclosed on the balance sheet in the financial statements of the insurer.

Schedule 2

[rr. 2 & 9]

Limited Tier 1 Capital

1. Qualifying criteria for capital instrument

A capital instrument qualifies as Limited Tier 1 capital of an applicable insurer only if all of the following criteria are met—

(a) the instrument is issued and fully paid-up in cash, where only the amount of net cash proceeds received from the issuance of instruments (that is, the paid-up amount) is to be included as Limited Tier 1 capital;

(b) the instrument is subordinated to policy holders, non-subordinated creditors and other subordinated creditors, including the holders of capital instruments that are Tier 2 capital of the insurer but excluding the holders of capital instruments that are Unlimited Tier 1 capital of the insurer;

(c) the instrument is perpetual;

(d) the terms and conditions of the instrument contain no step-ups or other incentives to redeem;

(e) the instrument is only callable at the option of the insurer after at least 5 years from the date of issue (so that the instrument is not retractable by the holder), and the insurer must obtain prior consent from the Authority to exercise a call option;

(f) the insurer must obtain prior consent from the Authority for any repayment of principal (whether through repurchase, redemption or otherwise) of the instrument;

(g) the insurer has not created, and has not done anything to create, an expectation at issuance that the instrument will be bought back, redeemed or cancelled, or that the insurer will exercise any right to call the instrument, or that the repurchase or redemption will receive supervisory approval, and there are no statutory or contractual terms which might reasonably give rise to such an expectation;

(h) the dividend or coupon distributions in respect of the instrument are subject to the following—

(i) the distributions are paid only out of distributable items;

(ii) the insurer has full discretion at all times to cancel the distributions on the instrument for an unlimited period and on a non-cumulative basis;

(iii) the insurer has full access to cancelled payments to meet its obligations as they fall due;

(iv) the cancellation of distributions on the instrument does not constitute an event of default for the instrument; and

(v) the cancellation of distributions on the instrument imposes no restrictions on the insurer except in relation to distributions to ordinary shareholders;

(i) the instrument does not have distributions that are tied or linked to the credit quality or financial condition of the insurer or its affiliates, such that those distributions may accelerate winding-up;

(j) the instrument is neither undermined nor rendered ineffective by encumbrances, and in particular, the instrument is not secured or covered by a guarantee of the insurer or by any of its affiliates, and is not

subject to any other arrangement that legally or economically enhances the seniority of the claim;

(k) the instrument does not contribute to liabilities exceeding assets of the insurer if a balance sheet test forms part of national insolvency law applicable to the insolvency of the insurer;

(l) the paid-up amount is classified as equity within the meaning of applicable accounting standards;

(m) neither the insurer nor its affiliates over which the insurer exercises control or significant influence (excluding the holding company of the insurer) has purchased the instrument;

(n) the insurer has not directly or indirectly funded the purchase of the instrument;

(o) the instrument does not possess features that hinder recapitalization, such as provisions that require the insurer to compensate investors if a new instrument is issued at a lower price during a specified time frame; and

(p) if the instrument is not issued out of an operating entity (being an entity established to conduct business with clients with a view to making a profit in its own right) or any holding company of the insurer (for example, the instrument is issued by a special purpose vehicle), proceeds are immediately available without limitation to an operating entity or the holding company of the insurer, as the case may be, in a form that meets or exceeds all of the other qualifying criteria set out in this Schedule for inclusion in Limited Tier 1 capital.

Schedule 3

[rr. 2 & 10]

Tier 2 Capital

1. Qualifying criteria for capital instrument

A capital instrument qualifies as Tier 2 capital of an applicable insurer only if all of the following criteria are met—

(a) the instrument is issued and fully paid-up in cash where only the amount of net cash proceeds received from the issuance of instruments (that is, the paid-up amount) is to be included as Tier 2 capital;

(b) the instrument is subordinated to policy holders and non-subordinated creditors;

(c) the instrument has an original maturity of at least 5 years with its effective maturity date defined to be the earlier of the following—

(i) the first call date, together with a step-up or other incentive to redeem the instrument; and

(ii) the contractual maturity date fixed in the instrument's terms and conditions;

(d) the instrument's availability to absorb losses as it nears its effective maturity is reflected by either—

(i) decreasing the amount of the instrument qualifying as Tier 2 capital from 100% to 0% on a straight-line basis in the final 5 years prior to maturity (where the instrument is repayable in separate tranches, each tranche must be amortized individually, as if it were a separate instrument); or

(ii) the existence of a lock-in clause, which is a requirement for the insurer to suspend repayment or redemption if it is in breach (or would be in breach in the event of repayment or redemption) of its capital requirements;

(e) subject to paragraph (f), the instrument is only callable at the option of the insurer after at least 5 years from the date of issue (so that the instrument is not retractable by the holder), and the insurer must obtain prior consent from the Authority to exercise a call option;

(f) the instrument may be callable within the first 5 years from the date of issue only at the option of the insurer (so that the instrument is not retractable by the holder), provided that—

(i) the insurer must obtain prior consent from the Authority to exercise a call option; and

(ii) the called instruments must be replaced in full before or at redemption by a new issuance of the same or higher quality;

(g) the insurer must obtain prior consent from the Authority for any repayment of principal (whether through repurchase, redemption or otherwise) of the instrument;

(h) the insurer has not created, and has not done anything to create, an expectation at issuance that the instrument will be bought back, redeemed or cancelled, or that the insurer will exercise any right to call the instrument, or that the repurchase or redemption will receive supervisory approval, and there are no statutory or contractual terms which might reasonably give rise to such an expectation;

(i) the instrument does not have distributions that are tied or linked to the credit quality or financial condition of the insurer or its affiliates, such that those distributions may accelerate winding-up;

(j) the holders of the instrument have no rights to accelerate the payment or repayment of future scheduled payments except in the event of a liquidation of the insurer;

(k) the instrument is neither undermined nor rendered ineffective by encumbrances, and in particular, the instrument is not secured or covered by a guarantee of the insurer or by any of its affiliates, and is not subject to any other arrangement that legally or economically enhances the seniority of the claim;

(l) neither the insurer nor its affiliates over which the insurer exercises control or significant influence (excluding the holding company of the insurer) has purchased the instrument;

(m) the insurer has not directly or indirectly funded the purchase of the instrument; and

(n) if the instrument is not issued out of an operating entity (being an entity established to conduct business with clients with a view to making a profit in its own right) or any holding company of the insurer (for example, the instrument is issued by a special purpose vehicle), proceeds are immediately available without limitation to an operating entity or the holding company of the insurer, as the case may be, in a form that meets or exceeds all of the other qualifying criteria set out in this Schedule for inclusion in Tier 2 capital.

Schedule 4

[rr. 2, 23, 31, 36, 47 & 48 & Sch. 5]

Determination of Risk Free Yield Curves

1. Application

Where these Rules require an applicable insurer to use a risk-free yield curve, the insurer must determine the risk-free yield curve using the methodology stated in section 2 of this Schedule.

2. Three-segment approach for determining risk-free yield curve

(1) An applicable insurer must use the Smith-Wilson extrapolation method and the three-segment approach mentioned in subsection (2) to determine the risk-free yield curve.

(2) For the purposes of subsection (1), the insurer must determine the risk-free yield curve as three segments with—

(a) segment 1 of the yield curve—

(i) commencing at the current point in time and ending at the last liquid point; and

(ii) being determined by—

(A) interpolating between observable market rates of government bonds or swaps, as specified in column 2 of Table 1, of various tenors; and

(B) if a swap rate is used for the determination in sub-subparagraph (A), applying a parallel downward shift to the observable market rates for the swap using the credit risk adjustment in column 4 of Table 1 applicable for the relevant currency specified, up to the last liquid point specified in column 5 of Table 1;

(b) segment 2 of the yield curve—

(i) commencing immediately after the last liquid point specified in column 5 of Table 1 and ending at the convergence point specified in column 6 of Table 1; and

(ii) being determined using the Smith-Wilson extrapolation method, to converge the curve towards the applicable ultimate forward rate specified by the Authority in a notice published in the Gazette; and

(c) segment 3 of the yield curve—

(i) commencing immediately after the convergence point specified in column 6 of Table 1 and continuing after the convergence point; and

(ii) being determined by continuing to converge the curve towards the applicable ultimate forward rate specified by the Authority in a notice published in the Gazette.

(3) In this section, Table 1 refers to the following table—

Table 1

Parameters for Generating the Base Risk-free Yield Curve

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Specified currency	Rate type	Coupon frequency per year	Credit risk adjustment (in basis points)	Last liquid point (in years)	Convergence point (years)
HKD	Swap	4	10	15	60
USD	Zero coupon government bonds	N/A	0	30	60
RMB	Zero coupon government bonds	N/A	0	10	60
THB	Zero coupon government bonds	N/A	0	10	60
GBP	Swap	2	10	50	80
JPY	Zero coupon government bonds	N/A	0	30	60

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Specified currency	Rate type	Coupon frequency per year	Credit risk adjustment (in basis points)	Last liquid point (in years)	Convergence point (years)
TWD	Zero coupon government bonds	N/A	0	10	60
SGD	Zero coupon government bonds	N/A	0	20	60
EUR	Swap	1	10	20	60

(4) For the purpose of this section, the Authority must publish a notice in the Gazette of the reference tickers for the observable market rates of government bonds or swaps as specified in column 2 of Table 1.

Schedule 5

[rr. 2, 24 & 46]

Determination of Matching Adjustment

1. Application

(1) This Schedule applies to an applicable insurer that applies a matching adjustment to adjust the specified risk-free yield curve used to derive the discount rate for its future cash flows in valuing the current estimates of its long term insurance liabilities in an MA portfolio.

(2) An applicable insurer to which this Schedule applies must calculate a matching adjustment in accordance with the following formula with the methodologies set out in sections 3 to 10 of this Schedule—

$$\text{Matching adjustment}_{\substack{\text{each MA}\\\text{portfolio}}} = \text{adjusted spread}_{\substack{\text{each MA}\\\text{portfolio}}} \times \text{application ratio}_{\substack{\text{each MA}\\\text{portfolio}}} +$$

$$\text{weighted constant prescribed spread} \times \text{predictability factor} \times$$

$$\text{Max}\left[\text{Min}\left(20\%, \text{eligible asset percentage} - \frac{\text{asset dollar duration}}{\text{liability dollar duration}}\right), 0\right] +$$

$$\text{qualified LTA}_{\text{each MA portfolio}}$$

where—

adjusted $\text{spread}_{\text{each MA portfolio}}$ is determined in accordance with section 5 of this Schedule;

application ratio$_{\text{each MA portfolio}}$ is determined in accordance with section 6 of this Schedule;

$$\text{weighted constant prescribed spread} \times \text{predictability factor} \times \text{Max}\left[\text{Min}\left(20\%, \text{eligible asset percentage} - \frac{\text{asset dollar duration}}{\text{liability dollar duration}}\right), 0\right]$$

collectively refers to the constant prescribed spread component which is determined in accordance with section 9 of this Schedule; and

qualified LTA$_{\text{each MA portfolio}}$ is determined in accordance with section 10 of this Schedule.

2. Interpretation

In this Schedule—

asset group (資產組別) means a group of eligible assets, organized according to their maturity bucket and credit rating band, and split further by sovereign bonds from other types of eligible assets;

asset spread (資產利差) is the constant spread that makes the price of an eligible asset equal to the present value of its cash flows when added to the specified risk-free yield curve at each point on the spot rate;

duration (存續期), in relation to an eligible asset or insurance liability, is a measure of sensitivity of the value of asset or liability with respect to a change in interest rate and refers to the percentage change in price of the asset or value of the liability for a 100 basis point change in yield;

effective duration (有效存續期), in relation to an insurance liability, means the sensitivity of the liability to a change in discount rates, taking into account expected change in cash flows due to management actions;

invested assets (投資資產) refers to the assets defined under Table 1 of this Schedule, which are held within long term business funds, excluding the assets held for the account balance of Class C, Class G and Class H defined under Part 2 of Schedule 1 to the Ordinance.

3. Classification of assets within an MA portfolio

(1) For the purpose of calculating the matching adjustment for valuing the long term insurance liabilities in a MA portfolio, an applicable insurer must classify the assets in the MA portfolio into eligible assets, non-eligible assets and non-invested assets in accordance with Table 1.

Table 1

Classification of Eligible Assets, Non-eligible Assets and Non-invested Assets for MA Portfolio

Total assets used to support the liabilities that are subject to matching adjustment		
Invested assets		Non-invested assets
Eligible assets	Non-eligible assets	
Column 1	Column 2	Column 3
Sovereign bonds	Equities	Cash and cash equivalents

Total assets used to support the liabilities that are subject to matching adjustment		
Invested assets		Non-invested assets
Eligible assets	Non-eligible assets	
Column 1	Column 2	Column 3
Corporate bonds	Convertible bonds convertible at the option of the issuer or a third party	Assets held for linked long term business
Asset backed securities	Derivatives	Investments in affiliates
Other debt securities	Property	Other balance with affiliates
Loans and advances to financial institutions or corporates	Portfolio investment (other than fixed income component)	Policy loans
Other loans and advances	Investment income receivable from financial assets	Other non-invested assets

Total assets used to support the liabilities that are subject to matching adjustment		
Invested assets		Non-invested assets
Eligible assets	Non-eligible assets	
Column 1	Column 2	Column 3
Assets held for retirement schemes account balances (fixed income component only)	Assets held for retirement schemes account balances (other than fixed income component)	
Portfolio investment (fixed income component only)	Other non-eligible assets	

(2) For purpose of classifying assets in accordance with subsection (1), in relation to any convertible bond it holds, an applicable insurer may classify the bond as a corporate bond (and as an eligible asset in Table 1 of subsection (1)), if, under the terms and conditions of the bond, the bond is convertible at the discretion of the insurer. To avoid doubt, if under its terms and conditions, the bond is convertible at the discretion of the issuer or a third party or is automatically triggered (for example, in the case of contingent convertible bonds), the insurer must treat the convertible bond as equities (and classify it as a non-eligible asset in Table 1 of subsection (1)).

(3) In calculating the matching adjustment for valuing long term insurance liabilities in an MA portfolio, the applicable insurer must exclude assets held by the insurer to cover or support liabilities that are not subject to matching adjustment for purposes of sections 5 to 10 of this Schedule.

4. Treatment of assets in MA portfolio with call options

(1) If the eligible assets within an MA portfolio include any eligible assets with embedded call options, for the purpose of determining the matching adjustment to be applied when valuing the insurance liabilities in the MA portfolio, the insurer must treat such assets in accordance with subsections (2) and (3).

(2) If the call option embedded in the eligible asset is not a make-whole call option, the insurer must project the cash flows for the asset on the assumption that the asset will be redeemed at the first callable date of the option.

(3) If the call option embedded in the eligible asset is a make-whole call option, subject to subsection (4), the insurer must determine the make-whole call spread of the asset and—

(a) if the make-whole call spread is less than or equal to the applicable maximal make-whole call spread stated in column 2 of Table 2 corresponding to the credit rating band in column 1 of Table 2 for the asset, the insurer must recognize the value of such asset and cash flows from such asset in full in determining the matching adjustment; or

(b) if the make-whole call spread exceeds the applicable maximal make-whole call spread stated in column 2 of Table 2 corresponding to the credit rating band in

column 1 of Table 2 for the assets, the insurer must either—

(i) project the cash flows for the asset on the assumption that the asset will be redeemed at the first callable date; or

(ii) only partially recognize the market value of the asset in determining the matching adjustment by multiplying the market value with the ratio of X to Y, where—

(A) X is the amount of valuation date call price determined according to make-whole call spread of individual asset; and

(B) Y is the amount of valuation date call price determined according to maximal make-whole call spread,

and adjust the projected cash flows for the asset based on partial recognition of the market value of the asset (without any adjustment to asset spread and asset duration).

Table 2

Maximal Make-whole Call Spread by Credit Rating Band

Column 1	Column 2
Credit rating band	Maximal make-whole call spread (in basis points)
1	30
2	40
3	60
4 or below	80

(4) If the call option embedded in the eligible asset is a make-whole call option and the insurer cannot identify the make-whole call spread of the asset, the insurer must calculate the matching adjustment based on the projection of cash flows up to the first callable date of the option.

5. Determination of adjusted spread

(1) This section applies to the determination by an applicable insurer of the adjusted spread in the matching adjustment formula in section 1(2) of this Schedule.

(2) For the purpose of determining the adjusted spread mentioned in subsection (1), an applicable insurer must derive the adjusted spread for the eligible assets in the MA portfolio, based on the weighted average of the asset spread (denoted as $spread_i$ below) minus a risk correction (denoted as RC_i below) for the eligible assets, using the following formula—

$$\text{Adjusted spread} = \sum_{\text{eligible assets i}} \omega_i \times \left(spread_i - RC_i\right)$$

where—

ω_i denotes the weight assigned to the eligible assets, based on the credit rating band and the maturity bucket of the eligible assets, where—

(a) the weight is determined by the proportion of the asset group's market value multiplied by the asset duration of the asset group to total eligible assets' market value multiplied by the asset duration of total eligible assets; and

(b) maturity bucket of eligible assets is determined according to the remaining term to maturity of the eligible assets in years, stated in Table 3.

Table 3

Maturity Bucket Grouping

Less than or equal to 5 years
Larger than 5 years less than or equal to 10 years
Larger than 10 years less than or equal to 15 years
Larger than 15 years less than or equal to 20 years
Larger than 20 years less than or equal to 25 years
Larger than 25 years less than or equal to 30 years
Larger than 30 years

$Spread_i$ denotes the asset spread for the eligible assets held by applicable insurer with corresponding credit rating band and the maturity bucket, and to avoid doubt, negative spreads should be included in the calculation and should not be floored at zero; and

RC_i denotes the risk correction to be applied to the asset spread of the eligible assets based on the corresponding credit rating band of the eligible assets, and the risk correction refers to a percentage of the asset spread that represents the average probability of default and cost of downgrade of the

eligible assets for which the adjusted spread is being calculated and is determined in accordance with subsections (3) and (4).

(3) Subject to subsection (4), the risk correction in the formula in subsection (2), is—

(a) zero basis points for eligible assets which are government bonds issued by jurisdictions whose government bonds are used to derive specified risk-free yield curves set out in Table 1 of Schedule 4 and are denominated in that corresponding specified currency; or

(b) in the case of eligible assets other than those mentioned in paragraph (a), determined by applying the relevant percentage to the asset spread for the eligible assets (denoted as $Spread_i$ in the formula in subsection (2)), where the relevant percentage is the percentage in column 2 of Table 4 corresponding to the credit rating band in column 1 of Table 4 for the eligible assets.

Table 4

Risk Correction in Terms of a Percentage of Asset Spread by Credit Rating Band

Column 1	Column 2
Credit rating band	Risk Correction (percentage of asset spread)
1	11%
2	14%
3	20%

Column 1	Column 2
Credit rating band	Risk Correction (percentage of asset spread)
4 or below	22%

(4) For eligible assets in the MA portfolio with a credit rating band of 5 or below, or which are unrated, the weighted average spread for such assets which can be included in the formula in subsection (2) to determine adjusted spread is subject to the following—

(a) the weighted average spread for such assets is capped by the weighted average spread of bonds in the MA portfolio with a credit rating band of 4; or

(b) where there are no such bonds with a credit rating band of 4 in the MA portfolio or the asset spread of such bonds is not available, the weighted average spread for the relevant assets is capped by the weighted average spread of bonds in the MA portfolio with the credit rating band next higher than credit rating band 4 for which an asset spread is available; or

(c) the weighted average spread for such assets is set at zero if there are no bonds in the MA portfolio with a credit rating band of 4 or above.

6. Determination of the application ratio

(1) This section applies to the determination by an applicable insurer of the application ratio in the matching adjustment formula in section 1(2) of this Schedule.

(2) For the purpose of determining the application ratio mentioned in subsection (1), an applicable insurer must multiply a predictability factor (as determined under section 7 of this Schedule) and a duration factor (as determined under section 8 of this Schedule), using the following formula—

Application ratio = predictability factor × duration factor.

7. Determination of predictability factor

(1) The predictability factor is determined as 1 minus the largest accumulated cash flow shortfall percentage, floored at zero, using the following formula—

Predictability factor =

Max (0, 1 – largest accumulated cash flow short fall percentage)

where—

largest accumulated cash flow shortfall percentage is calculated in accordance with subsection (2).

(2) For the purposes of the formula in subsection (1), the largest accumulated cash flow shortfall percentage is the maximum of the largest accumulated cash flow shortfall percentage determined in accordance with subsections (3), (4) and (5) under the following scenarios—

(a) base scenario;

(b) lapse up scenario as described under rule 59; and

(c) mass lapse scenario as described under rule 59.

(3) For the purposes of subsection (2), and subject to subsection (5), to calculate the largest accumulated cash flow shortfall percentage, an applicable insurer must—

(a) project its excess cash balance at the end of each year during the period up to the last liquid point for each scenario in subsection (2), using the following formula for each year of projection—

Excess cash balance at year-end =

excess cash balance at beginning of year + asset cash in flow for the year – liability cash out flow for the year;

(b) if the excess cash balance for any given year calculated under paragraph (a) is negative, regard the absolute value of that negative excess cash balance as an accumulated cash flow shortfall;

(c) calculate the present value of each accumulated cash flow shortfall from paragraph (b) using the relevant specified risk-free yield curve, based on the major currency in which the largest portion of eligible assets is denominated;

(d) take the largest present value of accumulated cash flow shortfall calculated in paragraph (c) as its largest accumulated cash flow shortfall; and

(e) calculate the amount from paragraph (d) as a percentage of the total market value of eligible assets in the MA portfolio.

(4) For the purposes of subsection (3)(a), the last liquid point is determined as the longest last liquid point, based on the currencies in which the applicable insurer's long term insurance liabilities in the MA portfolio subject to matching adjustment are denominated, excluding long term insurance liabilities denominated in any currency which makes up less than 1% of the long term insurance

liabilities in the MA portfolio subject to matching adjustment.

(5) The requirements relating to the cash flows in determining accumulated cash flow shortfall for subsection (3) are that—

(a) annual asset cash flows only include cash flows from the eligible assets, premium received in respect of contracts of insurance, the insurance liabilities of which are subject to matching adjustment, and investment return on excess cash balance, without reflecting any cash flows arising from asset sales and purchases;

(b) cash flows of callable bonds exclude bonds with only make-whole call options, and must be projected assuming the bonds will be redeemed at the first callable date;

(c) cash flows arising from assets used to support liabilities that are not subject to matching adjustment are excluded;

(d) premium cash flows may include contractually fixed premiums, premiums subject to premium holiday feature (with the consideration of premium holiday assumptions), and premiums from adjustable premium products that are highly predictable;

(e) any flexible top-up premiums which are at the discretion of the policy holders are excluded from premium cash flows;

(f) prepaid premiums already included as part of the applicable insurer's assets are excluded from premium cash flows;

(g) asset cash flows include investment returns on the excess cash balance at the risk-free forward rate of the major currency of the eligible assets; and

(h) liability cash flows only include guaranteed liability cash outflow.

(6) In this section—

last liquid point (最終流動點), for the purpose of determining predictability factor, means the last liquid point as specified under column 5 of Table 1 of Schedule 4 if the currency is a currency specified under column 1 of Table 1 of Schedule 4, or 30 years if otherwise;

premium holiday feature (保費假期特點) means a feature of a contract of insurance that allows the policy holder to stop paying premiums for a specific period of time.

8. Determination of duration factor

(1) For the purpose of determining the application ratio using the formula in section 6(2) of this Schedule, the duration factor takes into account the ratio of asset dollar duration of eligible assets in the MA portfolio to liability dollar duration of long term insurance liabilities that are subject to matching adjustment, is capped at the eligible asset percentage and is floored at zero, and the duration factor is calculated by the following formula—

$$\text{Duration factor} = \text{Max}\left[0, \text{Min}\left(\text{eligible asset percentage}, \frac{\text{asset dollar duration}}{\text{liability dollar duration}}\right)\right]$$

where—

asset dollar duration (資產價格存續期) means the weighted average duration for the eligible assets, multiplied by the market value of eligible assets;

eligible asset percentage (合資格資產百分比) means the portion of eligible assets to the total invested assets used to support the long term insurance liabilities that are subject to matching adjustment in a MA portfolio, expressed as a percentage and capped at 100%;

liability dollar duration (負債價格存續期) means the effective duration of the insurance liabilities, multiplied by the current estimate for such liabilities discounted by the specified risk-free yield curves, adjusted by an estimated matching adjustment determined in accordance with subsection (2).

(2) For the purpose of determining the estimated matching adjustment in the definition of ***liability dollar duration*** in subsection (1), an applicable insurer—

(a) may make such determination using any appropriate method, provided that the difference between the estimated matching adjustment and the final matching adjustment is no more than 10 basis points; and

(b) must not directly adopt a current estimate of long term insurance liabilities from reporting periods before the valuation date and must determine its current estimate of long term insurance liabilities in accordance with rule 15 to calculate the final matching adjustment mentioned in paragraph (a).

9. Constant prescribed spread component

(1) This section applies to the determination by an applicable insurer of the constant prescribed spread component in the matching adjustment formula in section 1(2) of this Schedule, in accordance with the following formula—

$$\text{Constant prescribed spread component} = \text{weighted constant prescribed spread} \times \text{predictability factor} \times \text{Max}\left[\text{Min}\left(20\%, \text{eligible asset percentage} - \frac{\text{asset dollar duration}}{\text{liability dollar duration}}\right), 0\right]$$

where—

weighted constant prescribed spread is determined in accordance with subsection (2);

predictability factor is determined in accordance with section 7 of this Schedule; and

eligible asset percentage, asset dollar duration and liability dollar duration are determined in accordance with section 8(1) of this Schedule.

(2) For the purposes of the formula in subsection (1), subject to subsections (3) and (4), the weighted constant prescribed spread is derived by—

(a) identifying the constant prescribed spreads in Table 5 for the eligible assets corresponding to the maturity bucket and the credit rating band of the eligible assets;

Table 5

Constant Prescribed Spreads in Basis Points by Credit Rating Band and Maturity Bucket

Maturity bucket	Credit rating band			
	1	2	3	4 or below
Column 1	Column 2	Column 3	Column 4	Column 5
0–5 Years	20	30	45	60
5–10 Years	35	45	60	70
10–15 Years	40	50	65	80
15–20 Years	50	60	75	90
20–25 Years	50	60	75	90
25–30 Years	50	60	75	90
30+ Years	50	60	75	90

(b) subtracting from the constant prescribed spreads identified in paragraph (a), the risk correction as prescribed under section 5(3) of this Schedule in respect of the eligible assets based on the corresponding credit rating band of the eligible assets; and

(c) calculating the weighted average of the constant prescribed spreads minus the risk correction, based on the weight of the eligible assets represented in each credit rating band and maturity bucket, where the weight is the proportion of the market value of the asset group multiplied by the asset duration of

the asset group to the market value of total eligible assets multiplied by the asset duration of total eligible assets.

(3) Despite the constant prescribed spreads set out in Table 5 of subsection (2), the constant prescribed spread for government bonds issued by jurisdictions whose government bonds are used to derive specified risk-free yield curves set out in Table 1 of Schedule 4 is zero.

(4) If the asset spread calculated in accordance with section 5 of this Schedule is below the weighted constant prescribed spread calculated in accordance with subsection (2), the asset spread calculated in accordance with section 5 of this Schedule will be taken as the weighted constant prescribed spread for the purposes of the formula under subsection (1).

10. Qualified LTA

(1) This section applies to the determination by an applicable insurer of the qualified LTA in the matching adjustment formula in section 1(2) of this Schedule which is the spread above risk-free yield curve recognized for holding equity and property assets in an MA portfolio for MA portfolios that meet the criteria in rule 24(3).

(2) The qualified LTA is determined by the following formula—

$$\text{Qualified LTA}_{\text{each MA portfolio}} = \text{long term adjustment} \times \text{equity and property proportion}_{\text{each MA portfolio}}$$

where—

long term adjustment is prescribed to be 100 basis points; and

equity and property proportion is the proportion of equity and property assets in the matching adjustment portfolio that is the lower of—

(a) the ratio of market value of equity and property assets to total market value of invested assets in the MA portfolio; and

(b) cap on equity and property proportion using the formula below—

$$\text{Cap on equity and property proportion} = \frac{\text{sum of discounted liability cash outflows over 30 years}}{\text{sum of total discounted liability cash outflows for all years}}$$

where an applicable insurer must discount its liability cash outflows by using relevant specified risk-free yield curve, based on the specified currency in which the largest portion of the insurer's insurance liabilities subject to matching adjustment is denominated.

Schedule 6

[r. 2]

Credit Rating Band

1. Interpretation

For this Schedule—

data history (數據歷史) means the number of years for which a credit rating agency has published cumulative default rates data;

specified rating agency (指明評級機構) means a rating agency specified in Table 1 of section 3(1) of this Schedule.

2. Determination of credit rating band required by these Rules

Where an applicable insurer is required by these Rules to determine the credit rating band of an instrument or a party, the insurer must determine the credit rating band for the instrument or party as the case may be, in accordance with this Schedule.

3. Use of credit rating of a specified rating agency

(1) Subject to subsection (2), if a credit rating has been assigned to an instrument or party, as the case may be, by a specified rating agency, an applicable insurer must determine the credit rating band for the instrument or party by mapping the credit rating to the credit rating band in accordance with Table 1.

Table 1

Credit Rating Band Mapping

Credit rating band		Specified rating agency					
		S&P Global Ratings	Moody's Investors Service	Fitch Ratings	A.M. Best Company, Inc.	Japan Credit Rating Agency, Ltd.	Morningstar DBRS
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Long-term rating	1	AAA	Aaa	AAA	aaa	AAA	AAA
	2	AA+ to AA-	Aa	AA	aa	AA	AA
	3	A+ to A-	A	A	a	A	A
	4	BBB+ to BBB-	Baa	BBB	bbb	BBB	BBB
	5	BB+ to BB-	Ba	BB	bb	BB	BB
	6	B+ to B-	B	B	b	B	B
	7	CCC and lower	Caa and lower	CCC and lower	ccc and lower	CCC and lower	CCC and lower

Credit rating band		Specified rating agency						
		S&P Global Ratings	Moody's Investors Service	Fitch Ratings	A.M. Best Company, Inc.	Japan Credit Rating Agency, Ltd.	Morningstar DBRS
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Short-term rating	1	N/A	N/A	N/A	N/A	N/A	N/A
	2	A-1	P-1	F1	AMB-1+	J-1	R-1
	3	A-2	P-2	F2	AMB-1-	J-2	R-2
	4	A-3	P-3	F3	AMB-2 to AMB-3	J-3	R-3
	5	N/A	N/A	N/A	AMB-4	N/A	N/A
	6	B	NP	B	N/A	NJ	R-4
	7	C and lower	N/A	C and lower	N/A	N/A	R-5 and lower

Credit rating band		Specified rating agency						
		S&P Global Ratings	Moody's Investors Service	Fitch Ratings	A.M. Best Company, Inc.	Japan Credit Rating Agency, Ltd.	Morningstar DBRS
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Financial strength rating	1	AAA	Aaa	AAA	N/A	N/A	N/A
	2	AA+ to AA-	Aa	AA	A++ to A+	N/A	N/A
	3	A+ to A-	A	A	A to A-	N/A	N/A
	4	BBB+ to BBB-	Baa	BBB	B++ to B+	N/A	N/A
	5	BB+ to BB-	Ba	BB	B to B-	N/A	N/A
	6	B+ to B-	B	B	C++ to C+	N/A	N/A
	7	CCC and lower	Caa and lower	CCC and lower	C and lower	N/A	N/A

(2) If more than one credit rating has been assigned to an instrument or a party by more than one specified rating agency, an applicable insurer must determine the credit rating band for the instrument or party by mapping the credit ratings assigned to the instrument or party to the credit rating band in accordance with Table 1 of subsection (1) and using the second highest credit rating band.

(3) Subject to subsection (4), if an instrument or a party does not have a credit rating assigned to it by a specified rating agency, but has a credit rating assigned to it by another rating agency which has a data history covering at least the last 7 years, an applicable insurer must determine the credit rating band for the instrument or party by—

(a) determining the most recent average 3-year cumulative default rate based on data published by the rating agency for the instruments or parties with the same credit rating assigned; and

(b) mapping the most recent average 3-year cumulative default rate determined in paragraph (a) to the credit rating band in accordance with Table 2 based on the data history of the rating agency.

Table 2

Mapping of Average 3-year Cumulative Default Rate for Credit Rating Band

Column 1	Column 2	Column 3
Credit rating band	Average 3-year cumulative default rate for rating agency with over 20 years of data history	Average 3-year cumulative default rate for rating agency with 7 to 20 years of data history
1	N/A	N/A
2	$0 \leq CDR \leq 0.15\%$	N/A
3	$0.15\% < CDR \leq 0.35\%$	$0 \leq CDR \leq 0.15\%$
4	$0.35\% < CDR \leq 1.20\%$	$0.15\% < CDR \leq 0.35\%$
5	$1.20\% < CDR \leq 10.00\%$	$0.35\% < CDR \leq 1.20\%$
6	$10.00\% < CDR \leq 25.00\%$	$1.20\% < CDR \leq 10.00\%$
7	$CDR > 25\%$	$CDR > 10\%$

where CDR means average 3-year cumulative default rate.

(4) If an instrument or a party does not have a credit rating assigned to it by a specified rating agency, but has more than one credit rating assigned to it by more than one other rating agency, an applicable insurer must determine the credit rating band for the instrument or party by mapping the credit rating band for each such rating using

the approach in subsection (3) and using the second highest credit rating band identified under Table 2 of subsection (3).

(5) Where these Rules require a credit rating band to be determined for an instrument and subsections (1) to (4) apply for that purpose, an applicable insurer must determine the credit rating band for the instrument by reference to the most relevant credit rating, based on the following order of priority—

(a) the issue credit rating of the instrument; or

(b) if there is no issue credit rating of the instrument, the long-term issuer credit rating of the party that issued the instrument.

(6) Where these Rules require a credit rating band to be determined for a party and subsections (1) to (4) apply for that purpose, an applicable insurer must determine the credit rating band for the party by reference to the most relevant credit rating, based on the following order of priority—

(a) if the party is an insurer, the financial strength rating of the party; or

(b) if the party is not an insurer or does not have a financial strength rating, the long-term issuer credit rating of the party.

4. Internal assessment of credit rating band

(1) If an instrument or a party does not have a credit rating assigned to it by a specified rating agency or by any other rating agency, the insurer, subject to obtaining approval from the Authority in accordance with subsection (4) and no subsequent objection having been made by the Authority in accordance with subsection (6), may use an

internal assessment process to map an exposure to an instrument or a party, as the case may be, to the appropriate credit rating band for the purposes of these Rules.

(2) For the purposes of subsection (1), to obtain an approval under subsection (4), an applicable insurer must make an application to the Authority in accordance with subsection (3) and make payment of a prescribed fee.

(3) An application made under subsection (2) must—

(a) be made in writing;

(b) contain—

(i) the particulars of the internal assessment process specified by the Authority; and

(ii) any other information as may reasonably be required by the Authority to consider the application, having regard to guidelines published under section 133 of the Ordinance; and

(c) be served on the Authority.

(4) On an application made under subsection (2), the Authority may by written notice to the applicable insurer, approve or reject the application and if it approves the application, it may do so subject to such conditions it may impose including in relation, but not limited to—

(a) the period for which the approval is to remain in effect; and

(b) the approach or manner in which the insurer must apply its internal assessment process to map an exposure to an instrument or a party, as the case may be, to the appropriate credit rating band for the purposes of these Rules.

(5) After obtaining an approval from the Authority under subsection (4) and during the period in which the approval remains in effect, an applicable insurer must—

(a) submit to the Authority such information in relation to its use of the internal assessment process as specified by the Authority in a specified form and within the period specified in the specified form, including such information as may reasonably be required by the Authority to monitor the continued effectiveness of the internal assessment process in mapping exposures to the appropriate credit rating band, having regard to guidelines published under section 133 of the Ordinance; and

(b) pay the prescribed fee on submission of information under paragraph (a).

(6) The Authority may, by serving a notice in writing on the applicable insurer, object to the applicable insurer continuing to use an internal assessment process to map its exposure to an instrument or a party, as the case may be, to the appropriate credit rating band for the purposes of these Rules if it appears to the Authority that the internal assessment process is no longer suitable to be adopted by the insurer.

Schedule 7

[rr. 25, 37, 45, 52, 61, 62, 63, 66, 68, 72, 73 & 77]

Correlation Matrix

1. Correlation matrix for margin over current estimate for long term insurance liabilities

Table 1

Correlation Matrix for Mortality, Longevity, Morbidity, Expense and Lapse Risks

Sub-risk i	Sub-risk j				
	Mortality	Longevity	Morbidity	Expense	Lapse
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Mortality	100%	-25%	25%	25%	0%
Longevity	-25%	100%	0%	25%	25%
Morbidity	25%	0%	100%	50%	0%
Expense	25%	25%	50%	100%	50%
Lapse	0%	25%	0%	50%	100%

2. Correlation matrix for prescribed capital amount and risk capital amounts

Table 2

Correlation Matrix for Prescribed Capital Amount

Risk x	Risk y			
	Market	Life insurance	General insurance	Counterparty default and other
Column 1	Column 2	Column 3	Column 4	Column 5
Market	100%	25%	25%	25%
Life insurance	25%	100%	0%	25%
General insurance	25%	0%	100%	25%
Counterparty default and other	25%	25%	25%	100%

Table 3A

Correlation Matrix for Market Risk—Interest Rate Upward

Sub-risk s	Sub-risk t				
	Interest rate	Credit spread	Equity	Property	Currency
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Interest rate	100%	0%	0%	0%	25%
Credit spread	0%	100%	75%	50%	25%
Equity	0%	75%	100%	50%	25%
Property	0%	50%	50%	100%	25%
Currency	25%	25%	25%	25%	100%

Table 3B

Correlation Matrix for Market Risk—Interest Rate Downward

Sub-risk s	Sub-risk t				
	Interest rate	Credit spread	Equity	Property	Currency
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Interest rate	100%	50%	50%	25%	25%

Sub-risk s	Sub-risk t				
	Interest rate	Credit spread	Equity	Property	Currency
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Credit spread	50%	100%	75%	50%	25%
Equity	50%	75%	100%	50%	25%
Property	25%	50%	50%	100%	25%
Currency	25%	25%	25%	25%	100%

Table 4

Correlation Matrix for Life Insurance Risk

Sub-risk m	Sub-risk n					
	Mortality	Longevity	Life CAT	Morbidity	Expense	Lapse
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7
Mortality	100%	-25%	25%	25%	25%	0%
Longevity	-25%	100%	0%	0%	25%	25%
Life CAT	25%	0%	100%	25%	25%	25%
Morbidity	25%	0%	25%	100%	50%	0%
Expense	25%	25%	25%	50%	100%	50%
Lapse	0%	25%	25%	0%	50%	100%

Table 5

Correlation Matrix for General Insurance Risk

Sub-risk u1	Sub-risk v1	
	General insurance (other than mortgage insurance)	Mortgage insurance
Column 1	Column 2	Column 3
General insurance (other than mortgage insurance)	100%	25%
Mortgage insurance	25%	100%

Table 6

Correlation Matrix for General Insurance (other than Mortgage Insurance) Risk

Sub-risk u2	Sub-risk v2	
	Reserve and premium	Catastrophe
Column 1	Column 2	Column 3
Reserve and premium	100%	25%
Catastrophe	25%	100%

Table 7

Correlation Matrix for Reserve and Premium Risk

Sub-risk u3	Sub-risk v3	
	Reserve	Premium
Column 1	Column 2	Column 3
Reserve	100%	50%
Premium	50%	100%

Table 8

Correlation Matrix for Reserve and Premium Risk—General Insurance Lines of Business

General insurance line of business u4	General insurance line of business v4 (%)																					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	100	0	0	0	0	0	0	25	25	25	0	0	0	0	0	50	0	0	0	25	0	0
2	0	100	25	25	25	25	25	25	25	25	25	25	25	25	25	0	50	25	25	25	25	25
3	0	25	100	25	25	25	25	0	0	0	25	25	25	25	25	0	25	50	25	0	25	25
4	0	25	25	100	50	25	25	0	0	0	25	25	25	25	25	0	25	50	25	0	25	25
5	0	25	25	50	100	25	25	0	0	0	25	25	25	25	25	0	25	50	25	0	25	25
6	0	25	25	25	25	100	100	0	0	0	25	25	25	25	25	0	25	25	50	0	25	25
7	0	25	25	25	25	100	100	0	0	0	25	25	25	25	25	0	25	25	50	0	25	25
8	25	25	0	0	0	0	0	100	50	75	50	50	50	25	25	25	25	0	0	50	50	25
9	25	25	0	0	0	0	0	50	100	75	50	50	50	25	25	25	25	0	0	50	50	25
10	25	25	0	0	0	0	0	75	75	100	50	50	50	25	25	25	25	0	0	50	50	25
11	0	25	25	25	25	25	25	50	50	50	100	50	75	50	50	0	25	25	25	50	50	50
12	0	25	25	25	25	25	25	50	50	50	50	100	75	50	50	0	25	25	25	50	50	50
13	0	25	25	25	25	25	25	50	50	50	75	75	100	50	50	0	25	25	25	50	50	50
14	0	25	25	25	25	25	25	25	25	25	50	50	50	100	75	0	25	25	25	25	50	50

General insurance line of business u4	General insurance line of business v4 (%)																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
15	0	25	25	25	25	25	25	25	25	25	50	50	50	75	100	0	25	25	25	25	50	50
16	50	0	0	0	0	0	0	25	25	25	0	0	0	0	0	100	0	0	0	25	0	0
17	0	50	25	25	25	25	25	25	25	25	25	25	25	25	25	0	100	25	25	25	25	25
18	0	25	50	50	50	25	25	0	0	0	25	25	25	25	25	0	25	100	25	0	25	25
19	0	25	25	25	25	50	50	0	0	0	25	25	25	25	25	0	25	25	100	0	25	25
20	25	25	0	0	0	0	0	50	50	50	50	50	50	25	25	25	25	0	0	100	50	25
21	0	25	25	25	25	25	25	50	50	50	50	50	50	50	50	0	25	25	25	50	100	50
22	0	25	25	25	25	25	25	25	25	25	50	50	50	50	50	0	25	25	25	25	50	100

where the general insurance lines of business represent as:

Column 1	Column 2	Column 3
Item	Business	General insurance line of business
1.	Direct and reinsurance	Accident and health
2.	Direct and proportional reinsurance	Motor
3.	Direct and proportional reinsurance	Aviation
4.	Direct and proportional reinsurance	Ships
5.	Direct and proportional reinsurance	Goods in transit
6.	Direct	Property damage
7.	Proportional reinsurance	Property damage
8.	Direct	Employees' compensation—construction
9.	Direct	Employees' compensation—non-construction
10.	Proportional reinsurance	Employees' compensation
11.	Direct	General liability—public liability
12.	Direct	General liability—other liability

Column 1	Column 2	Column 3
Item	Business	General insurance line of business
13.	Proportional reinsurance	General liability
14.	Direct	Pecuniary loss—credit and others
15.	Proportional reinsurance	Pecuniary loss—credit and others
16.	Non-proportional reinsurance	Accident and health
17.	Non-proportional reinsurance	Motor
18.	Non-proportional reinsurance	Marine, aviation, and transport
19.	Non-proportional reinsurance	Property damage
20.	Non-proportional reinsurance	Employees' compensation
21.	Non-proportional reinsurance	General liability
22.	Non-proportional reinsurance	Pecuniary loss—credit and others

Table 9

Correlation Matrix for Catastrophe Risk

Sub-risk u5	Sub-risk v5		
	Natural catastrophe	Man-made non-systemic catastrophe	Man-made systemic catastrophe
Column 1	Column 2	Column 3	Column 4
Natural catastrophe	100%	0%	0%
Man-made non-systemic catastrophe	0%	100%	0%
Man-made systemic catastrophe	0%	0%	100%

Table 10

Correlation Matrix for Net Loss for Windstorm for Natural Catastrophe Risk

Region u6	Region v6				
	Hong Kong	Macau	Mainland China	Taiwan	Others
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Hong Kong	100%	50%	25%	25%	0%
Macau	50%	100%	25%	25%	0%

Region u6	Region v6				
	Hong Kong	Macau	Mainland China	Taiwan	Others
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Mainland China	25%	25%	100%	25%	0%
Taiwan	25%	25%	25%	100%	0%
Others	0%	0%	0%	0%	100%

Table 11

Correlation Matrix for Net Loss for Earthquake for Natural Catastrophe Risk

Region u7	Region v7	
	Hong Kong	Others
Column 1	Column 2	Column 3
Hong Kong	100%	0%
Others	0%	100%

Table 12

Correlation Matrix for Mortgage Insurance Risk

Sub-risk u8	Sub-risk v8	
	Onshore mortgage insurance	Offshore mortgage insurance
Column 1	Column 2	Column 3
Onshore mortgage insurance	100%	75%
Offshore mortgage insurance	75%	100%

Table 13

Correlation Matrix for Onshore Standard Mortgage Insurance

Sub-risk u9	Sub-risk v9	
	Reserve risk	Catastrophe and premium risk
Column 1	Column 2	Column 3
Reserve risk	100%	50%
Catastrophe and premium risk	50%	100%

Table 14

Correlation Matrix for Offshore Mortgage Insurance

Sub-risk u10	Sub-risk v10	
	Reserve and premium risk	Catastrophe risk
Column 1	Column 2	Column 3
Reserve and premium risk	100%	50%
Catastrophe risk	50%	100%

Table 15

Correlation Matrix for Reserve and Premium Risk for Offshore Mortgage Insurance

Sub-risk u11	Sub-risk v11	
	Reserve risk	Premium risk
Column 1	Column 2	Column 3
Reserve risk	100%	50%
Premium risk	50%	100%

Schedule 8

[rr. 49, 58, 63 & 83]

Geographical Region Definitions

Table 1

Developed Market Definitions for Equity Risk

Australia
Austria
Belgium
Canada
Denmark
Finland
France
Germany
Hong Kong
Ireland
Israel
Italy
Japan
Netherlands
New Zealand
Norway
Portugal
Singapore

Spain
Sweden
Switzerland
United Kingdom
United States of America

Table 2

Other Developed Market Definitions for Expense Risk

Australia
Israel
Korea
New Zealand
San Marino
Singapore
Taiwan

Table 3

Risk Region Definitions for Reserve and Premium Risk

Mainland China and Mongolia
Hong Kong, Macau and Taiwan
Japan and Korea
South and South-Eastern Asia
Central and Western Asia
Oceania

Northern Europe
Western Europe
Eastern Europe
Southern Europe
Northern America excluding the United States of America
Caribbean and Central America
Eastern South America
Northern, southern and western South America
North-east United States of America
South-east United States of America
Mid-west United States of America
Western United States of America
Northern Africa
Southern Africa

Schedule 9

[rr. 2 & 13]

Definitions of General Insurance Lines of Business

Column 1 Business	Column 2 General insurance line of business	Column 3 Class under Schedule 1 to the Ordinance	Column 4 Sub-line of business (if any)	Column 5 Definition of sub-line of business (if any)
Direct and proportional reinsurance business	Accident and health	Classes 1 and 2	N/A	N/A
	Motor	Classes 3 and 10	N/A	N/A
	Aviation	Classes 5 and 11	N/A	N/A
	Ships	Classes 6 and 12	N/A	N/A
	Goods in transit	Class 7	N/A	N/A

Column 1	Column 2	Column 3	Column 4	Column 5
Business	General insurance line of business	Class under Schedule 1 to the Ordinance	Sub-line of business (if any)	Definition of sub-line of business (if any)
	Property damage	Classes 4, 8 and 9	Engineering	Including risks of property damage under contractor's all risks insurance, erection all risks insurance, contractors' plant and equipment insurance, machinery breakdown insurance, boiler and pressure vessel explosion insurance, electronic equipment insurance, and other contracts of

Column 1	Column 2	Column 3	Column 4	Column 5
Business	General insurance line of business	Class under Schedule 1 to the Ordinance	Sub-line of business (if any)	Definition of sub-line of business (if any)
				insurance with similar coverage
			Property damage (all others)	Including risks of property damage under sub-lines of business other than engineering
	Employees' compensation	Class 13	Construction	Including liabilities in relation to employees' compensation insurance for construction business (whether on an annual wage or contract value basis)

Column 1	Column 2	Column 3	Column 4	Column 5
Business	General insurance line of business	Class under Schedule 1 to the Ordinance	Sub-line of business (if any)	Definition of sub-line of business (if any)
			Non-construction	Including liabilities in relation to employees' compensation insurance for businesses other than construction
	General liability	Class 13	Public liability	Including legal liability to third parties for bodily injury, death or property damage arising from the insured's negligence
			Other liability	Covering Class 13 business under Schedule 1 to the Ordinance other than

Column 1 Business	Column 2 General insurance line of business	Column 3 Class under Schedule 1 to the Ordinance	Column 4 Sub-line of business (if any)	Column 5 Definition of sub-line of business (if any)
				employees' compensation and public liability insurance, including but not limited to directors and officers liability insurance, professional indemnity insurance, product liability insurance and any general liability insurance
	Pecuniary loss	Classes 14, 15, 16 and 17	Standard mortgage	Covering the risk of losses on mortgage loans arising from default by borrowers

Column 1 Business	Column 2 General insurance line of business	Column 3 Class under Schedule 1 to the Ordinance	Column 4 Sub-line of business (if any)	Column 5 Definition of sub-line of business (if any)
			Reverse mortgage	Covering the risk of losses on reverse mortgage loans
			Credit	Covering Class 14 business under Schedule 1 to the Ordinance
			Pecuniary loss (all others)	Covering the risk of other pecuniary losses not covered by standard mortgage, reverse mortgage and credit businesses

Column 1	Column 2	Column 3	Column 4	Column 5
Business	General insurance line of business	Class under Schedule 1 to the Ordinance	Sub-line of business (if any)	Definition of sub-line of business (if any)
Non-proportional reinsurance business	Accident and health	Classes 1 and 2	N/A	N/A
	Motor	Classes 3 and 10	N/A	N/A
	Marine, aviation and transport	Classes 5, 6, 7, 11 and 12	N/A	N/A
	Property damage	Classes 8 and 9	N/A	N/A
	Employees' compensation	Class 13	N/A	N/A
	General liability	Class 13	N/A	N/A
	Pecuniary loss	Classes 14, 15, 16 and 17	Standard mortgage	Covering the risk of losses on mortgage loans arising from default by borrowers
			Reverse mortgage	Covering the risk of losses on reverse mortgage loans

Column 1 Business	Column 2 General insurance line of business	Column 3 Class under Schedule 1 to the Ordinance	Column 4 Sub-line of business (if any)	Column 5 Definition of sub-line of business (if any)
			Credit	Covering Class 14 business under Schedule 1 to the Ordinance
			Pecuniary loss (all others)	Covering the risk of other pecuniary losses not covered by standard mortgage, reverse mortgage and credit businesses

Schedule 10

[r. 2]

Recognized Multilateral Development Banks or Supranational Organizations

United Nations
International Monetary Fund
International Bank for Reconstruction and Development
International Finance Corporation
Asian Development Bank
African Development Bank
European Bank for Reconstruction and Development
Inter-American Development Bank
European Investment Bank
European Investment Fund
Nordic Investment Bank
Caribbean Development Bank
Islamic Development Bank
Council of Europe Development Bank
International Finance Facility for Immunization
Multilateral Investment Guarantee Agency
International Development Association
Asian Infrastructure Investment Bank

L.N. 62 of 2024
B1131

Stephen YIU Kin-wah
Insurance Authority

29 April 2024

Explanatory Note

These Rules set out technical details for implementation of the new risk-based capital regime for insurers to whom the Rules apply. They cover the valuation of assets and liabilities, the determination of the capital base and capital requirements, and the fund requirements for long term business and general business under section 22 and section 25AAB of the Insurance Ordinance (Cap. 41) (***Ordinance***).

2. These Rules are divided into 7 Parts, to which 10 Schedules are attached.

Part 1—Preliminary (Rules 1 to 4)

3. Rule 1 sets out the date of commencement of these Rules.

4. Rule 2 defines the terms and expressions used in the Rules and specifies their scope of application.

5. Rule 3 provides for that these Rules apply to all authorized insurers except marine insurers, captive insurers, special purpose insurers and Lloyd's.

6. Rule 4 specifies the basis on which these Rules apply to HK insurers, designated insurers and non-HK insurers (other than designated insurers).

Part 2—Capital Adequacy (Rules 5 to 6)

7. Part 2 establishes the capital adequacy requirements for applicable insurers under the risk-based capital regime.

8. Rule 5 requires an applicable insurer to maintain a capital base that is not less than each of the prescribed capital amount, the minimum capital amount and $20,000,000.

9. Rule 6 requires an applicable insurer to notify the Authority immediately if it is at risk of breaching, or has breached, the capital adequacy requirements set out in rule 5.

Part 3—Determination of Capital Base (Rules 7 to 10)

10. Part 3 specifies the composition of and limits on the capital base.

11. Rule 7 classifies the capital base into 3 tiers: Unlimited Tier 1 capital, Limited Tier 1 capital and Tier 2 capital, based on their quality and loss absorbency, and imposes limits on the amount of Limited Tier 1 capital and Tier 2 capital that can be included in the capital base.

12. Rules 8 to 10 set out the capital resources making up Unlimited Tier 1 capital, Limited Tier 1 capital and Tier 2 capital, respectively, with reference to criteria set out in Schedules 1 to 3, and the regulatory adjustments that need to be made to the capital components based on the principle of quality of capital.

Part 4—Valuation of Assets and Liabilities (Rules 11 to 36)

13. Part 4 prescribes the valuation basis of assets and liabilities for purposes under the Ordinance.

14. Division 1 (rules 11) provides for that assets and liabilities should, in general, be recognized and derecognized in accordance with generally accepted accounting principles.

15. Subdivision 1 of Division 2 (rules 12 to 14) covers the valuation of insurance liabilities, and sets out criteria for recognizing and derecognizing liabilities and the requirement to unbundle a contract of insurance into its component parts for the purpose of valuing the insurance liabilities arising under the contract. It also specifies the principles for determining the boundary of such insurance liabilities for valuation purposes.

16. Subdivision 2 of Division 2 (rules 15 to 26) sets out the method for valuing long term insurance liabilities, which includes calculating the current estimate for such liabilities, and adding a margin over current estimate. Rules 17 to 21 specify the principles for projecting future cash flows used to calculate the current estimate of long term insurance liabilities, under which future discretionary benefits, the time value of contractual options and financial guarantees, expected policy holder behaviour and future management actions must be taken into account. Rules 23 and 24, together with Schedules 4 and 5, specify how future cash flows are discounted using a specified risk-free yield curve, which may then be adjusted by a matching adjustment to obtain the valuation of long term insurance liabilities. Rules 22 and 26 set out the valuation method for funds on deposit and prepaid premiums respectively.

17. Subdivision 3 of Division 2 (rules 27 to 32) sets out the method for valuing general insurance liabilities, which includes calculating the current estimate for such liabilities and adding a margin over current estimate. Rule 30 requires general insurance liabilities to be valued separately for outstanding claims liabilities and premium liabilities. Rule 31, together with Schedule 4, provides for the projection of future cash flows and their discounting using a specified risk-free yield curve to obtain the valuation of general insurance liabilities.

18. Subdivision 4 of Division 2 (rule 33) sets out the method for valuing reinsurance recoverables of an applicable insurer arising from contracts of reinsurance.

19. Division 3 (rules 34 to 36) prescribes the method for valuing assets, deferred tax assets and liabilities, and contingent liabilities.

Part 5—Determination of Prescribed Capital Amount (Rules 37 to 86)

20. Part 5 prescribes the determination of the prescribed capital amount. It adopts a modular approach that captures risks from the following sources: market risk, life insurance risk, general insurance risk, counterparty default and other risk, and operational risk.

21. Division 1 (rules 37 to 44) specifies that the prescribed capital amount is determined by aggregating the risk capital amounts for the relevant risk modules, taking any diversification benefits into account. It also further specifies that in determining the prescribed capital amount, an applicable insurer: must apply a look-through approach on the underlying risk under rules 38 and 39; must apply the valuation basis of contractual options and guarantees under rule 40; may recognize insurance or financial risk mitigation effects from eligible arrangements under rule 41 or 42 respectively; may reflect the loss absorbing capacity of future discretionary benefits in relation to long term business, subject to a cap, under rule 43; and may reflect the loss absorbing capacity of deferred tax under rule 44.

22. Division 2 (rules 45 to 51) prescribes the principles and methods for calculating the risk capital amount for market risk, which is determined by aggregating the risk capital amounts for interest rate risk, credit spread risk, equity risk, property risk,

and currency risk, taking any diversification benefits into account. Rule 46 also specifies that matching adjustment must be recalculated under interest rate, credit spread and equity risks.

23. Division 3 (rules 52 to 59) prescribes the principles and methods for calculating the risk capital amount for life insurance risk, which is determined by aggregating the risk capital amounts for mortality risk, longevity risk, life catastrophe risk, morbidity risk, expense risk, and lapse risk, taking any diversification benefits into account. Rule 53 also specifies that when determining the risk capital amounts for sub-risks of life insurance risk, an applicable insurer must group its insurance liabilities with exposure to life insurance risk into homogeneous risk groups.

24. Division 4 (rules 60 to 80) prescribes the principles and methods for calculating the risk capital amount for general insurance risk, which is determined by aggregating the risk capital amounts for reserve and premium risk for general business other than mortgage insurance, catastrophe risk for general business other than mortgage insurance, and mortgage insurance risk, taking any diversification benefits into account.

25. Division 5 (rules 81 to 85) prescribes the principles and methods for calculating the risk capital amount for counterparty default and other risk.

26. Division 6 (rule 86) prescribes the principles and methods for calculating the risk capital amount for operational risk.

Part 6—Fund Requirements (Rule 87)

27. Part 6 prescribes, for the purposes of the fund requirements pursuant to section 22 and section 25AAB of the Ordinance (which require an applicable insurer to maintain separate accounts and funds for different parts of its insurance business), the method for determining the allocated minimum capital amount (in addition to liabilities) to be maintained in each fund.

Part 7—Transitional Arrangement (Rule 88)

28. Part 7 sets out the transitional arrangement for the risk capital amount for market risk during the transitional period. It allows an applicable insurer to apply a reduced risk capital amount for market risk, subject to the approval of and any conditions imposed by the Authority.

Schedules

29. Schedules 1 to 10 provide further details and guidance for the application of the Rules.

30. Schedules 1 to 3 set out the criteria for classification as Unlimited Tier 1 capital, Limited Tier 1 capital and Tier 2 capital, respectively.

31. Schedule 4 prescribes the methodology for determining the risk-free yield curve for discounting purposes.

32. Schedule 5 prescribes the methodology for determining the matching adjustment used by an applicable insurer to adjust the risk-free yield curve it uses to discount its future cash flows in valuing the current estimates of its long term insurance liabilities.

33. Schedule 6 prescribes the method for determining the credit rating band of an instrument or a party.

34. Schedule 7 sets out the correlation matrices used to calculate the margin over current estimate of long term insurance liabilities, the prescribed capital amount and risk capital amounts.

35. Schedule 8 sets out the geographical region definitions for the purpose of calculating relevant risk capital amounts for equity risk, expense risk and reserve and premium risk.

36. Schedule 9 sets out the definitions for general insurance lines of business.

37. Schedule 10 sets out the list of recognized multilateral development banks or supranational organizations.