BERMUDA MONETARY AUTHORITY

THE BERMUDA CAPITAL AND SOLVENCY RETURN

2024 (INTERIM) INSTRUCTION HANDBOOK
FOR CLASS E, CLASS D & CLASS C INSURERS

TABLE OF CONTENTS

A. OVERVIEW

A1. INTRODUCTION TO THE CAPITAL AND SOLVENCY RETURN

Introduction

A1.1 The capital and solvency return is an annual return relating to an insurer's risk management practices and information used by an insurer to calculate its Enhanced Capital Requirement (ECR) and Target Capital Level (TCL) as prescribed by Prudential Standard Rules (Rules) made under section 6A of the Insurance Act 1978 (Act). Every Class 4, Class 3B, Class 3A, Class E, Class D and Class C insurer, and Insurance Group shall submit to the Bermuda Monetary Authority (Authority or BMA) a completed capital and solvency return on or before its filing date. The most recent version of the capital and solvency return is available on the BMA website.

A1.2 The capital and solvency model is used to calculate an insurer's ECR, an additional capital and surplus requirement imposed by Rules made under section 6A of the Act. The ECR of an insurer shall be calculated at the end of its relevant year by the higher of the Bermuda Solvency Capital Requirement (BSCR) model and an approved internal capital model, provided that the ECR amount is equal to or exceeds the Minimum Solvency Margin (MSM). The TCL of an insurer is calculated as 120% of the ECR and although not a capital requirement per se, insurers are expected to hold eligible capital resources to cover it; failure to do so will result in additional reporting requirements and enhanced monitoring, and in the submission of a remediation plan to restore capital above the TCL.

A1.3 The BSCR model calculates a risk-based capital measure by applying capital factors to capital and solvency return elements, including investments and other assets, operational risk, and Long-Term insurance risks, in order to establish an overall measure of capital and surplus for statutory solvency purposes. The capital factor established for each risk element, when applied to that element, produces a required capital and surplus amount. The individual capital amounts generated for each risk element (excluding operational risk) are then summed. Covariance adjustments are made to arrive at the BSCR (after covariance adjustment), which is further adjusted to include insurer-specific operational risk and capital add-ons, as assessed by the BMA, to finally produce the BSCR of an insurer.

A1.4 An insurer's available statutory capital and surplus divided by the BSCR gives the BSCR ratio. An insurer's available statutory capital and surplus divided by the ECR gives the ECR ratio. The BSCR and ECR ratios will assist the BMA to evaluate the financial strength of an insurer.

A1.5 The BSCR, ECR and TCL establish solvency capital levels that are used by the BMA to monitor the capital adequacy of Class 4, Class 3B, Class 3A, Class E, Class D and Class C insurers and Insurance Groups.

A1.6 When completing the BSCR model, the insurer should be advised of the following:

	Requirement	**Unconsolidated**	**Consolidated**	**EBS**
1	Information Sheet	X		
2	Long-term AML Questionnaire (for direct writers)	X		
3	Sanctions Questionnaire (for all insurers)	X		
4	Financial Condition Report (with EBS valuations where applicable)		X	
5	Form 1SFS, 2SFS and 8SFS (based on the insurer's GAAP** statements less the prudential filters and reported both on an unconsolidated and consolidated basis)	X	X	
6	Notes to Form 1SFS	X		
7	Form 4EBS (following the Prudential Standard Rules and the principles found in the Guidance Note – For Statutory Reporting)			X
8	Schedules II, IIA, IVB, V, VI, VII, VIII, VIIIA, XVIII, XIX, XX and XXI	X		X
9	Governance and Group Structure (Schedule V(a)). *(note questions 7-13 pertain to the insurance group that the insurer belongs to	X*		
10	Intra-Group Transactions (Schedule V(c))	X		
11	Stress Scenarios (Schedule V(e))		X	
12	LT Modified Coinsurance Arrangements (Schedule V(f))		X	
13	Deposit Assets & Liabilities (Schedule V(k))	X		
14	Segregated Accounts (Schedule V(L))	X		
15	Alternative Capital (Schedule V(m))	X		
16	CISSA (Schedule IX); **(note capital charges on an EBS basis)		X	X**
17	Eligible Capital (Schedule XII)			X
18	Schedule of Regulated Non-Insurance Financial Entities (Schedule XVI)		X	
19	Schedule of Solvency (Schedule XVII)		X	
20	Schedules IIB, IIC, IID, IIE, IIF, XXA, XXIA, XXIII (For the 2024 year-end, insurers are required to complete both the 2018 year-end methodology and the 2019 year-end methodology, which is included in the latest			X

	release of the BSCR model. Guidance related to completing these schedules is indicated in green text throughout this document (and is highlighted in yellow tabs in the BSCR model). For insurers wishing to complete the 2019 year-end methodology only, insurers are to apply for permission via email request to RiskAnalytics@bma.bm.)			
21	Schedules VIIA, VIIB (For the 2024 year-end, insurers are required to complete both the 2019 year-end methodology and the 2024 year-end methodology, which is included in the latest release of the BSCR model. Guidance related to completing these schedules are indicated in green text throughout this document (and are highlighted in yellow tabs in the BSCR model). For insurers wishing to complete the 2024 year-end methodology only, insurers are to apply for permission via email request to RiskAnalytics@bma.bm.)			X

*EBS – Economic Balance Sheet

**GAAP – Generally Accepted Accounting Principles

Purpose

A1.7 This document presents clear instructions for persons responsible for computing the required capital and surplus and for submitting the completed capital and solvency return, including the BSCR model, to the BMA.

A1.8 The capital and solvency return contains diverse risk elements of an insurer's operation and will likely require the participation of experienced individuals within the accounting, finance, and actuarial areas of the insurer. In order to ensure accurate completion, insurers are highly advised to refer to this instruction handbook.

Overview

A1.9 Forms 1SFS, 2SFS and 8SFS and are published in the Insurance Accounts Rules 2016. The filing guidance relating to Form 4EBS (refer to Schedule XIV for format and guidance) and Schedules II, IIA, IVB, V, V(a), V(c), V(e), V(f), V(g), V(k), V(l), VI, VII, VIII, VIII(a), IX, XII, XVI, XVII, XVIII, XIX, XX, XXI and operational risk is published in the Prudential Standard Rules. The electronic copy of Forms 1SFS, 2SFS, 8SFS and Form 4EBS, and Schedules II, IIA, IVB, V, V((a), V(c), V(e), V(f), V(g), V(k), V(l), VI, VII, VIIA, VIIB, VIII, VIII(a), IX, XII, XVI, XVII, XVIII, XIX, XX, XXI, and operational risk are included in the capital and solvency return and have been appropriately linked to the BSCR model, where applicable

A1.10 Also included is an appendix containing a glossary of terms that is meant to clarify the meaning of any terms used within the capital and solvency return, as well as to provide guidance on reconciling totals.

Changes to the BSCR Formula

A1.11 Periodically, changes to the BSCR formula may be necessary due to changes in the capital and solvency return, accounting requirements, and enhancements to the formula or to the capital factors. Any such changes will be communicated to insurers in a timely fashion, in order to allow adequate time for insurers to collect any additional information that may be required.

Work Papers and Supporting Documents

A1.12 Work papers and documents used to prepare the BSCR submission should be retained and kept available for examination and discussion with the BMA, should the need arise.

Contact Person for Questions

A1.13 Questions pertaining to the content or meaning of any of the items in this report should be addressed to riskanalytics@bma.bm.

A2. SUBMISSION

Background

A2.1 For the 2019 year-end and beyond, insurers may file only an **electronic version** if they submit via the ‘**submit’** macro embedded in the BSCR model. Otherwise, **both** an **electronic version** and **printed version** of the capital and solvency return is required to be forwarded to the BMA on or before its specified filing date. Insurers are advised to refer to the BSCR E-Filing Manual, available on the BMA website, for guidance on electronic filing. Insurers are also advised not to alter or modify the capital and solvency return or any part thereof.

Items

A2.2 Input Data — Input data in each form and schedule, applicable.

A2.3 Submit — Submit the capital and solvency return by clicking the ‘SUBMIT’ button.

Additional Guidance

A2.i. If the insurer is having difficulty submitting the capital and solvency return following the above instructions, it is recommended to review the BSCR E-Filing Manual found on the Authority’s website: www.bma.bm > Document Center > Reporting Forms and Guidelines > Insurance

A2.ii. If there are still issues with the submission, send an email to riskanalytics@bma.bm with the capital and solvency return attached. If the capital and solvency return is too large to send via email (limited to 15MB), the Authority will advise a course of action.

A3. CONTENTS

A3.1 The Contents tab replaces the Index tab. The Contents tab has validation checks to various Forms/Schedules in the model as well as hyperlinks to each of the tabs in the model.

A3.2 Insurers should review validation checks prior to submission and acknowledge any errors by selecting 'Confirm Message' as applicable. A comment to explain the validation check is to be included on the Submission tab.

A4. IMPORT

A4.1 The Import tab includes links to each of the input cells in the model.

A4.2 Users of the BSCR model can either enter data via the Import tab or can manually enter data throughout the model.

A4.3 Note that cells highlighted in blue are drop-down cells. White highlighted cells are numerical/text entry fields.

A5. EXPORT

A5.1 The Export tab includes links to each of the data cells in the model.

A5.2 This function is useful if there is a need to re-enter data from an existing model to a new model. A user would use the data stored in the Export tab and copy to the Import tab.

A6. ATTACHMENTS

A6.1 Insurers can attach any necessary files through the Attachments tab, up to ten files for each category provided. When an attachment is provided, the insurer is to include the Schedule and/or item the attachment references in the comment field. Note once attached, the file is embedded in the capital and solvency return and sent to the BMA when the model is transmitted using the 'Submit' macro found in the Submission tab. The BSCR E-Filing Manual provides guidance on how to attach, view and remove files.

Additional Guidance

Attachments for Financial Statements, Declaration of Compliance and Financial Condition Report Reduced to one attachment

A6.i. Sections 1-3 for General Purpose Financial Statements, Declaration of Compliance and Financial Condition Report have been reduced from ten rows to one row. Further the Authority would like to advise of the following:

a) General Purpose Financial Statements – registrants are expected to attach their audit report, financial statements and notes to the financial statements in one document;
b) Declaration of Compliance – registrants are to include the signed document as required under section 15A of the Act. (Capital and Solvency Return Declaration is to be included in the 'Other Attachments' section); and
c) Financial Condition Report –registrants should include this as required under section 3 of the Insurance (Public Disclosure) Rules 2015. Any additional document for this requirement is to be included in the 'Other Attachments' section.

A7. INSURER INFORMATION

Items

A7.1 Insurer Name — Input the name of the insurer, as it appears on the Certificate of Registration.

A7.2 Date Incorporated or Organised — Input the date that the insurer was licensed by the BMA to conduct business in Bermuda.

A7.3 Date Commenced Business — Input the date that the insurer began writing business as a licensed Bermuda company.

A7.4 Registration No. — Input the corresponding Long-Term business registration number of the insurer, as it appears on the Certificate of Registration.

A7.5 Contact Person Information — Input the insurer's contact person who will be the main conduit through which the BMA will make and respond to enquiries about the BSCR and related information. Note that this person does not have to be the insurer's principal representative.

A7.6 No Subsidiaries/Subsidiaries – if an insurer has no entities to consolidate, they can select the "No Subsidiaries" button and the model will be adjusted to Unconsolidated BSCR model. If an insurer wishes to revert back to the original model, then they can select the "Subsidiaries" button.

A8. CAPITAL AND SOLVENCY RETURN DECLARATION

A8.1 The capital and solvency return declaration should be signed and dated by two directors and the insurer's principal representative. The signed declaration is to be included in the attachments section of the BSCR model.

A8.2 Revoked.

B. ADDITIONAL SUPPORTING SCHEDULE

B1. INTRODUCTION

B1.1 Included in the capital and solvency return is the Insurer Information Sheet which is to be completed in its entirety. Nevertheless, the Financial Condition Report is not included in the model and this handbook provides guidance on the requirements that are to be included in the submitted report.

B2. INSURER INFORMATION SHEET

Background

B2.1 To provide the Authority with details of the insurer's organisational structure and details to review the statutory statements, the Insurer Information Sheet is a redesign of the former Cover Sheet and Solvency Declaration that has been amended to provide greater clarity, avoid duplication, and provide more useful information to better assess the insurer.

Items

a. Company Information

Line Item		Description
a	Name of Insurer	Row (1) The name of the insurer shall automatically populate based on the name entered in the Information Sheet tab.
b	Certificate of Registration Number	Row (2) The Certificate of Registration Number shall automatically populate based on the number entered in the Information Sheet tab.
c	Class of Registration	Row (3) The Class of Registration shall automatically populate based on the class entered in the Information Sheet tab.
d	Statements Availability	Row (4) The confirmation of the Statutory Financial Statements availability at the insurer's registered office is to be selected from the drop-down menu.
e	Filing Period	Row (5) The Filing Period Start Date is to be manually entered and the Period End Date shall automatically populate based on the date entered in the Information Sheet tab.
f	Currency Used	Row (6) The Currency used in the Statutory Financial Statements shall automatically populate based on the currency type entered in the Form 1SFS tab.

Line Item		Description
g	Exchange Rate	Row (7) What multiplier exchange rate / translation rate is applicable in converting the reporting currency to United States Dollars (USD)/Bermuda Dollar (BMD). Additional Guidance i) Note for insurers that report in currencies other than the BMD or USD, that the exchange rate to report is the rate to convert the figures to BMD/USD. For insurers reporting in BMD or USD, enter 1.000. For example, if an insurer reported in Canadian Dollars (CAD) with an exchange rate of CAD to BMD of 0.7657 and BMD to CAD of 1.3060, the exchange rate to report in paragraph (g) would be 0.7657
h	Ultimate Parent	Row (8) The insurer's Ultimate Parent is to be entered. In instances where an insurer is part of an insurance group that is owned by a conglomerate, it is the head company in the insurance group that is being requested.
i	Insurer's Parent Company	Row (9) The insurer's Parent Company is to be entered. Parent Company refers to the direct parent of the insurer.
j	Industry Sector of the Insurer's Parent	Row (10) The Industry Sector of the Insurer's Parent is to be entered. If the insurer's parents are in multiple industries, provide the industry of the parent that has the largest ownership.
k	Insurer's Ownership Structure	Row (11) The Insurer's Ownership Structure is to be selected from the drop-down menu.
l	Insurer's Company Structure	Row (12) The Insurer's Company Structure is to be selected from the drop-down menu.
m	General Questions	Row (13) Select from the drop-down menu regarding the following questions: (i) Is the insurer a member of a group of companies? A member of an insurance group is defined as: "a group that conducts insurance business."
m	General Questions	(ii) Does the insurer have segregated accounts? Segregated accounts is defined as: "a separate and distinct account (comprising or including entries recording data, assets, rights, contributions, liabilities and obligations linked to such account) of a segregated accounts company pertaining to an identified or identifiable pool of assets and liabilities of such segregated accounts company which are segregated or distinguished from other assets and liabilities of the segregated accounts;"

Line Item		Description
m	General Questions	(iii) Is the insurer in run-off? Run-off is defined as: “When an insurer that has ceased underwriting new risks and is not offering renewals to existing customers. For Long-Term insurers the definition will be the same but the characteristic will differ as insurers may still receive further premiums over multiple years and policy benefits and values may be variable”
m	General Questions	(iv) Whether the general purpose financial statements of the insurer for the relevant year have been audited and an unqualified opinion issued? General Purpose financial statements is referred to as “additional GAAP financial statements” prepared in accordance with 17A(2) of the Act; Additional Guidance The Authority would like to advise that in relation to paragraph (m)(iv) a qualified opinion would not include qualifications for reporting its financial statements as condensed general purpose financial statements.
m	General Questions	(v) Whether the minimum solvency margin was met? MSM is set in accordance with Paragraph 11 of the Insurance Account Rules 2016 (IAR).

b. Certificate of Registration Conditions

Line Item		Description
n 1	Certificate of Registration Effective Date	Row (1) The Certificate of Registration Effective Date shall automatically populate based on the date entered in the Information Sheet tab.
n 2	Certificate of Registration General Conditions	Row (2) The Certificate of Registration General Conditions are to be entered based on the conditions stipulated on the Certificate of Registration. This includes the start date, end date and condition description.
n 3	Certificate of Registration Approved Conditions	Row (3) The Certificate of Registration Approved Conditions are to be entered based on the conditions stipulated on approved certificate of registration. This includes the start date, end date and condition description.
o	Confirmation of Condition Compliance	Row (4) The Confirmation of Compliance with the Conditions on Certificate of Registration is to be selected from the drop-down menu.

c. Regulatory Approvals

Line Item		Description
p 1	Regulatory Approvals	Row (1) The Regulatory Approvals are to include conditions, directions and restrictions imposed on, or approvals granted to the insurer. This includes the start date, end date and condition description.

d. Confirmation of Corrective Action

Line Item		Description
q 1	Confirmation of Corrective Action	Row (1) If the insurer has answered negative to points (m) (v) or (o), the insurer is to state the reason for negative answer and describe whether or not the insurer has taken corrective action in any case and, where the insurer has taken such action, describe the action in a statement attached

B3. FINANCIAL CONDITION REPORT

Background

B3.1 To assist with Bermuda being a jurisdiction committed to the principles of transparency to policyholders, beneficiaries and counterparties, the BMA has required Insurance Groups, Class 4, Class 3B, Class 3A, Class C, Class D and Class E insurers to submit a Financial Condition Report with details of inter alia; measures governing the business operations, corporate governance framework, solvency and financial performance of a commercial insurer.

B3.2 The Financial Condition Report is an opportunity for an insurer to describe its business to the public in relation to the Insurer's business model, whereby the public may make an informed assessment on whether the business is run in a prudent manner. The presentation of the Financial Condition Report is not templated by the BMA. Insurers are expected to prepare the Financial Condition Report in accordance with the requirements per the Insurance (Public Disclosure) Rules 2015.

B3.3 A copy of the Financial Condition Report shall be published on the insurer's website within 14 days of the date the report was filed with the BMA. If an insurer does not have a website, the insurer is to provide the public a copy of a Financial Condition Report within ten days of receipt of a request made in writing.

Items

a. <u>Business and Performance - particulars regarding the organisational structure, insurance business activities and financial performance</u>

Line Item	Description
a	Name of the insurer;
b	Name and contact details of the insurance supervisor and group supervisor;
c	Name and contact details of the approved auditor;
d	A description of the ownership details including proportion of ownership interest;
e	Where the insurer is part of a group, a group structure chart showing where the insurer fits within the group structure;
f	Insurance business written by business segment and geographical region during the reporting period;
g	Performance of investments by asset class and details on material income and expenses incurred during the reporting period and

Line Item	Description
h	Any other material information.

b. Governance Structure - particulars of corporate governance, risk management and solvency self-assessment frameworks

Line Item	Description
a	Board and Senior Executive: i. A description of the structure of the board of directors (board) and senior executive, the roles, responsibilities and segregation of these responsibilities
a	ii. A description of remuneration policy and practices and performance-based criteria governing the board, senior executive and employee;
a	iii. A description of the supplementary pension or early retirement schemes for members, the board and senior executive
a	iv. Any material transactions with shareholder controllers, persons who exercise significant influence, the board or senior executive
b	Fitness and Propriety Requirements: i. A description of the fit and proper process in assessing the board and senior executive
b	ii. A description of the professional qualifications, skills, and expertise of the Board and senior executives to carry out their functions
c	Risk Management and Solvency Self-Assessment: i. A description of the risk management process and procedures to effectively identify, measure, manage and report on risk exposures
c	ii. A description of how the risk management and solvency self-assessment systems are implemented and integrated into the insurer’s operations; including strategic planning and organisational and decision-making process
c	iii. A description of the relationship between the solvency self-assessment, solvency needs, and capital and risk management systems
c	iv. A description of the solvency self-assessment approval process including the level of oversight and independent verification by the board and senior executives
d	Internal Controls: i. A description of the internal control system
d	ii. A description of how the compliance function is executed
e	Internal Audit - A description of how the internal audit function is implemented and how it maintains its independence and objectivity when conducting its functions
f	Actuarial Function – A description of how the actuarial function is implemented

Line Item	Description
g	Outsourcing: i. A description of the outsourcing policy and information on any key or important functions that have been outsourced
g	ii. A description of material intra-group outsourcing
h	Any other material information

c. Risk Profile - particulars on exposures on underwriting risk and market risk including off balance sheet exposures, credit risk, liquidity risk, operational risk and other material risks

Line Item	Description
a	Material risks that the insurer is exposed to, including how these risks are measured and any material changes that have occurred during the reporting period
b	How risks are mitigated including the methods used and the process to monitor the effectiveness of these methods
c	Material risk concentrations
d	How assets are invested in accordance with the prudent person principle as stated in Paragraph 5.1.2 of the Insurance Code of Conduct
e	The stress testing and sensitivity analysis to assess material risks, including the methods and assumptions used, and the outcomes
f	Any other material information

d. Solvency Valuation - particulars of the valuation basis, methods and assumptions on the inputs used to determine solvency

Line Item	Description
a	The valuation basis, assumptions and methods used to derive the value of each asset class
b	The valuation basis, assumptions and methods used to derive the value of technical provisions and the amount of the best estimate. The amount of the risk margin as well as the level of uncertainty to determine the value of the technical provisions should be included
c	A description of recoverables from reinsurance contracts, including Special Purpose Insurers (SPI) and other risk transfer mechanisms
d	The valuation basis, assumptions and methods used to derive the value of other liabilities

Line Item	Description
e	Any other material information

e. Capital Management- particulars regarding an assessment of capital needs and regulatory capital requirements

Line Item	Description
a	Eligible Capital: i. A description of the capital management policy and process to determine capital needs for business planning, how capital is managed and any material changes during the reporting period
a	ii. A description of the eligible capital categorised by tiers in accordance with the Eligible Capital Rules
a	iii. A description of the eligible capital categorised by tiers, in accordance with the Eligible Capital Rules used to meet the ECR and the MMS defined in accordance with section (1) (1) of the Act
a	iv. Confirmation that eligible capital is subject to transitional arrangements as required under the Eligible Capital Rules
a	v. Identification of any factors affecting encumbrances availability and transferability of capital to meet the ECR
a	vi. Identification of ancillary capital instruments that have been approved by the Authority
a	vii. Identification of differences in shareholder's equity as stated in the financial statements versus available statutory capital and surplus
b	Regulatory Capital Requirements: i. Identification of the amount of the ECR and MMS at the end of the reporting period
b	ii. Identification of any non-compliance with the MMS and the ECR
b	iii. A description of the amount and circumstances surrounding the non-compliance, the remedial measures taken and their effectiveness
b	iv. Where the non-compliance has not been resolved, a description of the amount of the non-compliance at the end of the reporting period
c	Approved Internal Capital Model Used to Derive the ECR: i. a description of the purpose and scope of the business and risk areas where the internal model is used
c	ii. Where a partial internal model is used, a description of how it is integrated with the BSCR model
c	iii. A description of methods used in the internal model to calculate the ECR
c	iv. A description of aggregation methodologies and diversification effects

Line Item	Description
c	v. A description of the main differences in the methods and assumptions used for the risk areas in the internal model versus the BSCR model
c	vi. A description of the nature and suitability of the data used in the internal model
c	vii. Any other material information

f. Significant Event – particulars and explanations of a significant event

Line Item	Description
a	A description of the significant event
b	Approximate date(s) or proposed timing of the significant event
c	Confirmation of how the significant event has impacted or will impact, any information provided in the most recent financial condition report filed with the Authority
d	Any other material information.

Additional Guidance

Item (i)(g) Business and Performance – investment performance and material income and expenses

B3.i. For item (i)(g) Business and Performance, the insurer shall provide details of the investment performance for the reporting period only. Material income and expenses shall be for the reporting period only and include all activities of the insurer (underwriting, investment, etc.).

Identification of regulatory capital requirements for Dual licence holders

B3.ii. If the insurer holds two commercial licences (Class 4, 3B, 3A, E, D or C), the ECR and MSM may be identified on a combined basis. If one of the licences is limited purpose insurer (Class 1, 2, 3, A, B or SPI), the insurer shall identify the regulatory capital requirements for the licences separately and include the explanation that the MSM for limited purpose insurer is added to the commercial ECR.

B4. ASSETS QUALIFYING FOR RISK MITIGATING PURPOSES

Background

B4.1 In order to promote good risk management and increase risk sensitivity, the scope of risk mitigation in the BSCR is extended by allowing insurers to explicitly take into account their hedging programmes within market risk calculations, subject to certain rules and restrictions.

B4.2 Credit for risk mitigating effect in the BSCR calculations is only allowed if the risk mitigation techniques fulfil a set of criteria set out in the next section.

Instructions

B4.3 The calculation of the ECR will allow for the effects of risk mitigation techniques through a reduction in requirements commensurate with the extent of risk mitigation notwithstanding the provisions set in this section.

B4.4 The ECR calculation for market risk is made on the basis of the assets and liabilities existing at the reference date of the ECR calculation and through the use of scenario and factor-based approaches; this design setting excludes by definition allowance for the full effect of dynamic hedging programmes which can only be applied appropriately in a context where capital charges are being stochastically calculated.

B4.5 Internal capital models are allowed to be used in the context of the BSCR standard formula for the calculation of the variable annuity guarantees capital charge which, despite being part of the long term insurance risk module, is predominantly market risk driven; concomitantly in these cases insurers may take into full account the effect of their dynamic hedging programmes as long as they comply with the provisions set in paragraphs B4.6 and B4.9 below. In all other cases, the risk mitigating effect of dynamic hedging programmes will be subject to the provisions set in paragraphs B4.6–B4.8 and thus taken into account in a limited manner.

B4.6 When calculating the ECR, insurers shall only take into account risk-mitigation where all of the following qualitative criteria are met:

a) The contractual arrangements and transfer of risk are legally effective and enforceable in all relevant jurisdictions and there must be an effective transfer of risk to a third party;
b) The contractual arrangement ensures that the risk transfer is clearly defined;
c) The insurer has taken all appropriate steps to ensure the effectiveness of the arrangement and to address the risks related to that arrangement;
d) The insurer is able to monitor the effectiveness of the arrangement and the related risks on an ongoing basis;

e) The calculation of the ECR makes reasonable allowance for any basis risk effects due to changes in risk mitigation assumptions and relationships during a stress scenario and there is appropriate treatment of any corresponding risks embedded in the use of risk mitigation techniques (e.g. credit risk). These two effects should be separated;
f) Providers of risk mitigation should have adequate credit quality (demonstrable through either adequate rating, capitalisation or collateralisation levels) to guarantee with appropriate certainty that the insurer will receive the protection in the cases specified by the contracting parties;
g) The insurer has, in the event of a default, insolvency or bankruptcy of a counterparty or other credit event set out in the transaction documentation for the arrangement, a direct claim on that counterparty; and
h) There is no double counting of risk-mitigation effects in technical provisions and in the calculation of the ECR or within the calculation of the ECR.

B4.7 Only risk-mitigation techniques that are in force for at least the next 12 months and which meet the qualitative criteria set out in paragraph B4.6 shall be fully taken into account in the ECR. In all other cases, the effect of risk-mitigation techniques that are in force for a period shorter than 12 months and which meet the qualitative criteria set out in paragraph B4.6 shall be taken into account in the ECR in proportion to the length of time involved for the shorter of the full term of the risk exposure or the period that the risk-mitigation technique is in force.

B4.8 Where contractual arrangements governing the risk-mitigation techniques will be in force for a period shorter than the next 12 months and the insurer intends to replace that risk-mitigation technique at the time of its expiry with a similar arrangement, the risk-mitigation technique shall be fully taken into account in the ECR provided all of the following qualitative criteria are met:

a) The insurer has a written policy on the replacement of that risk-mitigation technique;
b) The replacement of the risk-mitigation technique shall not take place more often than every month, except in duly justified circumstances which require prior approval from the Authority;
c) The replacement of the risk-mitigation technique is not conditional on any future event, which is outside of the control of the insurer. Where the replacement of the risk-mitigation technique is conditional on any future event, that is within the control of the insurer, then the conditions should be clearly documented in the written policy referred to in point (a);
d) The replacement of the risk-mitigation technique shall be realistic based on replacements undertaken previously by the insurer and consistent with its current business practice and business strategy;
e) The risk that the risk-mitigation technique cannot be replaced due to an absence of liquidity in the market is not material under different market conditions and

there is no material basis or operational risks compared to the risk mitigation effect;

f) The risk that the cost of replacing the risk-mitigation technique increases during the following 12 months is reflected in the ECR by deducting it from the value attributed to the risk-mitigation technique;
g) Any additional risk stemming from the risk mitigation arrangement (e.g. credit risk) is taken into account in the ECR; and
h) The hedge effectiveness and any related risks are monitored on an ongoing basis.

B4.9 In the cases of insurers using internal capital models in the context of the BSCR standard formula for the calculation of the variable annuity guarantees capital charge, where portfolio rebalancing is being performed, the risk-mitigation effect shall be fully taken into account in the ECR provided all of the following qualitative criteria are met:

a) The insurer has a written policy on portfolio rebalancing;
b) The portfolio rebalancing shall be realistic based on actions undertaken previously by the insurer and consistent with its current business practice and business strategy;
c) The risk that the portfolio rebalancing cannot be performed due to an absence of liquidity in the market is not material under different market conditions;
d) The risk that the cost of the portfolio rebalancing increases during the following 12 months is reflected in the ECR;
e) Any additional risk stemming from the portfolio rebalancing (e.g. credit risk) is taken into account in the ECR; and
f) The hedge effectiveness and any related risks are monitored on an ongoing basis.

B5. MANAGEMENT ACTIONS

Background

B5.1 With the introduction of new shock-based capital charge calculations for certain risks in the BSCR standard formula, the use of management actions will be allowed under certain conditions (as set out in the next section).

B5.2 Management actions are relevant for products where profits are shared with policyholders, for example participating or 'with-profits' products. This means that management actions, in the sense used here, are mainly relevant for long-term insurers only.

B5.3 For BSCR purposes, allowable management actions will be confined to actions reducing or increasing liabilities for Future bonuses or other Discretionary Benefits (FDB).

a) These include changes to profit sharing/bonuses/policyholder dividends/credited rates, but can also include actions such as changes in investment policy (e.g., the equity backing ratio) affecting FDB.

B5.4 Given that the effect of management actions is considered separately for each risk in the modular BSCR standard formula, there is a risk of double counting the credit for management actions when the individual capital charges are aggregated (through the correlation matrices). For this reason, a cap on the overall credit must be included.

B5.5 The natural cap for the credit for management actions is the total amount of (best-estimate liabilities held for) future discretionary benefits.

a) The most an insurer can do to reduce its discretionary liabilities is to reduce the profit sharing – policyholder dividends, credited rate – to zero (in all future scenarios), which corresponds to FDB going to zero.

Instructions

B5.6 Management actions are confined to actions reducing or increasing liabilities for future bonuses or other discretionary benefits.

B5.7 Management actions must comply with all the requirements of paragraph 196 of the Guidance Notes for Commercial Insurers and Groups Statutory Reporting Regime (30th November 2016).

B5.8 Given the modular structure of the BSCR standard formula, management actions are to be considered in each applicable risk calculation separately.

B5.9 Management actions can be reflected in the shock-based components of the BSCR standard formula and in the variable annuity guarantees capital charges (when an internal capital model is used). Management actions shall not be taken into account in the factor-based components of the BSCR standard formula. The exception the duration-based approach to interest rate risk, where management actions may be taken into account in calculating effective durations for liabilities.

B5.10 The shock-based components of the BSCR standard formula are based on the impact of instantaneous stresses (equity risk, interest rate and liquidity risk calculated under the alternative approach, and currency risk), and insurers shall not take credit for future management actions at the time the stress occurs (i.e. during the stress), due to the instantaneous nature of the stresses. Nevertheless, future management actions may be taken into account after the instantaneous shocks as a response to the shocks.

B5.11 If management actions are used, the insurer needs to ensure that the effects of specific management actions are not effectively counted multiple times when the different scenario components are aggregated into the total capital requirement.

Loss-absorbing Capacity of Future Bonuses and Other Discretionary Benefits

B5.12 To prevent double-counting, the capital requirement for each risk should be calculated both gross and net of the loss-absorbing capacity of technical provisions. Therefore, the applicable capital charges will be calculated with (net of) and without (gross of) management actions. This will allow calculating the capital requirement with management actions (net BSCR) and without management actions (gross BSCR), by aggregating the respective (net, gross) component capital requirements using the applicable correlation matrices.

B5.13 The *gross* capital requirement for each applicable risk is obtained as the decrease in the Net Asset Value (NAV) as a result of the shock, where the change in liabilities is calculated by comparing the after-shock gross best estimate liabilities to the base case best estimate liabilities. The gross capital requirement cannot be less than zero.

B5.14 The *net* capital requirement for each applicable risk is obtained as the decrease in the NAV as a result of the shock, where the change in liabilities is calculated by comparing the after-shock net best estimate liabilities to the base case best estimate liabilities. The net capital requirement cannot be less than zero.

B5.15 The *gross* BSCR (post diversification) ($BSCR^{div}$) is calculated by aggregating the gross capital requirements using the relevant correlation matrices.

B5.16 The *net* BSCR (post diversification) ($nBSCR^{div}$) is calculated by aggregating the net capital requirements using the relevant correlation matrices.

B5.17 The adjustment to the ECR for the loss-absorbing capacity of technical provisions is then

$$Adj_{TP} = -\max\left(\min\left(BSCR^{div} - nBSCR^{div}, FDB\right), 0\right)$$

Where FDB is the net present value of future bonuses or other discretionary benefits corresponding to the best estimate calculation. The FDB amount is used as a cap on the overall credit allowed for in the capital requirement calculation.

B5.18 The gross capital requirements per risk shall be calculated by keeping the future discretionary benefits unchanged at the best estimate (base scenario) level.

B5.19 The net capital requirements per risk shall be calculated by allowing the future discretionary benefits to change as a result of a shock.

B5.20 For those risks which are calculated using a factor-based approach, the net BSCR is defined to be equal to the gross BSCR (except for the duration-based approach to interest rate risk, if the durations are calculated by taking management actions into account).

B5.21 The procedure as described above requires calculating the relevant capital charges twice: with and without management actions. Typically, this would mean that the insurer needs to run two model runs per relevant capital charge. Nevertheless, as this may. in some cases, significantly increase the workload and/or the time needed to produce the required numbers, a simplified way to calculate the 'gross' charges, as described below, may be used. This approach requires only one set of model runs (base scenario + 'net' runs).

a) Obtain the value of guaranteed[1] benefits and future discretionary benefits, separately, in the base scenario[2].
b) Calculate guaranteed benefits and future discretionary benefits, with management actions, in each applicable shock. This gives the net best estimate liabilities in the shock scenarios.
c) To derive the gross best estimate liabilities needed for the gross capital requirement calculations, add future discretionary benefits from the base scenario to the guaranteed benefits from the shock scenarios to obtain gross best estimate liabilities in the shock scenarios.

[1] "Guaranteed" benefits here refers to those contractual benefits that the insurer does not have the ability to change at its discretion. In particular, it is taken to mean all benefits other than future discretionary benefits.
[2] Where "baseline" level of management actions is assumed in calculating the best estimate liability for future discretionary benefits.

Additional Guidance

B5.i. Regarding the restriction of management actions to those actions affecting liabilities for future discretionary benefits, it is noted that premium increases[3] or expense reductions are out of the scope of allowed management actions.

B5.ii. With regards to paragraph B5.8, it is noted that management actions may be taken immediately after the (instantaneous) stress has happened (subject to reflecting in the modelling realistic time required to implement any management action). The stresses are assumed to happen ‘overnight’, and management actions can be taken immediately on ‘day 1’ afterwards.

B5.iii. Both increases and decreases in future discretionary benefits as a result of shocks should be modelled. In particular, the liability for future discretionary benefits may increase as a result of certain shocks: For example, in the interest rate up shock the effect of higher future (reinvestment) rates may exceed any negative time-0 effect on the values of fixed-income assets, leading to more profit sharing.

<u>Guidance – BSCR Model</u>

B5.iv. Where applicable, the risk charges per module in the BSCR model are calculated both with and without management actions. This concerns principally those market risks that are calculated using shocks.

B5.v. The Schedules feeding the relevant risk calculations contain input fields for entering after shock values for best estimate liabilities both with and without management actions.

B5.vi. If no management actions are assumed, or if management actions do not affect a particular line, the ‘with’ value should be set equal to the ‘without’ value (where the latter is to be always calculated).

B5.vii. The effect of management actions on the ECR is calculated by comparing the ‘Gross BSCR’ to the ‘Net BSCR’, where the former is derived by aggregating individual risk charges without management actions, and the latter is derived by aggregating individual risk charges with management actions (using the

[3] The overall significance of premium increases is, in any case, mitigated by the fact that if the insurer has the possibility to change premium at a certain point, then in most cases the cash flows after the said point will fall outside of the contract boundaries. Hence premium increases would only be relevant where the insurer does have an ability to change the premiums, but only in a very limited way.

relevant correlation matrices). This is completed on the Summary tab of the BSCR model.

B5.viii. Nevertheless, to avoid double- counting the same management actions in multiple separate risk modules, a cap on the overall credit for management actions needs to be imposed. The cap is equal to the initial reserve for FDB, which needs to be entered in cell N132 on the Summary tab.

B5.ix. The overall adjustment for management actions, subject to the cap, is then automatically calculated in cell N133 of the Summary tab, and gets deducted from the final BSCR (in cell N76).

B6. LOOK-THROUGH

Background

B6.1 Previously look-through was allowed in the BSCR in concentration risk calculation. To more properly assess the risks of fund-type investments and similar assets (and liabilities) the look-through approach is extended to market risk calculated under a shock approach (equity, interest rate and currency risks). This means looking through funds to the underlying investments, and considering each of the underlying assets individually in appropriate risk calculation(s).

B6.2 A full look-through of underlying assets should be used as a default option. If this is not achievable, then a number of partial look-through options are to be considered. As set out in the next section, these options form the following ladder:

a) Full look-through;
b) Partial look-through based on target asset allocation;
c) Partial look-through based on investment limits; and
d) No look-through – capital charge for other equities/other assets used.

Instructions

B6.3 In order to properly assess the risks inherent in collective investment vehicles, other investments packaged as funds, and other types of assets and liabilities (as defined below), each of the assets underlying them shall be considered individually (the look-through approach) in the BSCR calculation.

B6.4 The scope of the look-through covers the following:

a) Collective investment vehicles and other investments packaged as funds, including related undertakings used as investment vehicles;
b) Segregated accounts assets and liabilities;
c) Deposit assets and liabilities;
d) Other sundry assets and liabilities; and
e) Derivatives.

B6.5 The look-through approach applies to market risk calculated under a shock approach (equity, interest rate and currency risks) and concentration risk calculations. It also applies to fund-type investments (as defined in B6.4a) within other risk calculations; for example, bond funds in fixed-income risk calculation.

a) Look-through will be allowed for equity exposures classified as 'strategic holdings' or 'duration based' with underlying individual assets getting the 20% (strategic holdings, duration based) equity charge each.

B6.6 The look-through is to be based on the current underlying assets as of the BSCR valuation date (typically year-end). The valuation of assets and liabilities subject to application of the look through must be consistent with the EBS rules.

B6.7 Where the full look-through approach cannot be applied to collective investment vehicles or other investments packaged as funds, the capital requirement may be calculated based on the target underlying asset allocation of the vehicle or fund, provided that such a target allocation is available at a level of granularity necessary for the calculation, and the underlying assets are managed strictly according to the target allocation.

B6.8 Where conditions of paragraph B6.7 are not fulfilled (i.e., a target allocation does not exist, or it cannot be determined and the assets are managed strictly according to the target allocation), the capital requirement may be calculated by assuming that the vehicle or fund first invests to the maximum extent allowed under its investment limits in the asset class with the highest capital charge. It can then continue to make investments in descending order until the maximum total investment level is reached. This approach requires that such allocation limits exist.

B6.9 Where no look-through is possible and neither the target-based approach of paragraph B6.7 nor the limit-based approach of paragraph B6.8 can be applied, the whole investment shall be treated as an equity holding of type 'Other' for capital charge purposes.

B6.10 Insurers should perform a sufficient number of iterations of the look-through approach, where appropriate (e.g., in the case of fund of funds), to capture all material risk adequately.

Additional Guidance

B6.i. To illustrate the application of the limit-based approach of paragraph B6.8, consider the following hypothetical example: For a combination fund having allocation limits of 50-80% to equity and 20-50% to investment grade fixed income, with equity sub-limits of 50-100% to European Economic Area (EEA) equities and 0-50% to Eastern European (non-EEA) equities, the overall allocation would be considered to be 40% to non-EEA equities, 40% to EEA equities, and 20% to fixed income with rating BBB- to produce the most conservative capital charge consistent with the limits.

B6.ii. Exactly as is for directly held investments, instruments resulting from look-through may need to be considered in several risk calculations if the instruments' price is exposed to several sources of risk. For example, convertible bonds are typically exposed to interest rate, credit (spread) and equity risk, and would typically need to be included under all three risk calculations (i.e., interest rate, fixed income, and equity).

B6.iii. As set out in B6.4, related undertakings used as investment vehicles must be looked through and the assets underlying them must be considered individually. In particular, there is no economic difference in the risk of positions held directly on the balance sheet versus holding the same assets in a separate investment company instead. Therefore, the treatment and resulting capital charges should be the same in both cases.

B6.iv. In the case of long-short funds or leveraged funds, shocks (capital charges) cannot simply be applied to the NAV of the fund; instead, the increased exposure caused by leverage must be taken into account.

a) In the case of leveraged funds, where the leverage is implemented (e.g., by borrowing (instead of short sales)), the capital charge/shock needs to be effectively applied to the gross exposure (the capital charge/shock needs to be grossed up for leverage); and

b) In the case of long-short funds, only short positions that qualify as risk-mitigating under the BSCR rules can be ‘netted’ against long positions (as described below). Consider the two extremes (i.e., all shorts qualifying versus none qualifying). If none of the short positions qualify as risk mitigating, only the long positions are shocked (and the short positions ignored); whereas if all of the short positions qualify as risk mitigating, both the long and the short positions are shocked (separately) and the resulting changes in values summed, so that the short positions provide an offset to the longs. In the former case, the gross long exposure is considered, while in the latter case the calculation is effectively on a net basis (however, the longs and shorts are shocked separately and then added, instead of shocking the net position). If part of the short positions qualify (and part do not), then only the qualifying short positions are shocked and, therefore, provide some offset to the longs, in addition to shocking all of the long positions.

Guidance – BSCR Model

B6.v. When filling in Schedules feeding various risk calculations, the line items and the associated market values entered should already be after look-through. That is, the look-through of investments (necessarily) needs to be done outside the BSCR model, and the resulting numbers entered in the Schedules.

B6.vi. If investments are looked-through, the amounts shown in different risk calculations do not match the balance sheet classifications anymore.

a) As a simple example, consider a mixed mutual fund with a market value of $100, consisting of 60% equities and 40% corporate bonds. Assume it is originally classified under equity in the balance sheet (line 2.(c)iii.) and is the only investment. After the look-through, $40 would be entered in Schedule IIB (EBS) under corporate bonds and $60 under listed equity securities in developed markets. This means that the balance sheet shows equity investments of $100, but in the equity risk calculation the amount of equities is only $60, corresponding to the true exposure after the look-through. Similarly, the balance sheet does not show fixed income exposure, but the fixed income risk calculation has bonds worth $40 resulting from the look-through.

B6.vii. An 'Investment Reconciliation' tab is included in the BSCR model to do a reconciliation between the balance sheet (Form 4EBS) amounts and the amounts in Schedules IIB-IIF feeding the risk calculations on the one hand; and reconciliation between Schedules IIB-IIF and the risk calculations (equity, interest rate risk) on the other hand.

B6.viii. To illustrate the investment reconciliation tab, consider the example of paragraph B6.vi.

a) The opening balance on line 1 of the schedule (line 10 in the spreadsheet) would show the values from the balance sheet: $0 in interest-rate sensitive investments (cell G10), and $100 in equity sensitive investments (cell H10).
b) The adjustments for look-through could be done in either of two ways:
    a) Entering the net adjustment directly. This would involve subtracting exposure of $40 from equity (i.e., entering -$40 to cell H13) and adding the $40 to bonds (i.e., entering $40 to cell G12).
    b) Entering full amounts. Under this alternative, first indicate under which category the investment being looked-through was classified in the balance sheet. In the case of the example, the whole $100 fund investment was under equity in the balance sheet; hence $100 would be entered in cell F13 (balance sheet amounts reported under equities). Nevertheless, after looking through, the actual equity exposure was only $60; this amount would be entered into cell H13. The remaining $40, corresponding to bonds, would be entered into cell G12. Entering the original balance sheet amounts under columns E and F makes the reconciliation formula remove these amounts from the opening exposure, and then add the actual values resulting from the look-through back. In this example, the $100 reported originally under equity in balance sheet is first removed from equity. Then only the actual equity exposure resulting from look-through ($60) is added back to equity.
c) In either case, the final balances on line 18 of the schedule (line 27 of the spreadsheet) will show $40 of interest-rate sensitive investments (in column G) and $60 of equity-sensitive investments (in column H). These should match the amounts reported in Schedule IIB in the Schedule's fixed income and equity parts.

B7. DEFERRED TAXES AND LOSS-ABSORBING CAPACITY OF DEFERRED TAXES

Deferred Taxes

Background

B7.1 Deferred taxes on the Economic Balance Sheet (EBS) arise due to differences between the value assigned to an asset or a liability for tax purposes, and the corresponding value of that asset or liability under the EBS valuation principles, where the differences are temporary in nature and are expected to be reversed.

B7.2 Under EBS, assets and liabilities are valued on an economic, fair value basis. As the economic balance sheet already recognises unrealised gains (losses), the corresponding tax liability (tax credit) should also be recognised, where such unrealised gains/losses are not recognised on the local tax basis thus creating a difference. This leads to recognition of Deferred Tax Liabilities (DTL) and Deferred Tax Assets (DTA). While DTL shall be recognised for all temporary taxable differences, recognition of DTA is subject to further conditions. Please refer to the Guidance Note for Statutory Reporting Regime for details on the recognition of deferred taxes, on both statutory and EBS balance sheets.

B7.3 Note that, in practice, the starting point for the determination of deferred taxes on the EBS basis are the deferred taxes on the relevant GAAP basis. Further adjustments are then applied when moving from the GAAP basis to the EBS basis.

- One typical example is the adjustment arising from the difference between the reserves booked for insurance liabilities (technical provisions) on GAAP basis versus EBS basis: If the move from GAAP to EBS leads to a decrease in reserves, (additional) DTL is recognised on EBS basis for the unrealised taxable gains. If the move leads to an increase in reserves, (additional) DTA may be established on EBS basis assuming it can be supported.

Instructions

B7.4 The Bermuda Corporate Income Tax Act, which was enacted into law in December 2023, introduces a 15% Corporate Income Tax (CIT) on Bermuda businesses that are part of multinational enterprise groups with annual revenue of EUR 750 million or more. The effective date for the CIT is 1 January 2025, except for certain provisions for which the commencement date is 1 January 2024. Accounting standards require the effects of changes in tax laws or rates to be recognised in the period in which the law is enacted, regardless of the effective date of the tax. Additionally, the accounting treatment of the effects of the CIT Act may result in the recognition of deferred tax assets or liabilities by in-scope Bermuda Constituent Entities.

B7.5 While the Authority assesses how insurers and insurance groups are implementing the CIT Act and the implications of this, if any, on the insurers' or insurance groups' Capital and Solvency Return (specifically, in their Statutory Financial Statements, Economic Balance Sheet and solvency position) and Quarterly Financial Return, the Authority directs as follows:

B7.6 Insurers and insurance groups who <u>*are*</u> *in scope of, or are expecting to be in scope of, the CIT Act:*

1. Should reflect the impact of the CIT Act in their GAAP financial statements in accordance with the accounting standards under which the statements are prepared; and
2. Shall not reflect the impact of the CIT Act in their Capital and Solvency Return (specifically, in their Statutory Financial Statements, Economic Balance Sheet and solvency position) and Quarterly Financial Return until the Authority has completed its assessment and under the terms to be directed by the Authority. The Authority expects to complete its assessment before the CIT Act becomes effective and envisages to complete its engagement with stakeholders and to issue guidelines on these matters (if needed) within a timeline that will be compatible with the CIT Act coming into effect.

For the avoidance of doubt, the above direction does not apply to any other taxes (e.g., US Federal income taxes) reflected in the Capital and Solvency Return.

<u>Loss-Absorbing Capacity of Deferred Taxes</u>

Background

B7.7 The ECR is intended to represent a severe loss scenario. In a loss scenario, tax-paying companies would be able to consider the impact on current and future taxes when determining the overall impact of the scenario. For example, losses generated in the current year may be utilised by carrying back to prior years and recouping taxes paid, or may be utilised through the ability to offset existing income deferred for tax purposes (i.e., existing Deferred Tax Liabilities (DTL)), or may be carried forward and utilised against future taxable profits as provided for under the applicable tax laws for the specific jurisdiction. To the extent available, this tax benefit arising in a loss scenario may be considered in the context of the capital requirements calculation.

B7.8 Upon the occurrence of a shock that produces a loss, a tax-paying company would be able to first recoup prior year taxes paid (carryback) or reduce future tax in the form of lowering existing DTLs or establishing a DTA (carryforward). For DTA (i.e., future deductions recognised today), additional scrutiny is necessary and the tax-paying company must demonstrate its ability to recognise these future deductions through the ability to produce future taxable income.

B7.9 The Loss-Absorbing Capacity (LAC) of deferred taxes is based on the potential tax benefit in a loss scenario equivalent to the ECR, and is determined by an insurer's ability to demonstrate that enough future profits or DTLs will be available to utilise the DTA.

B7.10 For BSCR purposes, a simplified approach to adjusting the ECR for taxes that partly reflects company-specific parameters is used. These parameters limit the amount of the adjustment based on each company's past, current and future tax situation as detailed below.

Instructions

General – Default Calculation and Related Assumptions

B7.11 The following simplified approach is used to determine the Loss-Absorbing Capacity of Deferred Taxes for BSCR purposes:

LACDT = min (BSCR x t, Limit, BSCR x 20%)

Where:

- 'BSCR' is the BSCR post correlation and including operational risk and loss-absorbing capacity of technical provisions, but excluding this adjustment for LAC DT;
- 't' is the applicable tax rate;
- 'Limit' = Max (Past LAC + Current LAC + Future LAC, 0).

B7.12 The components are as follows:

a) Past LAC = Loss Carryback Provision x t

Past LAC reflects that insurers may be able to recoup tax losses via a Loss Carryback provision (where such provision exists in the tax law of the relevant jurisdiction), which represents the company's taxable income from previous years used to offset current year losses. The Carryback period varies by jurisdiction.

b) Current LAC = Current DTL – Current DTA

An insurer's current tax loss absorbency is represented by its net DTL position, i.e., current DTL less current DTA. A net DTL position means that the company owes tax to its Tax Authority. The amount owed (DTL) can be reduced by the tax deductibility arising from net losses under a shock scenario. A net DTA position means that the insurer already has accumulated tax deductions on its books. This reduces the ability to utilise additional tax deductions arising from net losses upon a shock.

c) Future LAC = Risk Margin x t

Risk Margin is currently used as a proxy for an insurer's future income, and therefore its ability to absorb future tax losses. The risk margin is the discounted cost of holding future capital requirements and represents to some extent the cost of doing business for in-force business. In general it is reasonable to assume that future profitability will have to cover this amount and, under this assumption, the risk margin may serve as a conservative proxy for an insurer's future income.

General – Operating/paying taxes in multiple jurisdictions

B7.13 Where, for an entity or group operating in more than one jurisdiction, the default calculation based on consolidated balance sheet overstates the BSCR tax benefit (for example due to tax assets and tax liabilities related to different Tax Authorities not being offsetable), the insurers are expected to reach out to the Authority for the required adjustments to the BSCR calculation. Where the calculation based on the consolidated balance sheet may underestimate the BSCR tax benefit, insurers may reach out to the Authority.

General – Applicability of Default Calculation and the Underlying Assumptions

B7.14 Where the simplified default calculation is not fully appropriate for the insurer or the underlying assumptions (as described in the section above) are not met, this should be documented. Where this leads to an overstatement of the tax benefit, and the overstatement is material, the insurer should reach out to the Authority for the required adjustments to the BSCR calculation.

a) An example could be the automatic reflection of the tax benefit through the default 'Future LAC' component in a case where the insurer expects not to have future taxable profits greater than or equal to the Risk Margin, or where the actual historical results over a number of years show losses, at variance with management's assumptions about future profitability.

B8. APPROVAL OF AFFILIATED ASSETS

Background

B8.1 All assets with economic counterparty credit risk exposure to an affiliate, related party or connected party of the insurer (collectively, 'affiliate(s)') will require prior approval by the Authority. This applies to long-term insurers and long-term insurance groups regardless of whether the insurer is using the scenario-based approach or not.

Instructions

B8.2 The term 'assets' referred to in paragraph 33(1) in the Rules includes all investments and financial instruments (including any derivatives transactions with affiliates). This includes assets held in modified coinsurance accounts on the balance sheet of ceding companies. The BMA expects it would be a high bar for insurers or insurance group to demonstrate that investments with economic counterparty exposure to affiliated, related, or connected party are appropriate for covering policyholder liabilities (technical provisions).

B8.3 The requirement for approval applies where the actual underlying credit exposure is to affiliate(s), related or connected party. Approval is not required where assets are originated by an affiliated/connected/related party but with no credit exposure to an affiliated/connected/related party. The risks that arise from use of affiliated/connected/related parties to originate assets, including but not limited to conflict of interest (and other governance risks) between policyholders and the asset manager, should be thoroughly assessed as part of the insurer's risk and solvency self-assessment.

B8.4 The following requirements should be met and included in the application to the Authority:

1. Summarise the general internal policies and processes on investment governance and risk management and how these were applied to the assets;
2. Outline the investment process in as transparent a manner as possible, i.e., from initial idea to decision: how the discussion to invest in the assets started and the steps that followed, including who was involved and at what stage of the process;
3. Identify the key individuals and committees involved in the making of the investment decisions. This should include individuals both within and outside the insurer who may, directly or indirectly, have influenced the investment decisions. An assessment should be made whether any of the named individuals may be perceived to have exercised undue influence in the decision-making;

4. Outline any objections raised (and by whom) as part of the investment decision process and how these were addressed/satisfied/settled;

5. Identify potential sources of conflict of interest and how these have been mitigated. This should be both at a general level considering the nature of the relationship existing between the involved parties and specific to the context of the investments concerned;

6. Demonstrate the investments were made on an arms-length basis;

7. Demonstrate how such investments are in the best interest of policyholders. This includes demonstrating how investing in non-affiliated/non-connected assets would have potentially not been in the best interest of policyholders in this case;

8. Provide evidence demonstrating that conflicts of interest that arise following investment in an affiliated asset shall be resolved in the best interest of policyholders;

9. Explain the process and impact of ceasing to invest in the affiliated investment;

10. Identify how the other involved affiliated/connected/related parties benefitted from such investment and an assessment of why such benefit was and continues to be considered appropriate;

11. An assessment of the exit options available and their triggers including under stressed conditions;

12. Provide details of the assets – market values, yields, spreads, term, etc. The authority will provide a template for this purpose;

13. Provide the documentation that was produced as part of making the investment decisions;

14. Describe how the assets were valued both initially and on an ongoing basis. This should include the monitoring and reporting in place for such assets;

15. Describe any internal and third-party assessments carried out both as part of deciding to invest in the said assets and as part of ongoing risk management and monitoring; and

16. For completeness, provide a summary of affiliated/connected/related party investments that were initially proposed but were not executed. The focus should be on the reasons why the insurer did not proceed with the investments.

B9. DEFINITIONS

B9.1 **Developed markets** - are defined as regulated markets in countries that are members of the Organisation for Economic Co-operation and Development (OECD) or the European Economic Area (EEA), or in Hong Kong or Singapore.

B9.2 **Duration-based equity risk calculation** – equities in scope are defined as equity securities listed on developed markets (refer to section B9.1), held by long-term insurers to cover retirement products where:

a) All assets and liabilities corresponding to the business are ring-fenced (refer to section B9.5) without any possibility of transfer;
b) The average duration of the liabilities corresponding to the business held by the insurer exceeds an average of 12 years; and
c) The equity investments backing the liability are type 1 equity exposures, equities listed on developed markets or preferred shares (PS 6 to PS 8).

B9.3 **Infrastructure** investments - are defined as "investment in an infrastructure project entity that meets all of the following criteria":

a) The infrastructure project entity can meet its financial obligations under sustained stresses that are relevant for the risk of the project;
b) The cash flows that the infrastructure project entity generates for equity investors are predictable;
   (i) For the purposes of this paragraph, the cash flows generated for debt providers and equity investors shall not be considered predictable unless all except an immaterial part of the revenues satisfies the following conditions:
      1) One of the following criteria is met:
         (a) The revenues are availability-based. That is, the revenues consist primarily of fixed periodic payments, usually from a public sector authority, and are based on the availability of project facilities for use as specified in the contract;
         (b) The revenues are subject to rate-of-return regulation;
         (c) The revenues are subject to a take-or-pay contract;
         (d) The level of output or the usage and the price shall independently meet one of the following criteria:
            i. It is regulated;
            ii. It is contractually fixed; or
            iii. It is sufficiently predictable as a result of low-demand risk.
      2) Where the revenues of the infrastructure project entity are not funded by payments from a large number of users, the party which agrees to purchase the goods or services provided by the infrastructure project entity shall be one of the following:

(a) Central banks or governments, multilateral development banks or international organisations as established in instructions issued by the Authority;
(b) A regional government or local authority as established in instructions issued by the Authority;
(c) An entity with a BSCR Credit Rating of at least 4; and
(d) An entity that is replaceable without a significant change in the level and timing of revenues.

c) The terms and conditions relating to matters such as the infrastructure project assets and infrastructure project entity are governed by a contract [which specifies the laws of the country under which it is governed] that provides equity investors with a high degree of protection, including the following:
   (i) Where the revenues of the infrastructure project entity are not funded by payments from a large number of users, the contractual framework shall include provisions that effectively protect equity investors against losses resulting from the termination of the project by the party which agrees to purchase the goods or services provided by the infrastructure project entity; and
   (ii) The infrastructure project entity has sufficient reserve funds or other financial arrangements to cover the contingency funding and working capital requirements of the project.
d) The infrastructure assets and infrastructure project entity are located in Bermuda or in an OECD member country.
e) Where the infrastructure project entity is in the construction phase the following criteria shall be fulfilled by the equity investor, or where there is more than one equity investor, the following criteria shall be fulfilled by all of the equity investors as a whole:
   (i) The equity investors have a history of successfully overseeing infrastructure projects and the relevant expertise to oversee such projects;
   (ii) The equity investors have a low risk of insolvency, or there is a low risk of material losses for the infrastructure project entity as a result of their insolvency; and
   (iii) The equity investors are incentivised to protect the interests of investors.
f) The infrastructure project entity has established safeguards to ensure the completion of the project according to the agreed specification, budget or completion date.
g) Where operating risks are material, they are properly managed.
h) The infrastructure project entity uses tested technology and design.
i) The capital structure of the infrastructure project entity allows it to service its debt.
j) The refinancing risk for the infrastructure project entity is low.
k) The infrastructure project entity uses derivatives only for risk-mitigation purposes.

Infrastructure project entity – refers to an entity which is not permitted to perform any other function other than owning, financing, developing or operating infrastructure assets and is used as the primary source to facilitate payments to debt providers and equity investors out of the income generated by such assets.

Infrastructure assets – refers to physical structures or facilities, systems and networks that provide or support essential public services.

B9.4 **<u>Qualifying unlisted equity investments</u>** – refers to unlisted equity investments that have risk characteristics similar to listed Type 1 equities, and may be classified as Type 1 equities under the category 'Listed equity securities in developed markets' with the associated lower capital charge. 'Qualified unlisted equity investments' are defined as:

a) Direct investments in the equity of unlisted companies; or
b) Equity investments in unlisted portfolio companies resulting from the look-through of private equity funds or private equity funds of funds;

where the investments fulfill all of the following conditions:

(i) Criteria on (underlying) equity investments:
   1) Investments are in the common equity of companies that are unlisted;
   2) The companies are established in, derive a majority of their revenues from, and have the majority of the staff that they employ located in, eligible countries. An eligible country here is defined as Bermuda or a country such that, if the company were listed in the stock exchange of the country, the listed equity of the company would qualify as Type 1 equity as set out in these instructions; and
   3) The companies have been larger than small-sized enterprises in the last three years.
      (a) For the purposes of this paragraph, a 'small-sized enterprise' is defined as an enterprise which employs fewer than 50 persons and whose annual turnover and/or annual balance sheet total does not exceed USD 10 million.

(ii) Criteria on the vehicle (only for fund-type investments)
   1) The fund is closed-end
   2) The fund does not use leverage, with the following exceptions which are allowed:
      (a) Borrowing arrangements entered into if these are temporary in nature and are fully covered by contractual capital commitments from investors in the fund;
      (b) Derivative instruments used for currency hedging purposes that do not add any incremental exposure, leverage or other risks.
   3) The fund meets the following requirements:
      (a) The fund invests in unlisted companies, listed companies that are to become unlisted as a result of the investment made by the fund or listed companies as the temporary consequence of exiting the investment
      (b) The investment strategy includes the intention to remain invested in the underlying companies for a number of years
      (c) The fund manager has the power to appoint a director to the boards of the underlying companies and takes an active role in the company's governance with the aim to bring about a significant development or transformation
   4) The insurer has all the information necessary to assess the fund manager's performance (e.g., profit and loss, cash flows and profits of the portfolio companies at a meaningful level of aggregation) and continues to get the information on a timely basis; and
   5) The insurer invests through several independent fund managers to avoid undue concentration.

(iii) Criteria on own risk management

1) Fund-type investments: the following requirements should be met:
   (a) The insurer computes the portfolio beta whenever BSCR is calculated
   (b) The insurer follows a due diligence process prior to investing in the fund, including but not limited to:
      i. Qualitative and quantitative analysis of the companies in which the manager has invested with its prior funds
      ii. Obtaining information on how the fund is managed and the processes followed before investing
   (c) The insurer assesses the fitness of the fund manager on an on-going basis.
   (d) The insurer benchmarks the performance of the fund against comparable funds.
   (e) There are regular and reliable reporting lines between the fund manager and the insurer.
   (f) The insurer is able to challenge the investment decisions made by the fund manager (this implies that the fund manager provides sufficient information on the underlying assets).
   (g) The insurer verifies that the fund manager regularly interacts with the management teams of the companies in which the fund invests.
2) Direct investments: the following requirements should be met:
   (a) The insurer computes the beta whenever BSCR is calculated.

(iv) Similarity criterion

1) The approach can only be applied to portfolios where any equity investment does not represent more than 10 % of the portfolio value.
2) The approach cannot be applied to financial companies.
3) The beta of the unlisted equity portfolio is determined via the following steps:
   (a) The hypothetical beta for each individual unlisted equity investment is calculated using the function set out below.
   (b) The portfolio beta is calculated as the average of the individual betas weighted by the book values of the equity investments.
4) The beta for direct unlisted equity investments is calculated in the same way as the beta for individual portfolio companies above.
5) The similarity criterion is met if the beta of the portfolio or direct investment does not exceed a cut-off value of 0.80.
6) The beta for an individual unlisted equity investment is calculated with the following formula: beta = 0.9478 – 0.34%*AvgGrossMargin + 0.0139*TotalDebt/AvgCFO – 0.15%*AvgROE; where AvgGrossMargin = Average Gross Margin, TotalDebt = Total Debt, AvgCFO = Average Cash Flow from Operations, AvgRoe = Average Return on Common Equity. All the numbers should be entered as percentages/decimals multiplied by 100 (e.g., an ROE figure of 15.5% (i.e., 0.155 in decimal form)) would be entered as ‘15.5’ in the formula and

7) In the above formula, 'Avg' means the average of the annual figures over the last five financial years. If this information is unavailable, the value at the end of the last financial year must be used.

The value of unlisted equity investments to which the lower capital charge is applied shall not exceed 5% of the market value of all investments.

B9.5 **Ring-fenced** shall be defined as assets and liabilities that:

a) Are managed and organised separately from other long-term businesses of the long-term insurer;
b) Are recorded as a separate (internal) financial reporting segment within the long-term insurer's general account; and
c) Have sufficient general account capital allocated to satisfy BSCR requirements on a stand-alone basis.

B9.6 **Selected mutual funds** – is defined as units or shares of alternative investment funds authorised as European Long-Term Investment Funds in accordance with Regulation (EU) 2015/760 of 29 April 2015, or units or shares of collective investment undertakings which are qualifying social entrepreneurship funds in accordance with article 3(b) of Regulation (EU) 346/2013 of 17 April 2013 or units or shares of collective investment undertakings which are qualifying venture capital funds as referred to in Article 3(b) of Regulation (EU) 345/2013 of 17 April 2013, and units or shares of closed-ended and unleveraged alternative investment funds where those alternative investment funds are established in the European Union or, if they are not established in the European Union, they are marketed in the European Union according to Articles 35 or 40 of Directive 2011/61/EU of 8 June 2011, as well as other similarly purposed investment funds approved by the Authority.

B9.7 **Strategic holdings –** A qualifying strategic holding must fulfil all of the following criteria:

a) The investing company holds at least 20% of voting rights or share capital in the investment or is able to demonstrate it has significant influence (as defined by the applicable GAAP) over the investment;
b) The value of the equity investment is likely to be materially less volatile than the value of other equities as a result of both the nature of the investment and the influence exercised by the participating company; and
c) The nature of the investment is strategic, taking into account:
   (i) The existence of a clear decisive strategy to continue holding participation for a long period;
   (ii) The consistency of such strategy with the main policies guiding or limiting the actions of the participating company; and where the company is part of a group, the consistency of such strategy with the main policies guiding or limiting the actions of the group;
   (iii) The ability of the company to continue holding the participation;
   (iv) The existence of a durable link.

C.STATUTORY STATEMENTS AND BSCR SCHEDULES

C1. FORMS 1SFS, 2SFS, 8SFS AND FORM 4EBS

Background

C1.1 The statutory balance sheet (Form 1SFS), statutory statement of income (Form 2SFS), and statutory statement of capital and surplus (Form 8SFS) shall be completed by the insurer in accordance with the filing guidance relating to these Forms found in the Insurance Accounts Rules 2016.

C1.2 Additionally, the insurer must ensure that amounts reported in these forms correspond to the general purpose financial statements (condensed general purpose financial statements for Class 3A, Class C and Class D insurers) less prudential filters such as prepaid expenses, intangible assets, and goodwill, where appropriate.

C1.3 For insurers that have no change in valuations from an unconsolidated and consolidated basis, the insurer is to provide details in the **consolidated** column only and a note in the submission tab indicating there is no valuation differences between the unconsolidated and consolidated basis.

C1.4 The Economic Balance Sheet (Form 4EBS) shall be completed by the insurer in accordance with the filing guidance relating to this Form found in the Prudential Standard Rules.

Additional Guidance

Figures are to be reported in thousand units ('000s)

C1.i. Although the insurer does not need to prepare its financial statements in thousands units, the Authority requires insurers to report its statutory financial statements and economic balance sheet in thousands as this impacts the capital charges calculated in the BSCR model. The insurer may attach its Statutory Financial Return under 'Other Attachments' to provide the BMA with a more accurate financial position.

Future operating lease payments

C1.ii. For the 2019 year-end and beyond, insurers that have future operating lease payments are to gross up their balance sheet for the right of use assets and a lease liability equivalent to the discounted value of future payments under an operating lease **only if the underlying assets being leased are tangible assets.**

Further in the Schedule V(e) stress test scenarios, lease liability should be included in the following scenarios:

- Interest Rate Stress Scenario;
- Expected Inflation Stress Scenario;
- Foreign Exchange stress (where relevant);

Insurers are to report the right of use assets on Form 1SFS and 1EBS as 'Other Sundry Assets' and on Schedule IIF 'Other Sundry Assets and Liabilities' on Line 28 'Other Equities / Other Assets.'

Technical Provision calculation – Risk Margin calculation

C1.iii. For reporting periods where the financial year-end falls within the BSCR transitional period, insurers are to determine the risk margin using projected future BSCRs that take into account the run-off of the transitional rules. That is, the risk margin should be determined by projecting both the old-basis BSCRs and the new-basis BSCRs into future, and applying the appropriate transitional weights at each future year-end within the projection to calculate the future transitional BSCRs that are then used in the Risk Margin calculation. After the transitional period ends in the projection, the new-basis BSCRs are to be used.

C2. SCHEDULE OF FIXED INCOME AND EQUITY INVESTMENTS BY BSCR RATING (SCHEDULE II)

Background

C2.1 The schedule of fixed income and equity investments by BSCR rating (Schedule II), provides a breakdown of an insurer's bonds and debentures and equity investments by both investment categories (Corporate & Sovereign Bonds, Residential Mortgage-Backed Securities, Commercial Mortgage-Backed Securities/Asset-Backed Securities and Bond Mutual Funds) and BSCR Ratings (Ratings 0-8).

C2.2 This schedule applies a capital charge based on the type of category and rating of the security held, which is aggregated in the fixed income and equity risk tab. Further this information provides the BMA with the type and quality of investments held for assessing the insurer's market risk. It is noted that the balances reported on this schedule also serves as a proxy of the insurer's liquidity position when assessed with the Schedule of Funds Held by Ceding Reinsurers in Segregated Accounts / Trusts by BSCR Rating (Schedule IIA), and Interest Rate/Liquidly Risk Charge.

Items

C2.3 The Schedule is broken into three separate sections for which the total of each should correspond to a specific balance reported in Form 4EBS and Unconsolidated Form 1SFS for the relevant year:

a) <u>Quoted and unquoted bonds and debentures</u> – Line 10, Column (9) 'Total" corresponds to Form 4EBS and Unconsolidated Form 1SFS, Line 2(b) and 3(b);
b) <u>Quoted and unquoted equities</u> – Line 21, Column (9) 'Total' corresponds to Form 4EBS and Unconsolidated Form 1SFS, Line 2(d) and 3(d); and
c) <u>Mortgage loans</u> – Line 26, Column (1) 'Total' corresponds to Form 4EBS and Unconsolidated Form 1SFS, Line 5(c).

Instructions Affecting Schedule II

C2.3a Fixed income investments, both quoted and unquoted, shall be categorised into corporate bonds and sovereign bonds, residential mortgage-backed securities, commercial mortgage-backed securities/asset-backed securities, and bond mutual funds and classified by BSCR rating;

C2.3b Equity investments, both quoted and unquoted, shall be categorised into common stock, preferred stock and equity mutual funds;

C2.3c Preferred stock shall be classified by BSCR rating;

C2.3d Sovereign debt issued by a country in its own currency that is rated AA- or better shall be classified under BSCR rating 0 while all other sovereign bonds shall be classified in a similar manner as corporate bonds;

C2.3e Debt issued by government-owned and related entities that were explicitly guaranteed by that government, with the exception of mortgage-backed securities, shall be assigned a BSCR rating of 0, provided that the country is rated AA- or better and the debt is in the local currency of the country and otherwise classified in a similar manner as corporate bonds;

C2.3f Bond mutual funds shall be classified based on the underlying bond ratings as advised by the fund manager; equity mutual funds shall be classified in a similar manner as direct equity investments;

C2.3g Money market funds shall be classified by the underlying credit security based on the BSCR rating prescribed in Schedule XIX; and

C2.3h Amounts are to be reported on both an unconsolidated and consolidated EBS basis.

BSCR Ratings

C2.3i The following process will apply to determine the BSCR rating classifications:

a) Use the lowest BSCR rating comparable to the ratings of S&P, Moody's, Fitch and AM Best.

b) Insurers may select additional BMA named rating agencies to use, from those included in the table in the next paragraph, subject to the following:

(i) The additional BMA named rating agencies are Dominion Bond Rating Service, Egan Jones Rating Company, Japan Credit Rating Agency and Kroll Bond Rating Agency;
(ii) Insurers must document the selection process of credit rating agencies;
(iii) Insurers must use the selected rating agencies and their ratings in a consistent manner over time. There must be a documented process for making any changes to the list of selected rating agencies and how ratings are selected;
(iv) The selection process and its outcome must be approved by senior management; and
(v) The lowest BSCR rating comparable to the ratings of all the selected rating agencies, including the rating agencies from step (a), is used.

c) For any fixed income instruments for which a credit rating is not available from any of the rating agencies named in step (a) or step (b) (as per the insurer's selection), the insurer may elect to either leave the assets as unrated (i.e. BSCR rating 8) or obtain the BSCR rating from the National Association of Insurance Commissioners (NAIC) Securities Valuation Office (SVO) rating.

C2.3j The table below contains, for each credit rating agency, the rating categories for which their ratings are allowed for BSCR purposes (marked with 'X'). Additionally, the NAIC SVO ratings may be applied for otherwise unrated assets in accordance with the previous paragraph.

Credit Rating Agency	*Principal Office*	Financial institutions, brokers and dealers	Insurance companies	Corporate issuers	Issuers of asset-backed securities	Government securities, municipal securities, foreign government securities
Moody's Investor's Service*	*U.S.*	X	X	X	X	X
Standard and Poor's*	*U.S.*	X	X	X	X	X
Fitch Ratings*	*U.S.*	X	X	X	X	X
Dominion Bond Rating Service*	*U.S.*	X	X	X	X	X
A.M. Best Company*	*U.S.*		X	X	X	
Kroll Bond Rating Agency*	*U.S.*	X	X	X	X	X
Egan Jones Rating Company*	*U.S.*	X	X	X		
Japan Credit Rating Agency*	*Japan*	X	X	X		X

*) As determined by the SEC.

C2.3k The mapping of credit ratings to BSCR ratings are:

BSCR Rating	Standard & Poor's	Moody's	AM Best	Fitch
1	AAA	Aaa	aaa	AAA
2	AA+ to AA-	Aa1 to Aa3	aa+ to aa-	AA+ to AA-
3	A+ to A-	A1 to A3	a+ to a-	A+ to A-
4	BBB+ to BBB-	Baa1 to Baa3	bbb+ to bbb-	BBB+ to BBB-
5	BB+ to BB-	Ba1 to Ba3	bb+ to bb-	BB+ to BB-
6	B+ to B-	B1 to B3	b+ to b-	B+ to B-
7	CCC+ to CCC-	Caa1 to Caa3	ccc+ to ccc-	CCC+ to CCC-
8	Below CCC-	Below Caa3	Below ccc-	Below CCC-

BSCR Rating	KBRA	DBRS	Egan-Jones	Japan Credit Rating Agency

1	AAA	AAA	AAA	AAA
2	AA+ to AA-	AA (High) to AA (Low)	AA+ to AA-	AA+ to AA-
3	A+ to A-	A (High) to A (Low)	A+ to A-	A+ to A-
4	BBB+ to BBB-	BBB (High) to BBB (Low)	BBB+ to BBB-	BBB+ to BBB-
5	BB+ to BB-	BB (High) to BB (Low)	BB+ to BB-	BB+ to BB-
6	B+ to B-	B (High) to B (Low)	B+ to B-	B+ to B-
7	CCC+ to CCC-	CCC (High) to CCC (Low)	CCC+ to CCC-	CCC+ to CCC-
8	Below CCC-	Below CCC (Low)	Below CCC-	Below CCC-

BSCR Rating	NAIC SVO
1	-
2	-
3	1
4	2
5	3
6	4
7	5
8	6

C2.3l A BSCR rating of 0 (not included above) has been provided for certain high-quality fixed-income investments, specifically sovereign bonds and bond mutual funds.

Additional Guidance

Figures are to be reported in thousand units (‘000s)

C2.ii. Although the insurer does not need to prepare its financial statements in thousands units, the Authority requires insurers to report its statutory financial statements and economic balance sheet in thousands as this impacts the capital charges calculated in the BSCR model. The insurer may attach its Statutory Financial Return under “Other Attachments” to provide the BMA with a more accurate financial position

Applying a BSCR Rating to unquoted internally rated investments

C2.iii. Insurers that have developed an internal rating for unquoted investments shall apply a BSCR rating of 8. Nevertheless, if an insurer would like to request permission to use an equivalent scale of these investments in their BSCR filing, the insurer shall request such permission in writing to the BMA and include details on the internal rating assessment and a proposed equivalent scale to the BSCR Rating scale. Only upon approval shall the insurer reclassify an unquoted investment from BSCR Rating 8.

Government National Mortgage Association, Federal National Mortgage Association and Federal Home Loan Mortgage Corporation are not eligible for BSCR Rating 0

C2.iv. Securities that have a BSCR Rating 0 have been defined as 'Sovereign debt issued by a country in its own currency that is rated AA- or better', however the Authority would like to acknowledge that GNMA, FNMA and FHLMC are not eligible for the sovereign bond classification BSCR Rating 0 and shall be reported under MBS. While the Authority acknowledges that an explicit government guarantee applies to the credit risk for GNMA-insured mortgages uncertainty remains with the timing of the mortgage loan repayments. Consequently, the Authority does not extend the sovereign debt treatment to MBS.

MBS to use NAIC Rating

C2.v. MBS do not always adequately reflect the risk associated with being held at less than par value. For this reason, the NAIC has modeled these bonds and provides United States insurers with a rating reclassification. The Authority shall allow insurers the option to use these reclassifications when summarising their portfolio. Instances where an instrument has a rating from a rating agency that would put it in BSCR ratings classes 1-2, and it has also been classified as NAIC ratings class 1 (equivalent to BSCR ratings class 3), then the better BSCR ratings class may be selected. The Authority requires insurers to provide a separate summary of the Form 1SFS value by BSCR rating class, both before and after the adjustment.

The NAIC reclassifications of MBS will be assigned to the BSCR Ratings classes according to the following table:

BSCR Rating Class	NAIC (for MBS Only)
0	
1	
2	
3	1
4	2
5	3
6	4
7	5
8	6

C3. SCHEDULE OF FUNDS HELD BY CEDING REINSURERS IN SEGREGATED ACCOUNTS/TRUSTS BY BSCR RATING (SCHEDULE IIA)

Background

C3.1 To assess the risk of amounts reported in Funds Held By Ceding Reinsurers (Form 4EBS, Line 12(c)), the Authority requires insurers to determine the arrangement that the funds are being held. In the event of default, if the reinsurer bears the risk of the assets held, then these amounts are to be reported on Schedule XVIII – Schedule of Particulars of Ceded Reinsurance; if the insurer bears the risk (as well as the market risk of the valuation of investments), then these amounts are to be reported in Schedule IIA – Schedule of Funds Held by Ceding Reinsurers in Segregated Accounts/Trusts By BSCR Rating.

C3.2 The Schedule of Funds Held by Ceding Reinsurers in Segregated Accounts/Trusts by BSCR Rating — Schedule IIA — provides the BMA with details to assess the type and quality of investment held by requiring the insurer to allocate the balances by investment category and BSCR Rating (similar to investments reported on Schedule II). Further the balances reported on Schedule IIA also are used in the calculation for the Interest Rate/Liquidity Risk and Cash and Cash Equivalents exposure.

C3.3 The investment categorisation and BSCR ratings shall be based on the same rating scale and principles as those found in Schedule II.

Items

C3.4 The Schedule is broken into five separate sections as follows:

a. Quoted and unquoted bonds and debentures;
b. Quoted and unquoted equities;
c. Other investment;
d. Mortgage loans; and
e. Cash and time deposits.

Instructions Affecting Schedule IIA

C3.5 All funds held by ceding reinsurers (as reflected in Form 4EBS , Line 12(c) and Form 1SFS, Line 12) in segregated accounts/trusts with identifiable assets, such as fixed income investments, equity investments, mortgage loans, other investments and cash and cash equivalents, shall be included here;

C3.6 Fixed income investments, both quoted and unquoted, shall be categorised into corporate bonds and sovereign bonds, residential MBS, commercial MBS/asset-backed securities, and bond mutual funds and classified by BSCR rating;

C3.7 Equity investments, both quoted and unquoted, shall be categorised into common stock, preferred stock and equity mutual funds;

C3.8 Preferred stock shall be classified by BSCR rating;

C3.9 BSCR ratings shall be determined in the manner specified in the instructions affecting Schedule II;

C3.10 Sovereign debt issued by a country in its own currency that is rated AA- or better shall be classified under BSCR rating 0 while all other sovereign bonds shall be classified in a similar manner as corporate bonds;

C3.11 Debt issued by government-owned and related entities that were explicitly guaranteed by that government, with the exception of MBS, shall be assigned a BSCR rating of 0;

C3.12 Bond mutual funds shall be classified based on the underlying bond ratings as advised by the fund manager; equity mutual funds shall be classified in a similar manner as direct equity investments;

C3.13 Money market funds shall be classified by the underlying credit security based on the BSCR rating prescribed in Schedule XIX; and

C3.14 Amounts are to be reported both on an unconsolidated and consolidated EBS basis.

Additional Guidance

Additional guidance for assessing the Funds Held By Ceding Reinsurer arrangement

C3.i. For funds held by ceding companies, the capital risk charge is calculated by the nature of the arrangement.

a) Where specific assets have been allocated for the benefit of the reinsurer, such that the reinsurer bears market risk on those assets, the Authority requires insurers to look through to the underlying assets, and report these balances on Schedule IIA. This effectively adds to the fixed-income risk and equity risk modules similar to Schedule II.
b) Where there are no specific identified assets, the reinsurer is effectively in a similar position to a typical cedant with reinsurer exposure, and the amounts will thus be treated similarly to reinsurance recoveries and shall be reported on Schedule XVIII Particulars of Ceded Reinsurers. Further, the rating for reinsurance exposures should be based on the financial strength ratings of the insurer.

Applying a BSCR Rating to unquoted internally rated investments

C3.ii. Insurers that have developed an internal rating for unquoted investments shall apply a BSCR rating of 8. Nevertheless, if an insurer would like to request permission to use an equivalent scale of these investments in their BSCR filing, the insurer shall request such permission in writing to the BMA and include details on the internal rating assessment and a proposed equivalent scale to the BSCR Rating scale. Only upon approval shall the insurer reclassify an unquoted investment from BSCR Rating 8. For funds held by ceding companies, the capital risk charge is calculated by the nature of the arrangement.

Reporting hedge funds

C3.iii. When reporting hedge funds on Schedule II, insurers may not have the exact details of the underlying assets in which the funds are held. In these instances, the Authority advises allocating on a proportionate basis of the balance of the portfolio to the approved investment guidelines of the hedge fund and provide in the Attachment section the methodology used when reporting these figures.

C4. SCHEDULE OF LONG-TERM BUSINESS PREMIUMS (SCHEDULE IVB)

Background

C4.1 The schedule of Long-Term Business Premiums — Schedule IVB — provides a breakdown of an insurer's gross premiums and other considerations, and net premiums and other considerations by prescribed long-term insurance product. Insurers are required to separate the long-term gross premiums written into 'unrelated' and 'related' business according to statutory long-term insurance products.

C4.2 A description of these insurance products is listed below:

	Long-Term Business Lines of Business	**Description**
1	Mortality	The risk of fluctuations or deterioration of mortality experience causing increased claims on life insurance coverages.
2	Critical illness	A form of accident and health insurance that pays a benefit if the person insured incurs a predefined major illness or injury.
3	Longevity	The risk of fluctuations or improvements in mortality that cause benefits on payout annuities to be paid for longer than expected.
4	Deferred annuities	An insurance that provides savings or income benefits during the lifetime of the person insured or some limited period thereafter.
5	Disability income: active lives with premium guarantee of -	An accident and health insurance that pays a benefit for a fixed period of time during disability, based on contracts that are for active lives and have a premium guarantee.
6	Disability income: active lives for other accident and sickness	An accident and health insurance that pays a benefit for a fixed period of time during disability based on contracts that are for active lives and are for other accident and sickness coverage.
7	Disability income: claims in payment	An accident and health insurance that pays a benefit for a fixed period of time during disability based on contracts where claims in payment are issued on waiver of premiums.
8	Disability income: claims in payment for other accident and sickness	An accident and health insurance that pays a benefit for a fixed period of time during disability based on contracts where claims in payment on waiver of premiums are based on contracts that are for active lives and are for other accident and sickness coverage.
9	Group life	Life insurance that is issued to persons insured through a group arrangement such as through an employer or association.
10	Group disability	Disability insurance that is issued to persons insured through a group arrangement such as through an employer or association.
11	Group health	Health insurance that is issued to persons insured through a group arrangement such as through an employer or association.

12	Stop loss	The risk that arises when total claims experience deteriorates or is more volatile than expected, thereby increasing the likelihood and amount by which actual claims experience exceeds a predefined level.
13	Rider	The risk that arises when total claims experience deteriorates or is more volatile than expected, thereby increasing the likelihood and amount by which actual claims experience exceeds a predefined level.
14	Variable annuities	Insurance that provides a minimum investment guarantee on variable annuities.

C4.3 Line item 15 'Total' of Schedule IVB for total gross premiums and other considerations, and net premiums and other consideration should correspond to the balance reported in Form 2SFS, lines 12(c) and 14(d), respectively, for the relevant year.

Additional Guidance

Figures are to be reported in thousand units ('000s)

C4.i. Although the insurer does not need to prepare its financial statements in thousands units, the Authority requires insurers to report its statutory financial statements and economic balance sheet in thousands as this impacts the capital charges calculated in the BSCR model. The insurer may attach its Statutory Financial Return under 'Other Attachments' to provide the BMA with a more accurate financial position.

Reporting premiums as unrelated or related

C4.ii. When reporting the gross premiums as 'unrelated' or 'related', the Authority advises the following:

a) Schedule of Long-Term Premiums Unconsolidated - the insurer should look at the nature of the contract and not 'look though' the underlying risk. If the insurer writes to an affiliate, then the insurer should include this as related business, if the business is not connected to any affiliate within the insurance group, then this shall be reported as unrelated.

b) Schedule of Long-Term Premiums Consolidated - the insurer should 'look through' to the underlying policyholder and determine the appropriate categorisation based on its relationship with the underlying policyholder. If the insurer writes to an affiliate (or any affiliate within the insurance group), then the insurer shall look through the underlying risk and if it is to third party, then this shall be included as unrelated business. Otherwise, this is included as related risk.

C5. SCHEDULE OF RISK EXPOSURE (SCHEDULE IVF)

Background

C5.1 The Schedule of Risk Exposure – Schedule IVF – requires all insurers to provide a breakdown of the:

a) Number of subsidiaries per location. For the purpose of this schedule, the BMA has identified 37 locations worldwide;
b) Long-Term business Gross Reserves by location for Mortality risk, Longevity risk, Deferred Accumulations Annuities, Disability, Group, Variable Annuities, and Other Products at year-end; and
c) Long-Term Claims and Benefit Paid by location for the financial period.

The information in this Schedule provides the BMA with details of the geographic location of long-term business reserves established for those risks and the related claims paid. Accordingly, this information enables the BMA to demonstrate the key role Bermuda plays in the supply and diversification of risk capacity globally

Items

C5.2 Provide jurisdiction of the ultimate parent company of the insurer:

C5.3 All insurers shall provide the following information for the reporting period

Instructions Affecting Schedule IVF

C5.3a ‘Location’ shall be the location of the risk being underwritten. If the location of the risk being underwritten is not available, then insurers are to allocate based on the location of the cedant;

C5.3b The ‘number of subsidiaries’ refers to the number of subsidiaries licensed within the jurisdiction;

C5.3c ‘Mortality’ refers to –

a) Mortality (term assurance, whole life, universal life);
b) Critical Illness (including accelerated critical illness products)

C5.3d ‘Longevity’ refers to –

a) Longevity immediate pay-out annuities, contingent annuities, pension blocks;
b) Longevity (deferred pay-out annuities, future contingent annuities, future pension pay-outs);
c) Annuities certain only;

C5.3e ‘Deferred accumulation annuities’ refers to –

a) Deferred accumulation annuities;

C5.3f ‘Disability’ refers to –

a) Disability income: active lives - including waiver of premium and long-term care;
b) Disability income: active lives - other accident and sickness;
c) Disability income: claims in payment - including waiver of premium and long-term care;
d) Disability income: claims in payment - other accident and sickness

C5.3g ‘Group’ refers to –

a) Group Life;
b) Group Disability;
c) Group Health

C5.3h ‘Variable annuities’ refers to –

a) Variable Annuities

C5.3i ‘Other products’ refers to

a) Stop Loss;
b) Rider (other product riders not included above)

C5.3j All amounts shall be reported on a consolidated basis only.

C6. SCHEDULE OF RISK MANAGEMENT (SCHEDULE V)

Background

C6.1 For assessing the areas of risk of an insurer, the Authority also takes into consideration the insurer's risk management structure on an on-going basis. Such areas include: structure of the insurer, the underwriting risks, market/investment risks, liquidity/interest rate risk and any other risks (such as deposit assets and liabilities and segregated accounts) associated with the insurer. These areas are to be provided on a forward-looking basis and if there are significant changes to the insurer's business plan for the upcoming year, the insurer shall include a description of the change in the supporting documentation.

C6.2 The schedule of risk management shall include the following:

a) Governance and group structure
b) Intra-group transactions that the insurer is a party to and the insurer's risk concentrations
c) Effective duration of assets
d) Effective duration of liabilities
e) Weighted average of the difference in asset duration and liability duration
f) Description of the effective duration of assets and liabilities calculations and key assumptions (required for Class D and E insurers only)
g) Reserves with known duration as a percentage of total reserves
h) Mutual fund disclosures
i) Summary of projected performance
j) Summary of product features and risks (required for Class D and E insurers only)
k) Financial impact and description of stress and scenario tests
l) Investments and derivatives strategies and policy (required for Class D and E insurers only)
m) Modified co-insurance arrangements
n) Deferred accumulation annuities disclosures
o) Reconciliation from GAAP financial statements to Form 4EBS
p) Details of deposit assets and liabilities
q) Details of segregated accounts
r) Alternative Capital Schedule

Instructions Affecting Schedule V

C6.2a Governance and group structure must disclose (on a legal entity and group basis where applicable) —

1. <u>The structure of the board of directors; including names, role, country of residence, work experience and status on the Board;</u>

<u>Additional guidance for status on the board:</u>

Non-executive (independent)	Refers to a non-executive member of the board that is not affiliated to the insurer nor a service provider
Non-executive (affiliate)	Refers to a non-executive member of the board that is part of the group of the insurer
Non-executive (service provider)	refers to a non-executive member of board that: a) Acts as a company formation agent, or agent for the establishment of a partnership; b) as Acts a nominee shareholder of a company; c) providing administrative and secretarial services to the insurer; d) Performs its functions in the capacity of resident representative under the Companies Act 1981, Exempted Partnerships Act 1992 and Overseas Partnerships Act 1995; and e) Provides any additional corporate or administrative services as may be specified in regulations
Non-executive (other)	Refers to a non-executive member of the board that does not qualify as an independent director nor is a service provider
Executive	Refers to an executive member of the board

2. <u>The structure of the management of the insurer including names, roles, work country of residence, experience, employee arrangement (e.g., confirm whether employees are hired or outsourced etc.,) and description of responsibilities of the chief and senior executive;</u>

<u>Additional guidance for employee arrangement:</u>

Chief and senior executives employee arrangements are categorised as follows:

Insurer	Employee working fulltime for the insurer
Affiliate	Employee working for the parent company or any other entity affiliated to the company
External service provider	Third party service providers e.g., insurance managers

<u>Additional guidance for description of responsibilities:</u>

Chief and senior executive positions are categorised as follows:

Category A	Has authority to make key strategic, underwriting or investment decisions, etc.
Category B	Has authority to make key strategic, underwriting or investment decisions, etc., within the risk appetite explicitly set by the board of directors.
Category C	Must get key strategic, underwriting, or investment decisions signed-off by board of directors before executing.

3. Terms of reference of the board of directors of the insurer and its sub-committees;

3a. Does your company have tax residency outside of Bermuda? If yes, confirm the location of the tax residency.

4. The jurisdiction(s) where the board of directors of the insurer meets on activities including but not limited to —

   (a) Setting the strategic direction of the insurer;
   (b) Determining the (re)insurer's risk appetite;
   (c) Making strategic decisions about new and/or changes to products, lines of business or markets; and
   (d) Assessing or managing solvency requirements.

Additional guidance for jurisdiction(s) where the board of directors of the insurer meets on activities:

Select "Yes"	If the insurer's board of directors meets only in Bermuda
Select "No"	If the insurer's board of directors does not meet in Bermuda
Select "No"	If the insurer's board of directors meets both in Bermuda and another jurisdiction(s) and provide details of each jurisdiction and identify the jurisdiction where activities are deliberated mainly

5. Where functions are outsourced, details of every service provider of the insurer performing the function including: name, main jurisdiction of operation, and details of the insurer's operations which are primarily being performed in relation to—

   (a) Underwriting (re)insurance policies;
   (b) Risk management decisions and activities;
   (c) Investment strategy;
   (d) Actuarial;
   (e) Compliance; and
   (f) Internal audit;

Additional guidance for jurisdiction(s) where the board of directors of the insurer meet on operations:

Select "Yes"	If the insurer's board of directors meets only in Bermuda
Select "No"	If the insurer's board of directors does not meet in Bermuda
Select "No"	If the insurer's board of directors meets both in Bermuda and another jurisdiction(s) and provide details of each jurisdiction and identify the jurisdiction where activities are deliberated mainly

Additional Guidance for Outsourced Services:

Insurance manager	Refers to a service provider that is not being an employee of the insurer, and holds themselves out as a manager in relation to the insurer, whether or not the functions performed by them as such go beyond the keeping of insurance business accounts and records
Other third Party	Refers to a service provider that is not affiliated nor the insurance manager
Affiliate	Refers to a service provider that is part of the group of the insurer

5a. Details of the services outsourced and, if yes, confirmation if the services performed in Bermuda;

6. Number of employees of the insurer that are resident in Bermuda (non-outsourced positions);

6a. Confirmation of the number of employees residing in Bermuda employed as

(i) Senior executive – means a person who, under the immediate authority of a director or chief executive of the registered person
   (a) Exercises managerial functions; or
   (b) Is responsible for maintaining accounts or other records of the registered person

(ii) Senior manager – means in relation to an insurer, a chief executive or senior executive performing the duties of underwriting, actuarial, risk management, compliance, internal audit, finance or investment;

(iii) Technical officer - means a person (other than a senior manager) who performs management or other non-management core duties within the underwriting, actuarial, risk management, compliance, internal audit, finance or investment functions; and

(iv) Administrative – means a person who is not a senior manager or technical officer.

7. The jurisdiction(s) where the parent board primarily deliberates on matters including, but not limited to—

   (a) Setting strategic decisions;
   (b) Determining the group's risk appetite;
   (c) Choosing of corporate structure, including amalgamations, acquisitions and strategic alliances;
   (d) Making strategic decisions about new and/or changes to products, lines of business or markets;
   (e) Assessing or managing solvency requirements.

8. The jurisdiction(s) where the parent board and chief and senior executives primarily reside;

9. The jurisdiction where the insurance group's control functions resides (i.e., group finance, actuarial, and risk management);

10. The insurance group's financial position based on its most recent audited general purpose financial statement regarding its—

    (a) Total assets;
    (b) Total reserves; and
    (c) Capital and surplus;

11. The name of insurers within the insurance group that have the highest—

    (a) Total asset value;
    (b) Total insurance reserve value; and
    (c) Total capital and surplus based on the group's most recent audited general purpose financial statement;

12. The total values for subparagraph (11)(a), (b) and (c);

13. The jurisdiction of licensing of each insurer in subparagraph (11);

14. Any events which have occurred or decisions made subsequent to the relevant year-end that would, or have, materially changed the information in

subparagraphs (4) through (13) (e.g., amalgamation or acquisition or restructuring, etc.); provide a detailed response and explanation;

15. A copy of the latest group organisational chart

Additional Guidance

Change in Board and/or senior management after financial year-end

C6.i. Instances where the composition of the board and senior management has undergone changes since the financial year-end, insurers are to report the composition of the board and senior managements as of the financial year-end, as well as provide in brackets in the name field, the effective date of the previous and new members of the board or senior management.

C6.ii. Note that under section 30J of the Act, a notification is required for change in board members and officers within 45 days of the insurer becoming aware of the change, and thus the inclusion of this information in the BSCR does not qualify as notification of such change.

Terms of Reference clarification

C6.iii. 'Terms of Reference' in this case refers to the duties of the board and its sub-committees as stated in the company's charter. The BMA reviews the terms of reference in assessing whether significant decisions are deliberated in Bermuda, and if the insurer meets the head office requirements. If the insurer's bye-laws include information which aids in the BMA's assessment, it is then acceptable.

Figures are to be reported in thousand units ('000s)

C6.iv. The figures for Schedule V(a), Items 10 and 11 are to be reported in thousand units ('000s) in the reporting currency used for the return. The insurer may attach additional information under 'Other Attachments' to provide the BMA with the financial position of the Group and/or the insurers in their local currency.

Insurance Group Details If not part of an insurance group

C6.v. If the insurer is not part of an insurance group, the insurer shall put the values reported on Form 4EBS in Schedule V(a), item 10 'Group's Financial Position'.

Insurance Group details of entities domiciled in Bermuda

C6.vi. The insurer is one of a few insurance companies within the group operating out of Bermuda. Does it still report the overall group position or combined amounts for the Bermuda-domiciled entities?

The insurer shall report for all companies within the group, regardless of place of incorporation. Therefore, it shall report the overall group position based on its most recent audited general purpose financial statements.

<u>Insurance Group details of with unaudited statements</u>

C6.vii. The insurance group does not produce audited general purpose financial statements. Shall the insurer report NIL (0) values?

The Authority will accept the requested information based on unaudited group financial statements. The insurer should not leave this field blank.

<u>Insurance Group details – organisational chart</u>

C6.viii. The insurer is part of a large insurance group with subsidiaries worldwide. Can the insurer submit a condensed organisational chart that includes only the Bermuda entities?

The Authority requires the organisational chart to include all group companies and indicate the place of incorporation and percentage holdings. Further the Bermuda insurer shall be clearly identifiable.

<u>Details of the services outsourced – scope of services</u>

C6.ix. When responding to the details of the services outsourced, insurers should consider both internal and external parties when responding to this section.

C6.2b Intra-group transactions to which the insurer is a party and the insurer's risk concentrations—

a) Ten largest exposures to unaffiliated counterparties and any other unaffiliated counterparty exposures or series of linked unaffiliated counterparty exposures exceeding 10% of the insurer's statutory capital and surplus—
   (i) Name of counterparty;
   (ii) Exposure values (face value or market value); and
   (iii) Transaction type;
b) Details of material intra-group transactions between the insurer and other members <u>of</u> the group to which it belongs, including (where applicable) —
   (i) Exposure value (face value or market value, if the latter is available);
   (ii) Counterparties involved including where they are located; and
   (iii) Summary details of the transactions – including purpose, terms and transaction costs, duration of the transaction, and performance triggers;
c) Details surrounding all intra-group reinsurance and retrocession arrangements, and other material intra-group exposures including—
   (i) Counterparties involved including where they are located
   (ii) Aggregated values of the exposure limits (gross and net) by counterparties broken down by counterparty rating;
   (iii) Aggregated premium flows between counterparties (gross and net); and
   (iv) The proportion of the insurer's insurance business exposure covered by internal reinsurance, retrocession and other risk transfer arrangements;

Additional Guidance

Material intra group transactions, and intra-group reinsurance and retrocession arrangements

C6.x. When providing details of 'material intra-group transactions' the Authority considers 'material exposure' in relation to statutory capital and surplus (i.e., Greater than 10% of statutory capital and surplus), as well as the materiality of the specific disclosure. For example, if the insurer holds cash of $3 million and total assets of $4 million, the BMA would consider the $3 million cash balance to be material as it pertains to 75% of the insurer's total assets.

When providing details of 'intra-group reinsurance and retrocession arrangements' the Authority is looking for **all** intra-group reinsurance and retrocession arrangements. Note that if an insurer having more than 25 transactions with the same assuming and ceding party, they can be aggregated together. If an insurer has more than 25 transactions, please include these details in the attachments section of the BSCR model.

The 'Aggregated Premium Flows' shall be the premium written for the reporting period (note that net refers to any reinsurance that is ceded back to the counterparty). The "Aggregated Values of the Exposure Limits" shall be the outstanding reserve at the reporting period (note the net refers to any reinsurance that is deducted from the counterparty).

In instances where the insurer is an affiliated reinsurer and all of its transactions are deemed intra-group transactions, the insurer may include an attachment that provides this information.

Internal reinsurance arrangement calculation

C6.xi. The proportion of internal reinsurance arrangements is calculated by dividing the amount of reinsurance provided by affiliates into the total amount of reinsurance available. The insurer shall only include arrangements where it is the ceding party.

Unaffiliated counterparties ten largest exposures

C6.xii. In instances where the insurer does not have any investing activities, yet it holds cash and cash equivalents, the insurer shall list these as counterparty exposures as well as include each bank separately.

Unaffiliated counterparties ten largest exposures – investments to report

C6.xiii. When determining the ten largest unaffiliated counterparty exposures, insurers are to include cash & cash equivalents, investments (as well as hedge funds) receivables, recoverables and letters of credit at the end of the reporting period. If the information is available, insurers are to provide a look-through basis of the underlying investment.

C6.2c The effective duration of assets must be determined using the aggregate of the total bonds and debentures (as reflected in Form 4EBS, lines 2(b) ad 3(b)), preferred stock (as reflected in Form 4EBS, lines 2(c)(ii) and 3(c)(ii)), and mortgage loans (as reflected in Form 4EBS, line 5(c)) as a basis;

C6.2d The effective duration of liabilities must be determined using the reserves (as reflected in Form 4EBS, line 27(d)) as a basis;

C6.2e The weighted average of the difference in asset duration and liability duration is the weighted average of the difference in the effective asset dollar duration and effective liability dollar duration;

C6.2f The description of the process used for determining the effective duration of assets calculation and effective duration of liabilities calculation, and key assumptions for these calculations; (*Required for Class D and E insurers only*)

C6.2g The reserves with known duration as a percentage of total reserves is the amount of reserves with known duration divided by the total reserves used in the long-term interest rate and liquidity risk capital calculation;

C6.2h Mutual fund disclosures shall include the name, type and amount of each mutual fund used by the insurer;

Additional Guidance

Mutual Fund information to provide

C6.xiv. Insurers to are to provide a summary report (in Excel format) that lists each fund the insurer is actually using, a brief description of the type of fund (such as bond fund, equity fund balanced fund, etc.) and the amount the insurer has invested in each fund.

C6.2i Summary of projected performance for the year following the relevant year—

a) The insurer’s latest estimate of new business premiums written;
b) Estimated net income or loss either for the insurer or on a group basis with disclosure of the estimated percentage of the insurer’s contribution relative to the group; and

c) A qualitative description of the insurer's business and underwriting strategy to be used in an attempt to achieve the estimates in (a) and (b) above (*Required for Class D and E insurers only*);

Additional Guidance

Qualitative description of the insurer's business strategy and underwriting strategy compared to summary of products features and risks

C6.xv. The requirements for providing 'details of the insurer's description of insurer's business strategy and underwriting risks' (item (j)) and 'summary of products features and risks' (item (k)) appear similar, can the insurer submit one document to cover both requirements?

Item (j) is a qualitative description of the insurer's business and underwriting strategy to be used in an attempt to achieve the estimates for new business premiums written and net income or loss. It should describe the lines of business that will be written and the amounts. If the insurer estimates it will have a net loss, it should include a description of if/how it intends to have a net income in subsequent years. The BMA uses this information to form an opinion of trends in the market, the insurer's forward-looking risk profile, its ability to withstand stress scenarios, and developing peer groupings.

Item (k) requires a summary of product features and risks that the insurer writes, both current and those that are no longer written but remain on the books. The summary must cover the primary product features and benefits insured and any policyholder options or guarantees that could materially affect the insurer. The BMA uses this information to form an opinion of trends in the market and developing peer groupings. The summary is also reviewed closely to identify areas where policyholders may not be protected, particularly when an insurer fails to meet its regulatory obligations.

Items (j) and (k) may be covered in one document provided the document includes the necessary information.

C6.2j Summary of product features and risks must cover the primary product features and benefits insured and any policyholder options or guarantees that could materially affect the insurer; (*Required for Class D and E insurers only*)

C6.2k Financial impact and description of stress and scenario tests shall disclose the results from the stress and scenario tests prescribed by the BMA annually and published in such manner as the BMA directs;

C6.2l The investments and derivatives strategies and policies shall disclose —

a) A description of the insurer's investment strategy governing selection and composition of investment portfolio;
b) A description of the strategies and policies surrounding the use of derivatives and other hedging instruments; and
c) The market value and nominal exposure of each derivative financial instrument with a nominal exposure greater than 5% of total assets listed by assets, liabilities, long and short positions, respectively;

(*Required for Class D and E insurers only*)

Additional Guidance

Reporting basis for Modified Co-Insurance arrangements

C6.xvi. Modified co-insurance arrangement reserve amounts and aggregated asset allocations are to be reported on a consolidated GAAP basis in the BSCR model.

C6.2m Modified co-insurance arrangements shall disclose—

a) Name of ceding company;
b) Type of coverage;
c) Amount of reserve; and
d) Aggregate asset allocation (book value) and the related affiliated or unaffiliated cedant;

C6.2n Deferred accumulation annuities shall disclosure —

a) Total reserves for deferred accumulation annuities;
b) Total reserves for deferred accumulation annuities with contractual guaranteed annuitisation rates;
c) Total reserves for deferred accumulation annuities annuitised in the past year at contractual guaranteed rates (prior to annuitisation); and
d) Total reserves for deferred accumulation annuities annuitised in the past year at contractual guaranteed rates (post annuitisation).

C6.2o A reconciliation of amounts reported in total assets, total liabilities and total statutory economic capital and surplus comprising of any adjustments applied to the GAAP financial statements to arrive at the amounts disclosed in Form 4EBS;

C6.2p In respect of business for which deposit accounting approaches have been followed: a description of business, total assets held in trust or other collateral, lines of business written, gross premiums written for the period, net premiums written for the period, and limits (maximum exposure). For business that has limited exposure, provide the results at a 99.0% TVaR and for business with unlimited exposure, provide details of such business;

Additional Guidance

Contracts that qualify as Deposit Assets and Liabilities

C6.xvii. Deposit Asset and Liability contracts represent insurance contracts that do not meet the definition of meeting insurance risk (as applicable per the insurer's GAAP). Prior to 31 December 2016, if an insurer wrote insurance business that did not meet the definition of insurance risk, insurers would be required to seek BMA approval to include such contracts in the statutory balance sheet. Going forward, this approval will not be necessary.

As a result, the Authority has provided the new schedule V(k) Details of Deposit Asset & Liabilities to assess the insurer contracts that do not meet the definition of insurance risk, and lines of business that are written (both on a gross and net basis) for the reporting period, assess the assets that are supporting these obligations; and the exposure levels of such contracts.

Details by contract and line of business

C6.xviii. Complete the schedule by providing the lines of business written for each exposure type separately. In other words, if an insurer has exposure that writes both property and casualty business), then the insurer is to report the business for the property business on one line and report the casualty business line separately.

C6.2q In respect of segregated account business, details of each by net loss reserves by statutory lines of business: segregated account cell name, total assets, total liabilities, statutory capital and surplus, cash and investments, net loss reserves, reinsurance recoverable, statutory lines of business written, gross premium written, net premium written, currency, details (if any) of the insurer writing "related" business, details if the insurance or re-insurance contract has limited recourse language, details of inter-relationship between segregated account cells (if any), details of the segregated account cell's access to the general account (if any) and details where a segregated account cell is in a deficit, insolvent or subject to litigation.

'Related' for the purposes of this paragraph, means where the insurance business written by a segregated account cell is business that meets the definition in the Act of business that can ordinarily be written by a Class 1, Class 2, Class 3, Class A or Class B insurance business (with the exception that the insurance business written is that which is assumed from an affiliate insurer; is deemed by the Authority as 'connected business'; or is business written by an insurer owned by insurance brokers or agents);

‘Limited recourse’ for the purposes of this paragraph, means where the segregated account cell has access to the general account in the instance the segregated account cell is in deficit;

‘Inter-relationship between segregated account cells’ for the purposes of this paragraph, means where the segregated account cell has access to another segregated account cell. (IE if one segregated account cell were to be in deficit, whether another segregated account cell could be able to support the deficit?

Additional Guidance

C6.xix. Complete the schedule by providing the lines of business written for each cell separately. In other words, if an insurer has exposure that writes both property and casualty business, then the insurer is to report the business for the property business on one line and report the casualty business line separately.

C6.2r Alternative Capital Schedule is applicable to insurers that conduct business that is financed by a mechanism other than shareholders’ capital of the (re)insurance company. This may take various forms such as catastrophe (cat) bonds, industry loss warranties, sidecars, collateralized reinsurers, longevity and mortality bond/swaps, hybrid securities such as preference shares, swaps, and contingent capital such as letters of credit, among others

C7. SCHEDULE OF ASSETS (SCHEDULE VI AND SCHEDULE VIA)

Background

C7.1 Schedules VI and VIA collect details related to invested assets and financial instruments.

C7.2 Schedule VI is to include all general account investments and financial instruments, both corresponding to Schedule II and also including any relevant invested assets/financial instruments related to the general account but not captured in Schedule II.

C7.3 Schedule VIA is to include all general account investments and financial instruments, both corresponding to Schedule IIA and also including any relevant invested assets/financial instruments related to the general account but not captured in Schedule IIA.

C7.4 Schedule VI (EBS) is to include all general account investments and financial instruments, both corresponding to Schedule IIB and also including any relevant invested assets/financial instruments related to the general account but not captured in Schedule IIB.

C7.5 Schedule VIA (EBS) is to include all investments and financial instruments that are 'withheld' but where the insurer bears the economic risk, both corresponding to Schedule IIC and also including any relevant invested assets or financial instruments related to the 'funds withheld' arrangements but not captured in Schedule IIC.

C7.6 It is to be further noted that while stability is sought for reporting purposes where possible, these schedules are relatively new additions to the BSCR model, and as such some further developments and enhancements should be expected. Such developments and enhancements could arise from and be based on feedback received from the registrants, observations made by the Authority in analysing the results and the quality of the reporting received, or market developments.

Instructions Affecting Schedules VI & VIA

<u>General – Valuation of assets and liabilities</u>

C7.7 Schedules VI & VIA: All amounts are to be valued on statutory valuation basis. Schedules VI (EBS) & VIA (EBS): All amounts are to be valued on EBS valuation basis.

<u>General – Terms and Definitions</u>

C7.8 As a general rule regarding terms and definitions used in Schedules VI (EBS) and VIA (EBS), the standard interpretations given to the terms in US GAAP/IFRS and the standard US GAAP/IFRS definitions are to be used unless the EBS rules, these instructions or related guidance otherwise require.

General – Scope

C7.9 All invested assets and financial instruments should be included within these Schedules (VI and VIA), regardless of the line within the statutory and Economic Balance Sheet, as applicable, under which the asset or instrument is included. Each investment or financial instrument should be included in either Schedule VI or Schedule VIA (but not both), and under one (and only one) main section within the applicable Schedule.

C7.10 Note that although each asset or instrument is to be included in exactly one main section, such asset or instrument must additionally be included in all of the applicable (sub)sections that ask for additional information, detail or alternative breakdowns.

General – Comment Field

C7.11 Nearly all of the input rows contain a free-form comment field (labelled 'Comments'). Please use these fields to provide any additional information you wish to provide, or think could be helpful in interpreting the numbers (including any additional details, choices made, limitations, etc.).

General – 'Other' Categories

C7.12 Where, under any section, asset category 'Other' is used, please indicate the type of assets in the corresponding 'Comments' field.

General – Yield and Duration

C7.13 For all fixed income instruments except for cash & cash equivalents, information on duration and market yield is required. The yield should be the Yield-To-Maturity (YTM) and the duration used should be the effective duration, both measured on market value basis.

Section (A) Cash and Cash Equivalents

C7.14 This section collects information on cash and cash equivalents by Asset Type, Currency and BSCR Rating.

C7.15 Cash equivalents are defined as short-term, highly liquid investments that have both of the following characteristics:

i) Readily convertible to known amounts of cash; and
ii) Are so near their maturity that they present insignificant risk of changes in value because of changes in interest rates.

C7.16 For the purposes of these Schedules, 'short-term' means investments with original maturity (i.e., maturity at the time of purchase) of three months or less.

C7.17 Asset categories used under this section include:

- Cash
- Certificates of Deposit
- Short-Term Commercial Paper
- Money Market Funds
- Other

C7.18 For the avoidance of doubt, any investments or instruments with either original maturity greater than three months, or not meeting the liquidity criteria above, must not be included in this section, and are to be included under the other sections instead.

C7.19 For a money market fund to qualify as 'cash equivalents' under this section, the underlying investments of the money market fund must qualify as cash equivalents on their own; in addition, there must be no withdrawal restrictions on the fund itself.

C7.20 Further examples:

- Treasury Bills with original maturity of three months or less are currently included in the category 'Other' under this section ('(A) Cash and Cash Equivalents') with BSCR rating 0
- Treasury Bills with original maturity greater than three months are to be included under section '(B) Bonds and Debentures'

Section (B) Bonds and Debentures

C7.21 This section collects information on bonds and debentures by asset type, currency and BSCR Rating.

C7.22 Asset categories used under this section include:

- Sovereign Bonds
- Municipals
- Supranationals (multilateral development banks and international organisations)
- Corporate Bonds
- Private Placements
- Other – Secured Bonds
- Other – Unsecured Bonds
- Exchange-Traded Fund – Sovereigns
- Mutual Fund – Sovereigns
- Exchange-Traded Fund – Corporates
- Mutual Fund – Corporates
- Other Funds

C7.23 For the purposes of this section,

i. ‘Municipals’ includes local governments and regional authorities; and
ii. ‘Private placements’ means debt issued under SEC Rule 144A and Regulation S.

Section (B), subsection ‘Additional Information on Sovereign Debt Exposures’

C7.24 This subsection collects additional information on sovereign debt exposures included in Section B, by Country, Currency and BSCR Rating. The intention is to provide country breakdown of sovereign debt exposures.

C7.25 Only government bonds/debt issued in either domestic or foreign currency should be included in this subsection. Other local government or ‘quasi-government’ bonds/debt (including supranational and multi-lateral institutions) should currently not be included in this subsection.

Section (C) Asset-Backed and Structured Securities

C7.26 This section collects information on asset-backed and structured securities by Asset Type, Currency and BSCR Rating.

C7.27 Asset categories used under this section include:

- RMBS – Agency
- RMBS – Non-Agency
- CMBS

- CLOs
- CDOs
- Auto Loan ABS
- Student Loan ABS
- Credit Card Receivable ABS
- Other ABS

C7.28 For the avoidance of any doubt, the abbreviations used above are as follows:

- 'RMBS': Residential Mortgage-Backed Securities
- 'CMBS': Commercial Mortgage-Backed Securities
- 'CLO': Collateralised Loan Obligations
- 'CDO': Collateralised Debt Obligations
- 'ABS': Asset-Backed Securities

<u>Section (D) Loans</u>

C7.29 This section collects information on asset-backed and structured securities by Asset Type, Currency, Country and BSCR Rating.

C7.30 Asset categories used under this section include:

- Residential Mortgages
- Other Residential Loans
- Commercial and Farm Mortgages
- Other Commercial Real Estate Loans
- Middle Market Loans
- Leveraged Loans
- Other Direct Private Lending
- Infrastructure Loans
- Collateral Loans
- Equity Release/Reverse Mortgages
- Policy Loans
- Other Direct Loans
- Mortgage Loan Fund – Residential
- Mortgage Loan Fund – Commercial
- Other Loan Fund

C7.31 The category ‘Residential Mortgages’ is to include only first mortgages (primary liens on the property that secures the mortgage). The category ‘Other Residential Loans’ includes all other (non-mortgage) residential loans, as well as second (or lower) mortgages/liens. The same applies with respect to the categories ‘Commercial and Farm Mortgages’ versus ‘Other Commercial Real Estate Loans’.

C7.32 The categories ‘Middle Market Loans’ and ‘Leveraged Loans’ above comprise the leveraged loans market. Although exact definitions may vary slightly depending on the source, ‘Middle Market’ loans are generally loans to companies with annual revenues of less than $500 million or annual earnings before interest, taxes, depreciation and amortization (EBITDA) of less than $50 million. The category ‘Leveraged Loans’ above is meant to capture the segment above Middle Market loans, generally referred to as ‘Large Cap’ or ‘broadly syndicated’ loans.

C7.33 ‘Other Direct Loans’ means direct loans not captured in any of the preceding categories.

C7.34 Note that loans to affiliates should be included under line ‘Advances to Affiliates’ in section (H).

Section (D), subsection ‘- Of which Non-Performing Loans’

C7.35 This subsection collects additional information on any loans included in Section D that are non-performing. The details are collected at the same granularity as section (D) i.e., by Asset Type, Country, Currency and BSCR Rating.

C7.36 The definition of a ‘non-performing’ loan is the same as that of a loan ‘not in good standing’ elsewhere in the BSCR. A loan is non-performing (i.e., is not in good standing) if it is either: i) 90 days or more overdue; or ii) in the process of foreclosure. Or, where neither of the preceding is yet the case but: iii) where the insurer has otherwise determined the loan to be non-performing/not in good standing for its financial reporting purposes.

Section (E) Preferred Equities

C7.37 This section collects information on preferred equities (also called preferred stock or preferred shares) by Asset Type, Currency and BSCR Rating.

C7.38 Asset categories used under this section include:

- Listed Preferred Equity – Direct
- Direct Preferred Equity – ETF
- Listed Preferred Equity – Mutual Fund

- Private Preferred Equity – Direct
- Private Preferred Equity – Mutua Fund
- Other – Listed Preferred Equity
- Other – Private Preferred Equity

C7.39 In the list above:

i. 'Direct' means directly held;
ii. 'ETF' is shorthand for exchange-traded fund; and
iii. 'Private' means not publicly traded i.e., unlisted.

C7.40 Note that preferred equity investments in affiliates should be included under the line called 'Investments in Affiliates' in section (H).

C7.41 Preferred equity investments in infrastructure or other alternative investments should generally be included under section (H).

Section (F) Common Equities

C7.42 This section collects information on common equities (also called common stock or common shares) by Asset Type, Currency and Country.

C7.43 Asset categories used under this section include:

- Listed Equity – Direct
- Direct Equity – ETF
- Listed – Mutual Fund
- Private Equity – Direct
- Private Equity – Mutual Fund
- Other – Listed Equity
- Other – Private Equity

C7.44 In the list above:

i. 'Direct' means directly held;
ii. 'ETF' is shorthand for exchange-traded fund; and
iii. 'Private' means not publicly traded i.e., unlisted.

C7.45 Note that equity investments in affiliates should be included under the line called 'Investments in Affiliates' in section (H).

C7.46 Equity investments in infrastructure or other alternative investments should generally be included under section (H).

Section (G) Real Estate

C7.47 This section collects information on real estate assets by asset type, Currency, country and purpose.

C7.48 Asset categories used under this section include:

- Direct Real Estate – Residential
- Direct Real Estate – Commercial
- Direct Real Estate – Industrial
- Direct Real Estate – Land
- Real Estate Funds – Residential
- Real Estate Funds – Commercial
- Real Estate Funds – Industrial
- Real Estate Funds – Land
- Direct Real Estate – Other

C7.49 ‘Purpose’ under this schedule includes either:

i. Investment;
ii. Owner-occupied.

Section (H) Other Alternative Investments

C7.50 This section collects information on other alternative investments by Asset Type, Currency, Country and BSCR Rating (where applicable).

C7.51 Asset categories used under this section include:

- Hedge Funds
- Equity investments in infrastructure
- Commodities – Direct
- Commodities – ETF
- Commodities – Mutual Funds
- Catastrophe Bonds
- Other Insurance-Linked Securities
- Advances to Affiliates

- Investments in Affiliates
- Other

C7.52 Note that section may include both fixed income and equity type investments. Not all the fields are necessary relevant or applicable to all investments. Where this is the case, the fields in a row may be left empty (e.g., BSCR rating or YTM for a common equity investment).

Section (I) Derivatives

C7.53 This section collects information on derivatives by Derivative Type, Underlying, Currency, Trading Category, Purpose and Position, separately for derivatives with negative market value and derivatives with positive market value.

C7.54 Derivative types used under this section include:

- Listed options
- Futures
- Forwards
- Swaps
- Swaptions
- OTC options
- Other

C7.55 Underlying asset types used under this section include:

- Equity
- Debt
- Interest Rate
- Inflation
- Credit
- Currencies
- Commodities
- Other

C7.56 Trading categories used under this section include:

- Exchange-traded
- OTC – Centrally-cleared
- OTC – Not centrally-cleared

C7.57 ‘Purpose’ under this section includes either:

- Hedging
- Speculative

C7.58 ‘Position’ used under this section include:

- Long/Receive Fixed/Sell Protection
- Short/Receive Floating/Buy Protection

C7.59 Notes:

- Purpose: If a derivative does not qualify as ‘risk mitigating’ under the BSCR rules, it should be classified as ‘speculative’
- Gross and Net Notionals:
    - The ‘Gross Notional Value’ should be the sum of the absolute values of the notionals of all individual positions, without considering any netting or offsetting
    - The ‘Net Notional Value’ should allow for netting and offsetting, but only to the extent there exists a legally enforceable contractual right to net/offset (e.g., for derivatives contracts with a given counterparty under a master netting agreement with that counterparty). For the avoidance of doubt, exposures to different counterparties should not be netted/offset (unless expressly contractually allowed and legally enforceable)
- Exposure: The value for the field ‘Exposure’ should be Dollar Delta for equity-type derivatives; DV01 for interest rate-related derivatives; CS01 for credit spread-related derivatives; and the generally accepted equivalent exposure/sensitivity measure for other types. This field is meant to provide information on how the market value of the derivative would change (in ‘dollar’ terms) as a result of a small change (a percentage change or a basis point change, as applicable) in the market value of the underlying

Section (J) Information on Exposures to Financial Institutions and Unlisted Counterparties

C7.60 This section collects additional information on exposures to financial institutions and unlisted counterparties, respectively, that are already included within the other (main) sections.

Exposures to Financial Institutions

C7.61 For financial institutions, information is requested per BSCR Rating bucket and per asset category. The BSCR Rating buckets used are:

- BSCR Rating 1-3
- BSCR Rating 4
- Below Investment Grade (BSCR Rating 5-7, or a rating (i.e., other than unrated) that maps to BSCR Rating 8)
- Unrated (BSCR Rating 8, where no rating exist)

C7.62 The asset categories used are:

- Equities
- Corporate Bonds
- Corporate Loans
- Commercial Loans and Mortgages
- Securitisations
- Other debt securities

C7.63 In addition, the aggregate exposures to financials are broken down into exposures to banks, insurers, and other financial institutions, but without the rating breakdown and using a simplified asset categorisation as follows:

- Equities
- Corporate Bonds
- Corporate Loans
- Other

C7.64 'Financial institutions' means banks, insurance companies and other financial institutions. 'Other financial institutions' includes (but is not limited to) e.g., brokers, dealers, asset managers and investment companies.

C7.65 The information should be provided on a look-through basis.

Exposures to Unlisted Counterparties

C7.66 For unlisted counterparties, information is requested per BSCR Rating bucket and per asset category. The BSCR Rating buckets used here are:

- BSCR Rating 1-3
- BSCR Rating 4
- Below Investment Grade (BSCR Rating 5-7, or a rating (i.e., other than unrated) that maps to BSCR Rating 8)
- Unrated (BSCR Rating 8, where no rating exist)

C7.67 The asset categories used are:

- Equities
- Corporate Bonds
- Corporate Loans
- Other

C7.68 For the avoidance of doubt, this section does not ask for information on *unlisted assets*; instead, it specifically asks for information on all direct exposures (whether unlisted or listed) to any counterparties where that *counterparty* is *unlisted*. For example, this section would include all direct equity and debt exposures to an unlisted (private) company.

C7.69 The information should be provided on a look-through basis.

Section (K) Other Assets

C7.70 This section collects information on other assets by Currency and BSCR Rating (where applicable).

C7.71 Asset categories used under this section include:

- Investment Income Due and Accrued
- Accounts and Premiums Receivable
- SAC – long-term business – variable annuities
- SAC – long-term business – others
- SAC – general business
- Deposit Assets
- Other Sundry Assets
- Letters of Credit, Guarantees and Other Instruments
- Other

Section (L) Information on Securities Lending and Repurchase Transactions

C7.72 This section collects additional information on securities lending and repurchase agreements.

C7.73 Aggregate level information is requested separately for transactions categorised as securities lending (including securities borrowing) and for repurchase (repo) and reverse repurchase (reverse repo) agreements.

C7.74 As a general rule, unless otherwise implied, the terms, definitions and reporting conventions under this schedule should be consistent with those applicable under US GAAP/IFRS.

Securities Lending (and Borrowing)

C7.75 Include securities borrowing and lending as follows:

i. Securities Borrowing: Include the gross value of recognised and non-recognised securities borrowing assets (i.e., the amount of cash or value of non-cash collateral posted to the counterparty in order to obtain the securities); and
ii. Securities Lending: Include the gross value of all recognised and non-recognised securities lending liabilities (i.e., the amount of cash or value of non-cash collateral received from the counterparty in exchange for lending securities). Include all transactions regardless of whether or not the contract contains a right to resell, re-use or re-hypothecate the collateral.

Where the values are to be reported as follows:

a. For the Notional Value: Report the sum of the *absolute* values of: i) the (gross position) notional values for securities borrowing; and ii) the (gross position) notional values for securities lending, as defined above; and
b. For the Fair Value: Report the sum of the values of: i) the (gross position) fair values for securities borrowing; and ii) the (gross position) fair values for securities lending, as defined above.

Repos and Reverse Repos

C7.76 Include reverse repos and repos as follows:

i. Reverse Repos: Include the gross value of recognised and non-recognised reverse-repurchase transaction assets (also called "securities purchased under agreements to resell"). This is equal to the amount of cash and securities lent against securities collateral; and
ii. Repos: Include the gross value of recognised and non-recognised repurchase transaction liabilities (also called "securities sold under agreements to repurchase"). This is equal to the amount of cash and securities borrowed against securities collateral. Include all transactions regardless of whether or not the contract contains a right to resell, re-use or re-hypothecate the collateral (assets borrowed).

Where the values are to be reported as follows:

a. For the Notional Value: Report the sum of the *absolute* values of: i) the (gross position) notional values for reverse repos; and ii) the (gross position) notional values for repos, as defined above; and
b. For the Fair Value: Report the sum of the values of: i) the (gross position) fair values for reverse repos; and ii) the (gross position) fair value for repos, as defined above.

Section (M) Information on Fair Value Hierarchy

C7.77 This section collects additional information on the fair value of all assets that fall into each level of the fair value hierarchy. The fair value hierarchy for EBS is the same as that for US GAAP/IFRS.

C7.78 Aggregate level information is requested for the Level 1, Level 2 and Level 3 assets, separately for affiliated and for unaffiliated assets.

C7.79 As a general rule, unless otherwise implied, the terms, definitions and reporting conventions under this schedule should be consistent with those applicable under US GAAP / IFRS. In particular, the definition of 'affiliated' is as defined under the relevant GAAP. Those assets that are not affiliated are unaffiliated.

Section (N) Information on Rating Agencies used for BSCR purposes to derive BSCR Ratings

C7.80 This section collects additional information on rating agencies used for BSCR purposes, broken down by asset category, BSCR rating and rating agency. The asset categories used correspond to the rating categories by which the eligibility of a given rating agency's ratings for BSCR purposes is specified (see Instructions on Schedule II) and are also consistent with the SEC's NRSRO designation categories.

C7.81 The asset/rating categories used in this section are:

- Financial institutions, brokers and dealers
- Insurance companies
- Corporate issuers
- Issuers of asset-backed securities
- Government securities, municipal securities, foreign government securities

C7.82 For example:

- In the cell identified by the column 'Moody's' and the row 'Corporate Issuers, BSCR Rating 3' one would include the fair value of all investments issued by corporate issuers and rated as BSCR rating 3 ('A') by Moody'.

C7.83 Given the table is by BSCR rating, one should allocate each investment's fair value to the rating agency that is driving the BSCR rating.

- For example, if a given corporate bond was rated 'AA' by S&P and 'A' by Moody's, the lowest of the ratings would determine the BSCR rating, which would be three in this case (corresponding to the 'A' rating by Moody's). Hence one would allocate the fair value of this instrument – as well as all others were the BSCR rating was three and Moody's ratings were determining/driving that BSCR rating – in the cell identified in the example above

C7.84 In case of tied ratings i.e., cases where two or more rating agencies have the same lowest rating for a given asset – and hence there is no single unique rating agency driving the BSCR rating for that asset – then, for the purposes of this table only, the fair value of the asset should be allocated to both/each of those rating agencies.

- For the avoidance of doubt, it is noted that in the latter case, the fair value in this table will not match the corresponding actual total fair values of the in-scope investments; the purpose of the table is to gather information on which rating agencies determine the BSCR ratings

C8. SCHEDULE OF LONG-TERM INSURANCE DATA (SCHEDULE VII)

Background

C8.1 The schedule of long-term insurance data — Schedule VII — provides a breakdown of an insurer's Best Estimate Technical Provisions by prescribed long-term insurance products. A description of these insurance products is listed below:

	Long-Term Business Lines of Business	**Description**
1	Mortality	The risk of fluctuations or deterioration of mortality experience causing increased claims on life insurance coverages.
2	Critical illness	A form of accident and health insurance that pays a benefit if the person insured incurs a predefined major illness or injury.
3	Longevity	The risk of fluctuations or improvements in mortality that cause benefits on payout annuities to be paid for longer than expected. The capital requirements for longevity swaps are not directly determined by the standard BSCR model. Insurers with longevity swaps will need to apply for a Section 6D BSCR adjustment
4	Deferred annuities	An insurance that provides savings or income benefits during the lifetime of the person insured or some limited period thereafter.
5	Disability income: active lives with premium guarantee of -	An accident and health insurance that pays a benefit for a fixed period of time during disability, based on contracts that are for active lives and have a premium guarantee.
6	Disability income: active lives for other accident and sickness	An accident and health insurance that pays a benefit for a fixed period of time during disability based on contracts that are for active lives and are for other accident and sickness coverage.
7	Disability income: claims in payment	An accident and health insurance that pays a benefit for a fixed period of time during disability based on contracts where claims in payment are issued on waiver of premiums.
8	Disability income: claims in payment for other accident and sickness	An accident and health insurance that pays a benefit for a fixed period of time during disability based on contracts where claims in payment on waiver of premiums are based on contracts that are for active lives and are for other accident and sickness coverage.
9	Group life	Life insurance that is issued to persons insured through a group arrangement such as through an employer or association.
10	Group disability	Disability insurance that is issued to persons insured through a group arrangement such as through an employer or association.

11	Group health	Health insurance that is issued to persons insured through a group arrangement such as through an employer or association.
12	Stop loss	The risk that arises when total claims experience deteriorates or is more volatile than expected, thereby increasing the likelihood and amount by which actual claims experience exceeds a predefined level.
13	Rider	The risk that arises when total claims experience deteriorates or is more volatile than expected, thereby increasing the likelihood and amount by which actual claims experience exceeds a predefined level.
14	Variable annuities	Insurance that provides a minimum investment guarantee on variable annuities.

Items

C8.2 The Schedule has the following column items for each individual long-term insurance product, where applicable:

a) Bermuda EBS Best Estimate Provisions
b) BSCR-adjusted reserve [greater of item (1) and 0]
c) Net amount at risk for adjustable product/treaty
d) Net amount at risk for non-adjustable product/treaty
e) Total net amount at risk

C8.3 The Schedule has the following column items for each individual long-term insurance product with regards to additional Supplemental Notes, where applicable:

a) Bound But Not Incepted (BBNI) Premium (Form 4EBS, line 27(d))
b) Best Estimate Provision in respect to BBNI (Form 4EBS, line 27(d))
c) Best Estimate Provision using transitional adjustments (Form 4EBS, line 27(d)
d) Equivalent of column (14) if transitional arrangements were not used (Form 4EBS, line 27(d)
e) Scenario Based approach Best Estimate for Technical Provisions (Form 4EBS, line 27(d)
f) Equivalent of column (16) if Scenario Based approach were not used (Form 4EBS, line 27(d)
g) Equivalent of column (16) if Based approach were used (Form 4EBS, line 27(d)
h) BBNI Premium (Form 4EBS, line 27B(d)
i) Best Estimate Provision in respect to BBNI (Form 4EBS, line 27B(d))

Additional Guidance

Additional guidance for reporting Net Value at Risk

C8.i. For the purposes of completing Schedule VII Long-Term Insurance Data:

c) Net Amount at Risk refers to the difference between the total amount of the death benefits from the policy and the accrued cash value for that policy
d) The Net Amount at Risk should be reported for the retained portion of each contract.
e) If an insurer has a term policy which has no cash value, then the Net Amount at Risk would equal the face amount of the policy;
f) If an insurer has a permanent life policy, the value of the reserves can be used (instead of the value of the cash) for the Net Amount at Risk valuation;
g) The mortality risk Net Amount at Risk should include all term assurance, whole life, universal life as well as group life insurance.

C9. SCHEDULE OF LONG-TERM VARIABLE ANNUITY (SCHEDULE VIII)

Background

C9.1 The schedule of Long-Term Variable Annuity — Schedule VIII — provides disclosures on the following long-term variable annuity guaranty products for both in-the-money and out-of-the-money positions:

a) Guaranteed Minimum Death Benefit (GMDB)
b) Guaranteed Minimum Income Benefit (GMIB)
c) Guaranteed Minimum Withdrawal Benefit (GMWB)
d) Guaranteed Enhanced Earnings Benefit (GEEB)
e) Guaranteed Minimum Accumulation Benefit (GMAB)

C9.2 The percentage of GMDB with multiple guarantees is also required to be disclosed in this schedule.

C9.3 Long-term variable annuities are to be reported on Schedule VIII with the requirements listed below. Upon approval from the Authority, the insurer may have its variable annuity business assessed by its internal capital model and with the details of this provided in Schedule VIIIA.

Items

C9.4 The schedule has the following column items for each individual variable annuity risk, where applicable:

a) Bermuda EBS Best Estimate Provision
b) Guaranteed value – volatility 0% to 10%
c) Guaranteed value – volatility 10% to 15%
d) Guaranteed value – volatility of over 15%
e) Net amount at risk – volatility 0% to 10%
f) Net amount at risk – volatility 10% to 15%
g) Net amount at risk – volatility of over 15%

C10. SCHEDULE OF LONG-TERM VARIABLE ANNUITY – INTERNAL CAPITAL MODEL (SCHEDULE VIIIA)

Background

C10.1 The schedule of Long-Term Variable Annuity - Internal Capital Model — Schedule VIIIA — is intended to capture the internal model-based capital requirements for variable annuities.

C10.2 Insurers must obtain permission from the BMA to complete Schedule VIIIA in lieu of Schedule VIII.

C10.3 Once the insurer has selected to complete Schedule VIIIA, it would be unable to switch to completing Schedule VIII without first obtaining approval from the BMA.

Items

C10.4 Disclosures on insurer’s in-force data

For each type of variable annuity guarantee risk, insurers will be required to provide summaries of their policy data by policy accounts, account values, guarantee amounts, and net amounts at risk with their BSCR EBS Best Estimate amounts. Such data should be further broken out by policy year, the level of fund volatility (0-10%, 10-20%, 20%+), and how far in or out the money is (less than -15%, -15% to -5%, -5% to +5%, +5 to +15%, greater than +15%).

C10.5 Disclosures on insurer’s internal capital model

Insurers may use their own stochastic internal capital model to determine their capital requirements for their variable annuity guarantee business on a one-year model with a 99% TVaR threshold or a runoff model on a 95% TVaR threshold. In addition, insurers will be required to disclose the capital requirements determined by their internal capital model reflecting both with hedging and without hedging. Lastly, model results relating to economic sensitivities, as prescribed by the BMA, and behavioural and actuarial sensitivities would be disclosed.

C10.6 Actuarial memorandum

The insurer must file an actuarial memorandum with the Authority that should minimally include the particulars described below. When the information is already available in other documents within the capital and solvency return, it is acceptable to attach those documents and simply make reference to them in the actuarial memorandum. The insurer should indicate any significant changes from the last memorandum filed with the Authority.

Line No.	Section	**Provide a <u>brief summary or description</u> of the following details under each section:**
1	Executive summary	• Required capital amount and drivers of result • Key risks and associated risk mitigation techniques • The modelling methods used
2	Overview of business	• Type of business • Key product features and specifications
3	Key risk exposures	Qualitative description of key risk exposures, such as economic, mortality, surrender, annuitisation, withdrawal, expense and counterparty risks
4	Description of model	The approach used to calculate total assets and required capital; Key model details, including: • Source of asset and liability data • Aggregations used to generate model cells • Allocation of assets to variable annuity blocks • The reserve basis • Time step of model (e.g., monthly) • The rate used to accumulate and discount cash flows • The treatment of interim solvency (e.g., how periods of negative cash flows followed by positive cash flows allowed for)

5	Description of assumptions	• Basis for economic scenarios, including underlying model and parameters
		• Information on the average return and volatility on the equity investment funds
		• For mortality and all policyholder behaviour assumptions (e.g., premium payments, withdrawals, annuitisations, and lapses)
		  o Source of data (e.g. company-specific experience)
		  o Any margins for conservatism that were used
		  o Any future mortality improvement
		• Approach to investment fund mapping
		• Insurer's crediting strategy
		• Expenses and commissions
		• Treatment of taxes
		• Future management actions (other than hedging and reinsurance)

6	Reinsurance	• Reinsurance (both assumed and ceded), including a list of counterparties

		• Nature of arrangements, including caps, floors and recapture provisions The approach to modelling these arrangements Collateral requirements, if relevant
7	Hedging	• Business covered • Hedge target • Hedged parameters (i.e., Greeks) managed/monitored by the insurer • Internal governance procedures • Currently-held derivatives and range of derivatives approved for trading • Unhedged exposures • Historical hedge effectiveness • Sample attribution reports • How hedging is reflected in the determination of required capital and stress tests, including how any modeling limitations or simplifications are addressed
8	Risk mitigation arrangements other than hedging	• Business covered • Nature of arrangements • Internal governance procedures • Other supporting details such as internal analyses, historical results, etc.
9	Results and model output	• Capital results (summarised also in line 1 of the table under b)) and commentary • Results of stress tests (summarised also in lines 2 and 3 of the table under b)) with description and justification for tests selected and commentary on results • Sensitivity results for key assumptions/risk exposures • The output from model for a single scenario in the tail (e.g. that which most closely corresponds to the TVaR 95% result) showing cash flows by guaranteed rider type, accumulation and discounting of cash flows, and total assets required for that scenario
10	Reviewer and signatory	The memorandum is required to be reviewed and signed by the Approved Actuary

C11. SCHEDULE OF COMMERCIAL INSURER'S SOLVENCY SELF-ASSESSMENT (SCHEDULE IX)

Background

C11.1 The Commercial Insurer's Solvency Self-Assessment (CISSA) is a regime that requires insurers to perform an assessment of their own risk and solvency requirements. This provides the BMA with the insurer's perspective of the capital resources (referred to as CISSA capital) necessary to achieve its business strategies and remain solvent given its risk profile, as well as insight into the risk management and governance procedures surrounding this process. The risk profile considers all reasonably foreseeable material risks arising from its operations or operational environment. Insurers should perform this assessment on an unconsolidated basis, with the exception of internal to regulatory capital level which should be done on a consolidated basis.

C11.2 The CISSA is one of the tools used in the supervisory review process to assist in monitoring compliance with the Insurance Code of Conduct (Code), given that the CISSA should, at a minimum, consider those risks outlined in the Code.

C11.3 The CISSA process should be integrated into the insurer's decision-making process and serve a critical role in the development, implementation and monitoring of management strategies. This is referred to as the 'use test'.

Items

C11.4 The schedule of CISSA — Schedule IX — shall provide particulars of the following matters:

a) CISSA capital summary and additional information – disclosing the insurer's own capital computations, insurer's comparison of the CISSA capital to regulatory capital, insurer's plans for raising additional capital and contingency arrangements impacting the available capital.
b) CISSA general questions – providing information on an insurer's risk management and governance programme, the review and approval of the CISSA, and integration of the CISSA into the strategic decision-making process.
c) CISSA assessment of material risks of the insurer – providing information on an insurer's assessment of material risks, determination of both the quality and quantity of capital required to cover its risks, the forward-looking analysis and its ability to manage its capital needs, the review and approval of the CISSA and the governance and controls surrounding model(s)/tool(s) used to compute the CISSA capital.

Instructions Affecting Schedule IX

C11.4a CISSA capital summary and additional information—

Column Item		Description
1	CISSA capital	CISSA capital is the amount of capital the insurer has determined that it is required to achieve its strategic goals upon undertaking an assessment of all material risks (reasonably foreseeable) arising from its operations or operating environment. Input the CISSA capital determined by the insurer for each respective risk category. The BMA is mindful that it is difficult to quantify and therefore hold capital in respect of certain risks, (e.g., liquidity, reputational, concentration, group and strategic risk). Where an insurer does not hold capital against certain risks, it should input a nil amount in the respective cell. Where an insurer uses an internal capital model/tool to determine its CISSA capital, the internal model/tool will not require the BMA's approval for purposes of completing this Schedule. All supporting work papers and documents for the purposes of completing this Schedule should be retained and kept available for examination and discussion with the BMA should the need arises.
2	Regulatory capital	Regulatory capital is determined by the BSCR or an approved internal capital model at 99.0% TVaR over a one-year time horizon. Input the regulatory capital determined by the insurer for each respective risk category, where applicable.

<u>Additional information</u>

Line Item		Description
1-7	Questions 1-7	The insurer should select the appropriate response from the drop-down menu provided and/or otherwise provide a brief description, explanation or attachment. Where an attachment is provided, the designated insurer shall include references (e.g., page number, paragraph number) of where the information can be located within the attachment. Where a question/section is not applicable to an insurer or the options provided do not fully reflect the insurer's position, the insurer shall select the 'Others' option and include a brief description. For Question 7 – The insurer **<u>must</u>** disclose whether a regulator in any jurisdiction has placed a restriction on the movement of assets/payment of dividends from a subsidiary in that jurisdiction, and the associated amount. The amount should be gross of regulatory capital requirements.

C11.4b CISSA general questions

Line Item		Description
1-5	Questions 1-5	The insurer should select the appropriate response from the drop-down menu provided. Where a question/section is not applicable to an insurer or the options provided do not fully reflect the insurer's position, a brief description shall be included.
5	Question 5	Independent verification shall be conducted by an internal or external auditor or any other appropriately skilled internal or external function, as long as they have not been responsible for the part of the CISSA process they review and are therefore deemed to be independent in their assessment.

C11.4c CISSA assessment of material risks of the insurer
For Class E and D insurers only

Line Item		Description
1-11	Questions 1-11	This section requires the insurer to undertake and file with the BMA the insurer's most recent report comprising of a solvency self-assessment of its material risks and the determination of both the quality (types of capital) and quantity of CISSA capital required to cover these risks, while remaining solvent and achieving the insurer's business goals. The insurer shall provide attachments containing the information requested. The attachments shall include references (e.g., page number, paragraph number) of where the information can be located within the attachment.
12	Question 12	The insurer should select the appropriate response or otherwise provide a brief description or an attachment. Where an attachment is provided, the insurer shall include references (e.g., page number, paragraph number) of where the information can be located within the attachment.
1-12	Questions 1-12	All supporting work papers and documents used to prepare the CISSA submission should be retained and kept available for examination and discussion with the BMA should the need arise.

For Class C insurers

	Description
Questions (1) to (11)	The insurer is required to undertake and file with the BMA an assessment of its material risks and the determination of both the quality (types of capital) and quantity of CISSA capital required to cover these risks, while remaining solvent and achieving its business goals. Attachments containing the information requested should include references (e.g., page number, paragraph number) of where the information can be located within the attachment.

Additional Guidance

Risk Management Policy in lieu of CISSA Report

C11.i. If the insurer's Risk Management Policy is used to assess and monitor strategic goals and it minimally addresses Schedule IX(c), items 1-11, it can be submitted in lieu of the CISSA Report. This would also apply for an insurer's Code of Conduct assessment, Risk Framework, Underwriting Framework, and other internal documents. Insurers should include a reference table that identifies the CISSA disclosure within the submitted attachment(s) (e.g., CISSA item 3 is covered in the Risk Management Policy, section 5 (pages 40-44)). Note that any documents referenced in these Risk Management Policy (or other such document) shall be submitted as part of the submission package.

C12. SCHEDULE OF ELIGIBLE CAPITAL (SCHEDULE XII)

Background

C12.1 The schedule of eligible capital — Schedule XII — requires insurers to assess the quality of their capital resources eligible to satisfy their regulatory capital requirement levels. The insurer should report their Eligible Capital on an **EBS basis.**

C12.2 The purpose of this schedule is to consider the uniqueness of capital instruments in their ability to protect policyholders on a going concern basis, run-off basis and during times of distress such as a winding-up or insolvency in the determination of capital adequacy.

C12.3 The schedule also takes into consideration that in times of stress situations, the excess of pledged assets that support policyholder obligations are not available to all policyholder until the obligations of the underlying policyholders have been satisfied. Therefore, the statutory surplus must be adjusted to recognise the limited accessibility of these assets. Thus, this excess of funds is transferred from Tier 1 to Tier 2 Capital which is calculated in Tier 1 Basic Capital item (h).

C12.4 Further the Authority considers that it would be too punitive that an insurer maintains capital for these excess of funds for policyholder obligations that have been transferred from Tier 1 to Tier 2 capital, and therefore section (h)(vi) to (h)(xiii) reduces the capital factor charges associated with those assets. The additional guidance provides details on how this capital factor calculation should be completed

C12.5 Refer to the Eligible Capital Rules 2012 for details. A copy of these Rules is available in the BMA website.

Additional Guidance

Insurer does not have any Encumbered Assets for Policyholder Obligations

C12.i. If the insurer does not have any encumbered assets for policyholder obligations, the insurer shall report the full amount of Best Estimate Technical Provisions in column A, line iv – contracts where policyholder obligations are not collateralised.

Reporting Encumbered Assets for Policyholder Obligations

C12.ii. When calculating the excess encumbered assets capital charge in section (h)(vi), this shall be done as follows:

- Encumbered Assets - determine the capital charge for the assets reported in section (h)(i) and reduce the capital charge by the insurer's overall capital diversification.

For example, if the insurer has encumbered assets in a trust equal to $8,000 which is allocated as:

Asset	Amount	BSCR Capital Factor	Required Capital
Cash BSCR Rating 1	$3,000	0.1%	$3.00
Sovereign Bonds	$2,000	0.0%	$0.00
Corporate Bonds Rating 1	$500	0.4%	$2.00
Corporate Bonds Rating 3	$5,500	1.5%	$37.50
Total	**$8,000**		**$42.50**

In the same example, the insurer has BSCR prior to covariance of $1,500 and the BSCR after covariance adjustment of $1,200, the diversification credit is 0.8. This is shown as follows:

Regulatory Capital	Amount	Comments
BSCR prior to covariance	$1,500	
BSCR after covariance	$1,200	
Diversification	0.8	BSCR after covariance adjustment **divided by** BSCR prior to covariance adjustment (1200/1500)

Finally apply the diversification credit to the assets held in the trust's capital factor:

Regulatory capital	Amount
Asset in Trust capital factor	$42.50
Diversification credit	0.8
Capital requirements arising from encumbered assets	**$34.00**

C13. SCHEDULE OF REGULATED NON-INSURANCE FINANCIAL OPERATING ENTITIES (SCHEDULE XVI)

Background

C13.1 The schedule of Regulated Non-Insurance Financial Operating Entities — Schedule XVI — shall calculate the insurer’s regulatory capital requirement for regulated non-insurance financial operating entities and shall form part of the insurer’s charge for capital adjustment, which is added to the BSCR (after covariance adjustment) amount to arrive at the BSCR.

C13.2 This shall apply to all entities where the insurer exercises either control or significant influence. In determining whether the parent company controls or significant influence over a regulated non-insurance financial operating member of the group, the definitions contained in the U.S., United Kingdom (U.K)., or Canadian GAAP or International Reporting Standards (IFRS), as applicable, shall apply.

Items

Column Item		Description
1	Entity name	Column (1): Input the name of the regulated non-financial operating entity where the insurer exercises either control or significant influence
2	Jurisdiction	Column (2): Input the jurisdiction of said regulated entity
3	Sector classification	Column (3): Input the sector where the said regulated entity operates
4	Strategic purpose	Column (4): Input the description of the strategic purpose of said regulated entity
5	Entity type	Column (5): Input the entity type of said regulated entity
6	Products and services offered	Column (6): Input the description of the products and services offered to external parties by said regulated entity
7	Participation	Column (7): Input the insurer’s participation type (whether control or significant influence) on said regulated entity.
8	Percent of participating interest	Column (8): Input the insurer’s participating interest (in percentage) on said regulated entity
9	Assets	Column (9): Input the total assets (on an unconsolidated basis) of said regulated entity
10	Investment Amount (Equity Method)	Column (10): Input the investment amount (on a unconsolidated basis) of said regulated entity, which shall be (a) the equity value where the insurer exercises significant influence and has accounted under the equity method of accounting as aggregated in Form 4EBS, line 4(d)
11	Regulatory Capital Requirement (RCR)for Regulated Entities	Column (11): Input the RCR for said regulated entity, which shall be based on the jurisdiction’s solvency laws for the regulatory sector in which the said entity is licensed to conduct non-insurance financial business.
12	Applicable share of the RCR	Column (12): Calculated using [column (8) x column (11)].

Instructions Affecting Schedule XVI

C13.2a The insurer's regulatory capital requirement for regulated non-insurance financial operating entities, where the insurer exercises either control or significant influence, shall be calculated in accordance with Schedule XVI and shall form part of the insurer's BSCR – where 'control' and 'significant influence';

C13.2b The name of the entity and its jurisdiction of incorporation shall be provided;

C13.2c The sector classification of each of the insurer's regulated non-insurance financial operating entities shall be provided as prescribed by the BMA;

C13.2d The description of the strategic purpose of each entity shall be provided;

C13.2e The entity type shall be provided;

C13.2f The description of the products and services offered to external parties of each entity shall be provided;

C13.2g The insurer's participation categorised, whether control or significant influence, on each registered entity shall be provided;

C13.2h The percent of participating interest of the insurer on each registered entity shall be provided;

C13.2i The total assets (on a unconsolidated basis) of each entity shall be provided;

C13.2j The investment amount (on a unconsolidated basis) shall be: (1) the equity value of the insurer's investment in such regulated entities where the insurer has significant influence and has accounted under the equity method of accounting as aggregated in Form 4EBS, line 4(d) and; (2) the net asset value of the insurer's investment in these regulated entities where the insurer exercises control shall be provided;

C13.2k The RCR shall be provided based on the jurisdiction's solvency laws for the regulated sector in which the entity is licensed to conduct non-insurance financial business; and

C13.2l The insurer's proportionate share of each entity's RCR.

C14. SCHEDULE OF SOLVENCY (SCHEDULE XVII)

Background

C14.1 The schedule of solvency — Schedule XVII — shall disclose the insurers that have been consolidated to determine the ECR.

C14.2 This shall apply to all entities that have been consolidated, whether the insurer exercises control or significant influence. In determining whether the insurer has control or significant influence over an entity, the definitions contained in the US, UK, or Canadian GAAP or IFRS, as applicable, shall apply.

Items

Column Item		Description
1	Entity name	Column (1): Input the name of the entity
2	Jurisdiction	Column (2): Input the jurisdiction of said entity
3	Entity type	Column (3): Input the entity type of said entity
4	Percent of participation/interest	Column (4): Input the insurer's participating interest (in percentage) on said entity
5	Net Premiums Written	Column (5): Input the net premiums written of said entity
6	Total Assets	Column (6): Input the total assets of the subsidiaries of the insurer using the valuation basis required in the jurisdictions where the subsidiary is licensed
7	Net Assets	Column (7): Input the net asset valuation of the subsidiaries of the insurer using the valuation basis required in the jurisdictions where the subsidiary is licensed
8	RCR	Column (8): Input the entity's RCR value where the said entity is registered or licensed.

Instructions Affecting Schedule XVII

C14.2a The name of the entity over whom the insurer exercises control or significant influence;

C14.2b The name of the jurisdiction in which the entity is licensed or registered;

C14.2c The entity type shall be provided (i.e., holding company, operating entity or branch);

C14.2d The group's participation interest of each registered entity;

C14.2e Net Premiums Written of these entities shall be provided;

C14.2f The total assets of the subsidiaries of the insurer using the valuation basis required in the jurisdictions where the subsidiary is licensed;

C14.2g The total net asset valuation of the subsidiaries of the insurer using the valuation basis required in the jurisdictions where the subsidiary is licensed; and

C14.2h The solvency requirement for each registered entity as determined by the jurisdiction where the entity is licensed or registered.

Additional Guidance

<u>Insurers to include in the report</u>

C14.i. The insurer should at a minimum include the details of the Bermuda entity (note that the regulatory capital requirement for the Bermuda entity would be the MSM).

C14.ii. If the insurer has other entities that have been included in the consolidated statutory statements, then these amounts would be reported gross (prior to consolidation).

C15. SCHEDULE OF PARTICULARS OF CEDED REINSURANCE (SCHEDULE XVIII)

Background

C15.1 To assess the risk of amounts reported in Funds Held By Ceding Reinsurers (Form 4EBS, line 12(c)), the Authority requires insurers to determine the arrangement in which the funds are being held. In the event of default, if the Company bears the risk (as well as the market risk of the valuation of investments), then these amounts are to be reported in Schedule IIA, Schedule of Funds Held by Ceding Reinsurers in Segregated Accounts/Trusts by BSCR Rating; if the reinsurer bears the risk of the assets held, then these amounts are to be reported on Schedule XVIII – Schedule of Particulars of Ceded Reinsurance.

C15.2 Particulars of reinsurance balances shall disclose at least the ten largest reinsurance exposures with the remaining reinsurance exposures grouped according to BSCR ratings and/or a single consolidated reinsurance exposure—

a) The name of reinsurer;
b) The BSCR rating;
c) The amount of reinsurance balances receivable, funds held by ceding reinsurers, and reinsurance recoverable balance (as reflected in Form 4EBS, lines 11(e), 12(c) and 27(c));
d) Funds held by ceding reinsurers (as reflected in Form 4EBS, line 12(c)), in paragraph (c) above, shall be included only to the extent that they are not already included under Schedule IIA;
e) The amount of reinsurance balances payable and other payables (as reflected in Form 4EBS, lines 28, 29, 33, and 34(c)) to the extent that they are attributable to that particular reinsurer or reinsurance exposure balance and there is a contractual right of set-off;
f) The amount of any collateral placed in favour of the insurer relating to the reinsurance balances (as reflected in the Notes to Form 4EBS, Lines 11(e) and 27(c));
g) The amount of qualifying collateral shall be the collateral amount in (f) less a 2% reduction to account for the market risk associated with the underlying collateral assets but, at all times, the qualifying collateral shall not exceed the net exposure, which is the difference between the amounts in (c) and (e);
h) The net qualifying exposure shall be the amount under (c) less the amounts under both (e) and (g) above;

i) for the purposes of this Schedule, the appropriate BSCR rating shall be determined as follows—

   (i) the BSCR rating shall be based on either the rating of the reinsurer or the rating of the letters of credit issuer, if any, whichever is higher;
   (ii) where the letters of credit do not relate to the entire reinsurance exposure, the reinsurance exposure should be separated to reflect the rating of that portion of the exposure which is covered by the letters of credit and the rating of that portion of the exposure which is not;
   (iii) where the reinsurer is a domestic affiliate, it shall be assigned a BSCR rating of 0 regardless of its credit rating;
   (iv) where a reinsurer is not rated but is regulated in a jurisdiction that applies the International Association of Insurance Supervisors' Insurance Core Principles (IAIS' ICPs) and in particular imposes both a minimum capital requirement and a Prescribed Capital Requirement (PCR) and fully meets its PCR in that jurisdiction, it shall be assigned a BSCR rating of 4 or otherwise, it shall be assigned a BSCR rating of 8; and
   (v) where the insurer has disclosed a single consolidated reinsurance exposure, that exposure shall be assigned a BSCR rating of 8;
   (vi) insurance financial strength ratings, reflecting the claims paying ability of (re)insurers, issued by the recognised credit rating agencies shall be used for the purposes of this schedule; the corresponding BSCR ratings shall be determined in the same manner as specified in sections C2.1a to C2.1l instructions affecting Schedule II.

Additional Guidance

<u>Premiums Receivables to be reported on line 10 of Balance Sheet</u>

C15.i. The Authority would like to confirm that premiums receivables should typically be captured under line 10 of the balance sheet and not line 11. Reinsurance receivables are typically those recoverables that have now been crystallised – hence both reinsurance receivables and recoverables are assessed together from a credit risk perspective. Additionally, the Authority confirms that the line 33 offset against reinsurance balances should only apply to the extent that they are attributable to a specific reinsurer

<u>Capital Risk charge based on nature of the arrangement</u>

C15.ii. For funds held by ceding companies, the capital risk charge is calculated by the nature of the arrangement.

a) Where specific assets have been allocated for the benefit of the reinsurer, such that the reinsurer bears market risk on those assets, the Authority requires insurers to look through to the underlying assets, and report these balances on Schedule IIA. This effectively adds to the fixed income risk and equity risk modules similar to Schedule II.

b) Where there are no specific identified assets, the reinsurer is effectively in a similar position to a typical cedant with reinsurer exposure. Thus, the amounts will be treated similarly to reinsurance recoveries and shall be reported on Schedule XVIII Particulars of Ceded Reinsurers. Further, the rating for reinsurance exposures should be based on the financial strength ratings of the insurer.

C16. SCHEDULE OF CASH AND CASH EQUIVALENT COUNTERPARTY ANALYSIS (SCHEDULE XIX)

Background

C16.1 For assessing the underlying credit security of cash and cash equivalent counterparties, the Authority is requiring insurers to provide details of the largest 10 exposures and the rating of those institutions. The remaining balance can be aggregated by BSCR rating (which is a similar methodology to the Schedule of Particulars of Ceded Reinsurance).

Instructions Affecting Schedule XIX

C16.i. Cash and cash equivalent balances are to be reported based on its BSCR Rating;

C16.ii. An insurer may disclose at least the top ten cash and cash counterparty exposures (as reflected in Form 4EBS and Schedule IIA column 1, line 27);

C16.iii. The remaining balance may be grouped according to BSCR rating;

C16.iv. All unreconciled balances shall be allocated to the single consolidated exposure balance that receives a BSCR Rating of 8;

C16.v. Cash and cash equivalents issued by a country that is rated AA- or better in its own currency shall be classified under BSCR rating class 0;

C16.vi. Insurers may allocate BSCR Ratings based on the short-term ratings in the table below, or alternatively based on the long-term ratings detailed in Schedule II, in each case following the process specified in the instructions affecting Schedule II;

C16.vii. Amounts shall be reported on both an unconsolidated and consolidated EBS basis. Nevertheless, if an insurer does not have entities to consolidate, enter **consolidated EBS** information only.

BSCR Ratings	Standard & Poor's	Moody's	AM Best	Fitch
Class 2	A1+	P1	AMB-1+	F1+
Class 3	A1	P2	AMB-1	F1
Class 4	A2, A3	P3	AMB-2, AMB-3	F2, F3
Class 5				
Class 6	B-1, B-2			B
Class 7	B-3			
Class 8	Unrated short-term investments and all other ratings			

BSCR Ratings	KBRA	DBRS	Egan-Jones	Japan Credit Rating Agency
Class 2	K1+	R-1 H,M	A-1+	J1+
Class 3	K1	R-1 L	A-1	J1
Class 4	K2, K3	R-2 H,M,L	A-2, A-3	J2
Class 5		R-3	B-1	J3
Class 6	B	R-4	B-2	
Class 7			B-3	NJ
Class 8	Unrated short-term investments and all other ratings			

C17. SCHEDULE OF CURRENCY RISK (SCHEDULE XX)

C17.1 For insurers that write business in multiple currencies, the Authority has developed a capital charge for each currency where the insurer's liabilities may exceed its assets. For the grounds of proportionality, the Authority is requiring insurers to provide currency exposures for at least 95% of total assets and liabilities held.

C17.2 A capital charge is applied for those currencies for which the assets in the currency are less than the sum of the liabilities denominated in the currency plus a proxy BSCR for that currency. The capital charge of 25% is applied to the difference between the liabilities plus proxy BCSR for the currency and the assets held in that currency. The proxy BSCR for a given currency shall be calculated as the product of the liabilities in that currency and the proxy BSCR factor. The Proxy BSCR factor is calculated as the total statutory liabilities found on Form 1EBS line 39 divided by the total ECR Charge. The proxy BSCR factor shall be the maximum of:

a) The prior year value; or
b) Average of the last 3 years.

Instructions Affecting Schedule XX

C17.2a At least 95% of an insurer's total liabilities by currency based on the EBS shall be included;

C17.2b $GrossCurrast_i$ and $GrossCurrliab_i$ shall be valued in line with the EBS principles set out in Schedule XIV;

C17.2c Where an insurer uses currency hedging arrangements to manage its currency risk, then $Currast_i$and $Currliab_i$ may reflect the impact of those arrangements on$GrossCurrast_i$ and $GrossCurrliab_i$ of a 25% adverse movement in foreign exchange rates, otherwise the amounts $GrossCurrast_i$ and $GrossCurrliab_i$ shall apply;

C17.2d A 'currency hedging arrangement' means derivative or other risk mitigation arrangements designed to reduce losses due to foreign currency exchange movements, and which meet the Authority's requirements to be classed as such; and

C17.2e Amounts shall be reported on both an unconsolidated and consolidated EBS basis. Nevertheless, if an insurer does not have entities to consolidate, enter **consolidated EBS** information only.

Additional Guidance

Calculating the BSCR Proxy

C17.i. When calculating the BSCR Proxy, insurers are to provide Liabilities (on an EBS basis) and total full (old basis) ECR capital charge on an EBS basis for the prior 3 years. In the instance the insurer does not have liabilities and the ECR capital charge on an EBS basis, the Authority will allow insurers to provide the unconsolidated balances for each. Note that for financial year-ends within the BSCR transitional period, insurers are to report the full old-basis BSCR for that period.

C17.ii. If the insurer does not have either liabilities or ECR capital charge for the prior 3 years,

a) Insurers filing their BSCR for the first time are to use current year figures for the prior year; and
b) Insurers that have previously filed a BSCR, yet do not have 3 years of historical data shall provide the years they have data for, and leave the years with no data reported as blank

Meeting the 95% minimum Asset and Liability test

C17.iii. If an insurer does not meet the 95% minimum test on this schedule regarding how it will impact the BMA's risk assessment of the insurer.

a) The Authority may require additional information from the insurer to assess its currency risk. This may result in a capital add-on which will require the insurer's ECR and TCL ratios to be revised on its published Financial Condition Report.

Reporting Assets and Liabilities with hedging arrangements

C17.iv. For insurers that have been provided approval from the Authority for including hedging arrangements in their currency risk schedule, they shall report the total asset and liability of such currency hedge before and after the hedging arrangement.

Example: If an insurer had $1.2 million in USD Assets, $0.75 million in USD Liabilities; £0.5 million in Sterling Pound Assets and £0.4 million in Sterling Pound Liabilities; $0.25 million in Canadian Dollar Assets and $0.10 million in Canadian Dollar Liabilities; which the insurer had an approved asset hedge of $0.2 million from USD to Sterling pound, this would be represented as follows:

Currency	Assets	Assets with Hedging Arrangements	Liabilities	Liabilities with Hedging Arrangements
USD	$1.2M	$1.0M	$0.75M	$0.75M
Sterling Pound	£0.5M	£0.7M	£0.4M	£0.4M
Canadian Dollar	$0.25M		$0.10M	

C18. SCHEDULE OF CONCENTRATION RISK (SCHEDULE XXI)

Background

C18.1 To assess the insurer's concentration risk, the Authority requires the identification of the largest 10 independent counterparties, and all the exposures relating to these counterparties (such as equity holdings, bonds, real estate, loans, etc.), which would be an addition to the existing BSCR market and/or credit risk contributed by those exposures.

C18.2 In deciding which counterparties need to be grouped together, a single counterparty should include all related/connected counterparties, which are defined as:

a) Control relationship: one of the counterparties, directly or indirectly, has control over the other(s); and
b) Economic inter-dependence: if one of the counterparties were to experience financial problems, in particular funding or repayment difficulties, the other(s) as a result, would also be likely to encounter funding or repayment difficulties.

Instructions Affecting Schedule XXI

C18.2a Disclosure of all exposures to an insurer's ten largest counterparties by reporting the name, the exposure and allocation by asset type, bond/mortgage type (if applicable), BSCR Rating (if applicable) and asset value consistent with Form 4EBS.

C18.2b A counterparty shall include all related/connected counterparties defined as:

a) Control relationship: if the counterparty, directly or indirectly, has control over the other(s); and
b) Economic interdependence: if one of the counterparties were to experience financial problems, in particular funding or repayment difficulties, the other(s) as a result, would also be likely to encounter funding or repayment difficulties.

C18.2c Asset type (column A) shall be one of the following lines taken from Form 4EBS;

a) Cash and Cash Equivalents (line 1)
b) Quoted Investments (line 2)
c) Unquoted Investments (line 3)
d) Investments in and Advances to Affiliates (line 4)
e) Investments in Mortgage Loans on Real estate (line 5)
f) Policy Loans (line 6)
g) Real Estate (line 7)
h) Collateral Loans (line 8)
i) Funds Held by Ceding Reinsurers (line 12)

C18.2d Asset sub-type (column B) shall provide further details of the type of asset as included in table 1, table 2 or table 8 as appropriate;

C18.2e BSCR Rating (column C) shall be the BSCR rating that was allocated to the asset when it was included in table 1, table 2 or table 8 as appropriate;

C18.2f Asset Value (column D) shall be the value of the asset as required by the EBS valuation principles as set out in Schedule XIV; and

C18.2g Amounts shall be reported on both an unconsolidated and consolidated EBS basis. Nevertheless, if an insurer does not have entities to consolidate, enter **consolidated EBS** information only.

Additional Guidance

Reporting largest 10 independent exposures

C18.ii. Complete the schedule by providing all exposures relating to all instruments (e.g., equity holdings, bonds, real estate, loans, etc.), related to the 10 largest counterparties. If a counterparty has more than one BSCR rating or Asset Type, enter each rating separately (i.e., if an insurer has purchased bonds and preferred shares of a company, then the insurer is to report 'Asset type' as 'Bond types'; "Bond / Mortgage Loan type" as the applicable bond type, and 'BSCR Rating' as the rating of the bond in one line. In the second line, the insurer is to report the 'Asset Type' as 'Preferred Shares' and 'BSCR Rating' as the rating of the shares.

Hedge funds

C18.iii. When counterparty exposure to collective investment funds as hedge funds and diversified fund-of-one structures, insurers are to report the portfolio on a look-though basis.

Investment in Affiliates types

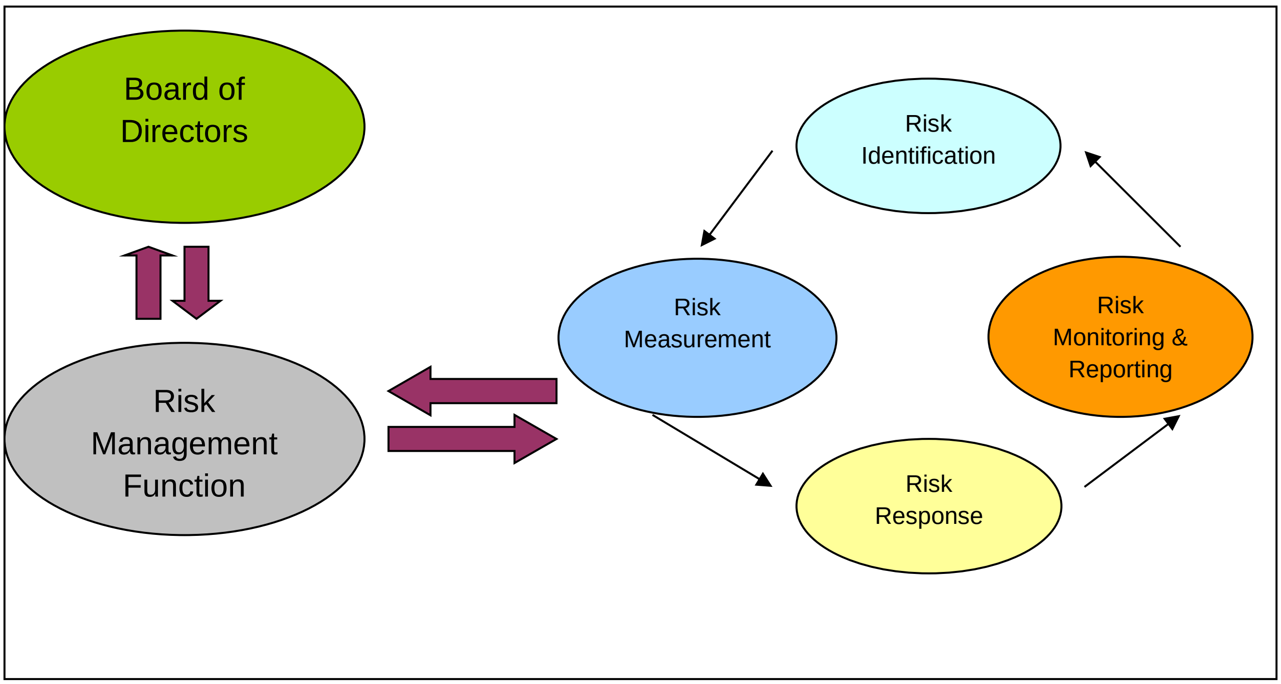
C18.iv. For investment in affiliates, allocate based on the following categories:

a) Regulated entity – an entity that files to a regulatory body or supervisory authority; Note that each regulated entity is required to provide the RCR equivalent to the BMA's ECR;
b) Operating entity – is an entity that sells products and takes on business risk;
c) Unregulated entities that conduct ancillary services – refers to unregulated entities that provide support services to the primary activities of an insurer (this would include marketing, information;
d) Unregulated non-financial operating entities – refers to an entity that sells products and takes on business risk (e.g., department stores and automobile sales); and
e) Unregulated financial operating entities – refers to an entity that sells financial instruments (e.g., Credit Default Swaps (CDS) and weather derivatives).

C19. COMMERCIAL INSURER RISK ASSESSMENT

Background

C19.1 The Commercial Insurer Risk Assessment (CIRA) framework assesses the quality of the risk management function surrounding the insurer's operational risk exposures. Operational risk is the risk of loss arising from inadequate or failed internal processes, people, systems or external events. Operational risk also includes legal risks. Reputational risks arising from strategic decisions do not count as operational risks. The CIRA framework emphasises the interrelationships between the Risk Management and Corporate Governance functions as seen below:



C19.2 The Board of Directors has an influential role in establishing, inter alia, the strategic direction and risk culture of the insurer. The BMA views the Risk Management function as a critical tool to furnish the board with the necessary information to make appropriate decisions and assist the insurer's management in steering the organisation forward.

C19.3 The Risk Management function within the CIRA has four components: Risk Identification, Risk Measurement, Risk Response, and Risk Monitoring & Reporting. The insurer will undertake the self-assessment by answering the questions related to the calibre of its risk management processes in place to address the material risk arising from each operational risk area.

C19.4 The CIRA framework embodies a maturity model approach to identify an insurer's developmental stage with respect to a specific operational risk area. It rewards the insurer for achieving progress in each risk management area. It reviews the following eight operational risk exposures as follows:

a) Business Processes Risk – includes a risk of errors arising from data entry, data processing, or application design.
b) Business Continuity Risk – includes a risk of an event that threatens or disrupts an insurer's continuous operations.
c) Compliance Risk – includes a risk of legal or regulatory breaches or both.
d) Information System Risk – includes a risk of unauthorised access to systems and data, data loss, utility disruptions, software and hardware failures, and inability to access information systems.
e) Distribution Channels Risk – includes a risk of disruption to an insurer's distribution channel arising from employment of inexperienced or incapable brokers or agents.
f) Fraud Risk – includes a risk of misappropriation of assets, information theft, forgery, or fraudulent claims.
g) Human Resources Risk – includes a risk of employment of unethical staff, inexperience or incapable staff, failure to train or retain experienced staff, and failure to adequately communicate with staff.
h) Outsourcing Risk – includes a risk of miscommunication of responsibilities in relation to outsourcing, breach of outsource service agreements or entering into inappropriate service agreements.

C19.5 The CIRA framework applies the components within the Risk Management function to each operational risk area. The insurer assesses each operational risk area and selects the applicable descriptor under the ‘Dimension’ column that reflects the developmental stage of the insurer’s process surrounding the specific risk area.

C19.6 In order to be credited for a relevant score within the CIRA Framework, the insurer must fulfill the criteria in the ‘Dimension’ column. In its assessment, if the insurer finds itself between stages, the insurer must select the lower stage. The insurer can supplement the selection with additional comments that can be made at the end of each risk management function.

C19.7 The total scores for each component within the CIRA Framework are aggregated and produce the pertinent Operational Risk Charge percentage. The Operational Risk Charge ranges from 1% to 10%. The relevant Operational Risk Charge percentage is applied to the ‘BSCR (After Covariance Adjustment)’ subtotal. The resultant figure is the Operational Risk Capital Charge.

Items for Class D and E Insurers

a) Corporate Governance – the insurer assesses each statement in the ‘Dimension’ column and places an ‘X’ in the column ‘Implemented’ where the Corporate Governance function meets the criteria (200 points for each fulfilled area). The worksheet will automatically aggregate all scores.

The insurer may provide comments in the space provided to support its responses.

Board of Directors

Dimension	Implemented	Score
Sets risk policies, practices and tolerance limits for all material foreseeable operational risks at least annually and ensures they are communicated to relevant business units		200
Monitors adherence to operational risk tolerance limits more regularly than annually		200
Receives, at least annually, reports on the effectiveness of material operational risk internal controls as well as management's plans to address related weaknesses		200
Ensures that systems and/or procedures are in place to identify, report and promptly address internal control deficiencies related to operational risks		200
Promotes full, open and timely disclosure from senior management on all significant issues related to operational risk		200
Ensures that periodic independent reviews of the risk management function are performed and receives the findings of the review		200

b) <u>Risk Management function</u> – the insurer assesses each statement in the 'Dimension' column and places an 'X' in the column 'Implemented' where the Risk Management function meets the criteria (150 points for each fulfilled area). The worksheet will automatically aggregate all scores.

The insurer may provide comments in the space provided to support its responses.

Risk Management Function:

Dimension	Implemented	Score
Is independent of other operational units and has direct access to the board of directors		150
Is entrenched in strategic planning, decision making and budgeting process		150
Ensures that the risk management procedures and policies are well documented and approved by the board of directors		150
Ensures the risk management policies and procedures are communicated throughout the organisation		150
Reviews operational risk management processes and procedures at least annually		150
Ensures that loss events arising from operational risks are documented and loss event data is integrated into enterprise risk management		150
Documents its risk management recommendations for operational units, ensures that deficiencies have remedial plans and progress on the execution of such plans is reported to the board of directors at least annually		150

c) Risk Identification – the insurer is to answer the following question:

"Has the insurer taken steps to identify material risks arising from the Operational Risk areas identified below?"

If the answer to the question is 'No' then the insurer does not have to complete the matrix/grid. If the answer to the question is 'Yes' then the insurer is to identify the stage of progression of each Operational Risk area based on the Dimension descriptor. The insurer is then to input an 'X' in the grid corresponding to the stage in the matrix table under the relevant Operational Risk area.

The insurer may provide comments in the space provided to support its responses.

Risk Identification Processes:

Progression		Dimension	Operational Risk Areas							
Stage	Scoring		Fraud	HR *	Outsourcing	Distribution Channel	Business Processes	Business Continuity	IT**	Compliance
1	50	'Ad hoc'								
2	100	Implemented but not standardised across the organisation								
3	150	Implemented, well documented policies and procedures that are understood by relevant staff, and standardised across the entire organisation								
4	200	In addition to Stage 3, processes are reviewed at least annually with the view to assessing effectiveness and introducing improvements								

*HR – Human Resources

**IT – Information Technology

d) Risk Measurement – the insurer is to answer the following question:

'Has the insurer taken steps to measure material risks arising from the Operational Risk areas identified below?'

If the answer to the question is 'No' then the insurer does not have to complete the matrix/grid. If the answer to the question is 'Yes' then the insurer is to identify the stage of progression of each Operational Risk area based on the Dimension descriptor. The insurer is then to input an 'X' in the grid corresponding to the stage in the matrix table under the relevant Operational Risk area.

The insurer may provide comments in the space provided to support its responses.

Risk Measurement Processes:

Progression		Dimension	Operational Risk Areas							
Stage	**Scoring**		**Fraud**	**HR**	**Outsourcing**	**Distribution Channel**	**Business Processes**	**Business Continuity**	**IT**	**Compliance**
1	50	'Ad hoc'								
2	100	Implemented but not standardised across the organisation								
3	150	Implemented, well documented policies and procedures that are understood by relevant staff, and standardised across the entire organisation								
4	200	In addition to Stage 3, processes are reviewed at least annually with the view to assessing effectiveness and introducing improvements								

e) Risk Response – the insurer is to answer the following question:

'Has the insurer taken steps to control and/or mitigate material risks arising from the Operational Risk areas identified below?'

If the answer to the question is 'No' then the insurer does not have to complete the matrix/grid. If the answer to the question is 'Yes' then the insurer is to identify the stage of progression of each Operational Risk area based on the Dimension descriptor. The insurer is then to input an 'X' in the grid corresponding to the stage in the matrix table under the relevant Operational Risk area.

The insurer may provide comments in the space provided to support its responses.

Risk Response Processes:

Progression		Dimension	Operational Risk Areas							
Stage	Scoring		Fraud	HR	Outsourcing	Distribution Channel	Business Processes	Business Continuity	IT	Compliance
1	50	'Ad hoc'								
2	100	Implemented but not standardised across the organisation								
3	150	Implemented, well documented policies and procedures that are understood by relevant staff, and standardised across the entire organisation								
4	200	In addition to Stage 3, processes are reviewed at least annually with the view to assessing effectiveness and introducing improvements								

f) <u>Risk Monitoring & Reporting</u> – the insurer is to answer the following question:

'Has the insurer taken steps to monitor and report material risks arising from the Operational Risk areas identified below?'

If the answer to the question is 'No' then the insurer does not have to complete the matrix/grid. If the answer to the question is 'Yes' then the insurer is to identify the stage of progression of each Operational Risk area based on the Dimension descriptor. The insurer is then to input an 'X' in the grid corresponding to the stage in the matrix table under the relevant Operational Risk area.

The insurer may provide comments in the space provided to support its responses.

Risk Monitoring & Reporting Processes:

Progression		Dimension	Operational Risk Areas							
Stage	Scoring		Fraud	HR	Outsourcing	Distribution Channel	Business Processes	Business Continuity	IT	Compliance
1	50	'Ad hoc'								
2	100	Implemented but not standardised across the organisation								
3	150	Implemented, well documented policies and procedures that are understood by relevant staff, and standardised across the entire organisation								
4	200	In addition to Stage 3, processes are reviewed at least annually with the view to assessing effectiveness and introducing improvements								

g) Operational Risk Charge calculation

Subject to the BMA having a different opinion and reassessing the charge through an onsite inspection, the 'Total Operational Risk Capital Charge' is applied to the insurer's BSCR (After Covariance Adjustment) sub-total for purposes of arriving at its ECR for the year-end filing.

(i) Overall CIRA Score – the aggregate of all the total scores from the Corporate Governance, Risk Management Function, Risk Identification, Risk Measurement, Risk Response, Risk Monitoring & Reporting assessment used to determine the Operational Risk Charge %.

(ii) CIRA Scoring Grid – the applicable Operational Risk Charge % that would be used to determine the insurer's Total Operational Risk Capital Charge.

Overall Score	Applicable Operational Risk Charge % 'BSCR (After Covariance Adjustment)'
<= 5200	10%
> 5200 <= 6000	9%
> 6000 <= 6650	8%
> 6650 <= 7250	7%
> 7250 <= 7650	6%
> 7650 <= 7850	5%
> 7850 <= 8050	4%
> 8050 <= 8250	3%
> 8250 <=8450	2%
> 8450	1%

(iii) Total Operational Risk Capital Charge – calculated using the [Operational Risk Charge % x BSCR (After Covariance Adjustment)].

Items for Class C Insurers

a) Corporate Governance – the insurer assesses each statement in the 'Dimension' column and places an 'X' in the column 'Implemented' where the Corporate Governance function meets the criteria (200 points for each fulfilled area). The worksheet will automatically aggregate all scores.

The insurer may provide comments in the space provided to support its responses.

Dimension	Implemented	Score
Sets risk policies, practices and tolerance limits for all material foreseeable operational risks at least annually		200
Ensures they are communicated to relevant business units		200
Monitors adherence to operational risk tolerance limits more regularly than annually		200
Receives, at least annually, reports on the effectiveness of material operational risk internal controls as well as management's plans to address related weaknesses		200
Ensures that systems and/or procedures are in place to identify, report and promptly address internal control deficiencies related to operational risks		200
Promotes full, open and timely disclosure from senior management on all significant issues related to operational risk		200
Ensures that periodic independent reviews of the risk management function are performed and receives the findings of the review		200

b) Risk Management function – the insurer assesses each statement in the 'Dimension' column and places an 'X' in the column 'Implemented' where the Risk Management function meets the criteria (200 points for each fulfilled area). The worksheet will automatically aggregate all scores.

The insurer may provide comments in the space provided to support its responses.

Risk Management Function:

Dimension	Implemented	Score
Is independent of other operational units and has direct access to the board of directors		200
Is entrenched in strategic planning, decision making and budgeting process		200
Ensures that the risk management procedures and policies are well documented and approved by the board of directors		200
Ensures the risk management policies and procedures are communicated throughout the organisation		200
Reviews operational risk management processes and procedures at least annually		200
Ensures that loss events arising from operational risks are documented and loss event data is integrated into enterprise risk management		200
Documents its risk management recommendations for operational units, ensures that deficiencies have remedial plans and progress on the execution of such plans are reported to the board of directors at least annually		200

c) Operational Risk Charge Calculation

Subject to the BMA having a different opinion and reassessing the charge through an onsite inspection, the ‘Total Operational Risk Capital Charge’ is applied to the insurer’s BSCR (After Covariance Adjustment) sub-total for purposes of arriving at its ECR for the year-end filing.

(i) Overall CIRA Score – the aggregate of all the total scores from the Corporate Governance and Risk Management Function to determine the Operational Risk Charge %.

(ii) CIRA Scoring Grid – the applicable Operational Risk Charge % that would be used to determine the insurer’s Total Operational Risk Capital Charge.

Overall Score	Applicable Operational Risk Charge % 'BSCR (After Covariance Adjustment)'
<= 800	10%
> 800 <= 1200	9%
> 1200 <= 1400	8%
> 1400 <= 1600	7%
> 1600 <= 1800	6%
> 1800 <= 2000	5%
> 2000 <= 2200	4%
> 2200 <= 2400	3%
> 2400 <=2600	2%
> 2600	1%

(iii) Total Operational Risk Capital Charge – calculated using the [Operational Risk Charge % x BSCR (After Covariance Adjustment)].

C20. SCHEDULE OF FIXED INCOME AND EQUITY INVESTMENTS BY BSCR RATING (SCHEDULE IIB)

Background

C20.1 The schedule of fixed income and equity investments by BSCR rating (Schedule IIB), provides a breakdown of an insurer's:

a) Bonds and Debentures by both investment category (Corporate & Sovereign Bonds, Residential Mortgage-Backed Securities, Commercial Mortgage-Backed Securities/Asset-Backed Securities and Bond Mutual Funds) and BSCR ratings (Ratings 0-8);
b) Equity Investments by asset category (Long Exposures, Short Exposures for Qualifying Assets held for Risk Mitigation Purposes and Short Exposures for Non-Qualifying as Assets for Risk Mitigating Purposes) and liability category (Without Management Actions and with Management Actions);
c) Spread risk for credit derivatives by spread up (for long and short exposures) and spread down (for long and short exposures);
d) Counterparty default risk for over-the-counter derivatives by market value of derivatives with positive market values, market value of derivatives with negative market value and market value of collateral excluding any over collateralisation; and
e) Cash and Cash Equivalents

The amounts reported on Schedule IIB should reflect the balances as shown on Form 4EBS lines 2(f) Quoted Investments, 3(f) Unquoted investments, 4(f) Investment in Affiliates, 5(c) Investment in Mortgage Loan on Real Estate, 7(c) Real Estate and 13(a) Derivatives after look-through (where applicable).

C20.2 This schedule applies a capital charge to fixed income investments based on the type of category and rating of the security held, a shock to equity investments based on the type of investment and a shock to credit deterivatives based on the rating of the underlying asset. In addition, a counterparty credit risk for any OTC derivatives is applied. The fixed income (including credit derivatives) and equity charges are aggregated in the fixed income and equity risk tabs, respectively, while the counterparty credit risk charges are aggregated in the credit risk tab. Further this information provides the BMA with high-level type and quality of investments held for assessing the insurer's market risk. It is noted that the relevant balances reported on this schedule are to be additionally included in:

a) Interest Rate/Liquidity Risk charge calculation for interest-rate sensitive assets, along with the interest-rate sensitive assets reported on Schedules IIC – IIF; and
b) Schedule XIXA Cash and Cash Equivalents for cash and cash equivalent balances (resulting from look-through).

Items

C20.3 The schedule is broken into five separate sections for which the total of each should, after reconciling for look-through, correspond to balances reported on Form 4EBS for the relevant year. In the absence of look-through, the following (points a-b) should hold.

a) Quoted and unquoted bonds and debentures, and Investment in Mortgage Loans on Real Estate – line 14, column (11) 'Total' corresponds to Form 4EBS, line 2(b), 3(b) and 5(c);
b) Quoted and unquoted equities – line 37, column (11) 'Total' corresponds to Form 4EBS, line 2(d), 3(d), 4(f) and 7(c);
c)

Instructions Affecting Schedule IIB

C20.3a Fixed income investments, both quoted and unquoted, shall be categorised into corporate bonds and sovereign bonds, residential Mortgage-Backed Securities (MBS), commercial MBS/asset-backed securities, and bond mutual funds and further classified by BSCR rating;

C20.3b Equity investments, both quoted and unquoted, shall be categorised into long exposures; short exposures qualifying as assets held for risk-mitigation purposes in accordance with criteria prescribed in section B4; and short exposures not qualifying as assets held for risk-mitigation purposes in accordance with criteria prescribed in section B4 and are further required to be classified by strategic holdings (listed and unlisted), duration based equity, listed equity securities in developed markets, preferred stocks, other equities/other assets, letters of credit, intangible assets, pension benefit surplus, infrastructure, real estate (company-occupied and investment), and equity derivatives (separately depending on the type of the underlying);

C20.3c Preferred stock shall be classified by BSCR rating;

C20.3d The BSCR ratings for fixed income securities and preferred stocks shall be determined in the manner specified in the instructions affecting Schedule II;

C20.3e Where a security is rated differently by various rating agencies, the insurer shall classify the security according to the most conservative rating assigned;

C20.3f Unrated securities shall be assigned a BSCR rating of 8;

C20.3g Sovereign debt issued by a country in its own currency that is rated AA- or better shall be classified under BSCR rating 0; while all other sovereign bonds are required to be classified in a manner similar to corporate bonds;

C20.3h Debt issued by government-owned or entities that are explicitly guaranteed by that government (except government issued MBS), shall be assigned a BSCR rating of 0, provided that the country is rated AA- or better and the debt is in the local currency of the country and otherwise classified in a similar manner as corporate bonds;

C20.3i 'Exposures' shall include those determined by the application of the 'look-through' approach applied in accordance with criteria prescribed in section B6 for collective investment vehicles and other investments packaged as funds;

C20.3j ‘Strategic holdings’ refers to holdings in qualifying equity investments of a strategic nature which meet the criteria prescribed in section B7.7 for such holdings. Where such investments are listed on a designated stock exchange or are investments in certain funds both meeting criteria prescribed by the Authority, then such investments will be classified as ‘Type 1’. Investments that do not meet such criterion shall be classified as ‘Type 2’.

C20.3k ‘Infrastructure’ refers to holdings in qualifying equity infrastructure investments which meet criteria prescribed in section B7.3 for such investments that are non-strategic holdings.

C20.3l ‘Listed equity securities in developed markets’ refers to holdings in equity securities listed on designated stock exchanges or investments in certain funds prescribed in section B7.6 Certain qualifying unlisted equity investments may also be included under this category instead of the ‘Other equities’ category under conditions set out in section B7.4.

C20.3m ‘Other equities’ shall include holdings in quoted and unquoted equity investments that are not reported in accordance with the requirements of paragraphs ‘(j)’ and ‘(l)’ above; or not listed elsewhere in this schedule I.e., ‘other equities’ includes (but not is not limited to) unlisted equities, listed equities not listed on a designated stock exchange prescribed by the Authority (non-developed markets listed equities), hedge funds, commodities and other alternative investments);

C20.3n Best estimate insurance liabilities and other liabilities (excluding risk margin) whose value is subject to equity risk are to be included in lines 15 to 36;

C20.3o Exposures qualifying as assets held for risk-mitigation purposes, and exposures not qualifying as assets held for risk-mitigation purposes; shall be determined in accordance with criteria prescribed in section B4;

C20.3p For all exposures other than derivatives, a default calculation of after-shock value is provided to expedite the filling of the schedule. It is expected that the default calculation will be appropriate in the majority of cases[4]; however, the insurer always needs to review the appropriateness and approve any resulting values. If the default formula is not appropriate for certain asset class, or for certain instruments within an asset class, the insurer is responsible for entering correct after-shock values by overriding the default formula;

C20.3q For derivatives, no default formula can generally be provided due to the non-linearity of the change in value. That is, the change in derivative value (in percentages) is generally different from the shock (in percentages) that is applied to the underlying of the derivative; and

[4] In particular, this is true for all “delta-one assets”, such as common stocks and funds, for which the application of an x% downwards shock is equivalent to reducing the market value (price) by x%.

C20.3r Amounts shall be reported on EBS valuation basis.

Additional Guidance

GNMA, FNMA and FHLMC are not eligible for BSCR Rating 0

C20.i. Securities that have a BSCR rating 0 have been defined as 'Sovereign debt issued by a country in its own currency that is rated AA- or better', however the Authority would like to acknowledge that Government National Mortgage Association (GNMA), Federal National Mortgage Association (FNMA) and Federal Home Loan Mortgage Corporation (FHLMC) are not eligible for the sovereign bond classification BSCR Rating 0 and shall be reported under Mortgage-Backed Securities (MBS). While the Authority acknowledges that an explicit government guarantee applies to the credit risk for GNMA-insured mortgages uncertainty remains with the timing of the mortgage loan repayments. Consequently, the Authority does not extend the sovereign debt treatment to MBS.

MBS to use NAIC Rating for securities issued prior to 2008

C20.ii. MBS do not always adequately reflect the risk associated with being held at less than par value. For this reason, the National Association of Insurance Commissioners (NAIC) has modelled these bonds and provides US insurers with a rating reclassification. The Authority shall allow insurers the option to use these reclassifications when summarising their portfolio for securities that were issued prior to 2008. The Authority requires insurers to provide a separate summary of the Form 4EBS value by BSCR rating class, both before and after the adjustment.

The NAIC reclassifications of MBS will be assigned to the BSCR ratings classes according to the following table:

BSCR Rating Class	NAIC (for MBS Only)
0	
1	
2	
3	1
4	2
5	3
6	4
7	5
8	6

Some Residential MBS bonds are not directly modelled by the NAIC, including bonds held by insurers that do not have a United States presence. The NAIC provides a documented four-step process as part of its SSAP No. 43R for reclassifying such bonds based on their rating and their Form 4EBS value relative to par. The Authority shall allow companies to optionally follow this process in classifying bonds that have not been formally reclassified by the NAIC.

Affiliated balances

C20.iii. Unless otherwise required by the Authority, Investments in Affiliates approved by the Authority are to be treated like any other financial investment unless they fulfil the criteria prescribed in section B7.7 as 'Strategic Holdings'. Otherwise, the affiliate investments approved by the Authority are to be allocated as an equity holding in lines 15-36.

C21. SCHEDULE OF FUNDS HELD (SCHEDULE IIC)

Background

C21.1 To assess the risk of amounts reported in Funds Held By Ceding Reinsurers (Form 4EBS, line 12(c)), the Authority requires insurers to determine the arrangement in which the funds are being held. In the event of default, if the reinsurer bears the risk of the assets held, then these amounts are to be reported on Schedule XVIII – Schedule of Particulars of Ceded Reinsurance; if the insurer bears the risk (as well as the market risk of the valuation of investments), then these amounts are to be reported in Schedule IIC – Schedule of Funds Held.

C21.2 The Schedule of Funds Held — Schedule IIC — provides the BMA with details to assess the type and quality of investment held by requiring the insurer to allocate the balances by investment category and BSCR Rating (similar to investments reported on Schedule IIB). Further the balances reported on Schedule IIC also are used in the calculation for the Interest Rate/Liquidity Risk and Cash and Cash Equivalents exposure.

C21.3 The investment categorization and BSCR ratings shall be based on the same rating scale and principles as those found on Schedule IIB.

Items

C21.4 The amounts reported should correspond to balances reported on Form 4EBS line 12© and is allocated in the following five sections:

a) Bonds and Debentures by both investment category (Corporate & Sovereign Bonds, Residential Mortgage-Backed Securities, Commercial Mortgage-Backed Securities/Asset-Backed Securities and Bond Mutual Funds) and BSCR ratings (Ratings 0-8);
b) Equity Investments by asset category (Long Exposures, Short Exposures for Qualifying Assets held for Risk Mitigation Purposes and Short Exposures for Non-Qualifying as Assets for Risk Mitigating Purposes) and liability category (Without Management Actions and with Management Actions);
c) Spread risk for credit derivatives by spread up (for long and short exposures) and spread down for (for long and short exposures);
d) Counterparty default risk for over-the-counter derivatives by market value of derivatives with positive market values, market value of derivatives with negative market value and market value of collateral excluding any over collateralisation; and
e) Cash and Cash Equivalents.

Instructions Affecting Schedule IIC

C21.i. All funds held by ceding reinsurers (as reported in Form 4EBS, line 12(c)) and funds held under retrocession (as reported in Form 4EBS, line 34(c)) with identifiable assets and liabilities, such as fixed income investments, equity investments, mortgage loans, derivatives, hedge funds and cash and cash equivalents are required to be included here, reported on a look-through basis according to section B6 where applicable;

C21.ii. Amounts shall be reported on EBS valuation basis;

C21.iii. All the instructions affecting Schedule IIB apply also to Schedule IIC, as applicable.

C22. SCHEDULE OF SEGREGATED ACCOUNTS (SCHEDULE IID)

Background

C22.1 The schedule of Segregated Accounts (Schedule IID) provides a breakdown of an insurer's segregated accounts by:

a) Bonds and Debentures by both investment category (Corporate & Sovereign Bonds, Residential Mortgage-Backed Securities, Commercial Mortgage-Backed Securities/Asset-Backed Securities and Bond Mutual Funds) and BSCR ratings (Ratings 0-8);
b) Equity Investments by asset category (Long Exposures, Short Exposures for Qualifying Assets held for Risk Mitigation Purposes and Short Exposures for Non-Qualifying as Assets for Risk Mitigating Purposes) and liability category (Without Management Actions and with Management Actions);
c) Spread risk for credit derivatives by spread up (for long and short exposures) and spread down (for long and short exposures);
d) Counterparty default risk for over-the-counter derivatives by market value of derivatives with positive market values, market value of derivatives with negative market value and market value of collateral excluding any over-collateralisation; and
e) Cash and Cash Equivalents

C22.2 This schedule applies a capital charge to fixed income investments based on the type of category and rating of the security held; a shock to equity investments based on the type of investment; and a shock to credit derivatives based on the rating of the underlying asset. In addition, a counterparty credit risk for any OTC derivatives is applied. The fixed income (including credit derivatives) and equity charges are aggregated in the fixed income and equity risk tabs, respectively, while the counterparty credit risk charges are aggregated in the credit risk tab. Further, this information provides the BMA with high-level type and quality of investments held for assessing the insurer's market risk. It is noted that the cash and cash equivalent balances reported on this schedule are to be included in the balances in Schedule XIXA Cash and Cash Equivalents.

C22.3 The investment categorisation and BSCR ratings shall be based on the same rating scale and principles as those found on Schedule IIB.

Items

C22.4 The amounts reported should correspond to balances reported on Form 4EBS lines 13(b, c and d) and 36 (c, d and e) and is allocated in the five sections listed above.

Instructions Affecting Schedule IID

C22.i. All segregated account companies with identifiable assets (as reported in Form 4EBS, lines 13(b), (c), (d)) and liabilities (as reported in Form 4EBS, lines 36(c), (d), (e)), such as fixed income investments, equity investments, mortgage loans, and cash and cash equivalents, shall be included here;

C22.ii. Fixed Income investments (lines 1-13): In columns 2, 4, 6, 8, and 10, insurers shall only enter liabilities that are directly linked to, and move in line with, corresponding assets entered in columns 1, 3, 5, 7, and 9, respectively. Only such linked liabilities are allowed to offset the risk charge on assets, up to the amount of assets to which they correspond. Any liabilities not directly linked to assets reflected in the schedule shall be ignored in the fixed income risk calculation.

C22.iii. Amounts shall be reported on EBS valuation basis;

C22.iv. All the instructions affecting Schedule IIB apply also to Schedule IID, as applicable.

C23. SCHEDULE OF DEPOSIT ASSETS AND LIABILITIES (SCHEDULE IIE)

Background

C23.1 The schedule of Deposit Assets and Liabilities (Schedule IIE) provides a breakdown of an insurer's deposit assets and liabilities:

a) Bonds and Debentures by both investment category (Corporate & Sovereign Bonds, Residential Mortgage-Backed Securities, Commercial Mortgage-Backed Securities/Asset-Backed Securities and Bond Mutual Funds) and BSCR ratings (Ratings 0-8);
b) Equity Investments by asset category (Long Exposures, Short Exposures for Qualifying Assets held for Risk Mitigation Purposes and Short Exposures for Non-Qualifying as Assets for Risk Mitigating Purposes) and liability category (Without Management Actions and with Management Actions);
c) Spread risk for credit derivatives by spread up (for long and short exposures) and spread down (for long and short exposures);
d) Counterparty default risk for over-the-counter derivatives by market value of derivatives with positive market values, market value of derivatives with negative market value and market value of collateral excluding any over-collateralisation; and
e) Cash and Cash Equivalents

C23.2 This schedule applies a capital charge to fixed income investments based on the type of category and rating of the security held; a shock to equity investments based on the type of investment; and a shock to credit derivatives based on the rating of the underlying asset. In addition, a counterparty credit risk for any OTC derivatives is applied. The fixed income and equity charges are aggregated in the fixed income (including credit derivatives) and equity risk tabs, respectively, while the counterparty credit risk charges are aggregated in the credit risk tab. Further, this information provides the BMA with high-level type and quality of investments held for assessing the insurer's market risk. It is noted that the cash and cash equivalent balances reported on this schedule are to be included in the balances in Schedule XIXA Cash and Cash Equivalents.

C23.3 The investment categorisation and BSCR ratings shall be based on the same rating scale and principles as those found on Schedule IIB.

Items

C23.4 The amounts reported should correspond to balances reported on Form 4EBS lines 13(e) Deposit Assets and 36(f) Deposit Liabilities and is allocated in the five sections listed above.

Instructions Affecting Schedule IIE

C23.4a All deposit assets and liabilities with identifiable assets (as reported in Form 4EBS, lines 13(e)) and liabilities (as reported in Form 4EBS, lines 36 (f)), such as fixed income investments, equity investments, mortgage loans, and cash and cash equivalents, are required to be included here;

C23.4b Insurers should look into the nature of the deposit assets and map them in the BSCR template to appropriate categories based on the cash flow profile and risk sensitivities. For example, bond-like cash flow profile would be mapped to corporate bonds (based on counterparty's credit rating).

C23.4c Amounts shall be reported on EBS valuation basis;

C23.4d All the instructions affecting Schedule IIB apply also to Schedule IIE, as applicable.

C24. SCHEDULE OF OTHER SUNDRY ASSETS AND LIABILITIES (SCHEDULE IIF)

Background

C24.1 The schedule of Other Sundry Assets and Liabilities (Schedule IIF) provides a breakdown of an insurer's other sundry assets and liabilities:

a) Bonds and Debentures by both investment category (Corporate & Sovereign Bonds, Residential Mortgage-Backed Securities, Commercial Mortgage-Backed Securities/Asset-Backed Securities and Bond Mutual Funds) and BSCR ratings (Ratings 0-8);
b) Equity Investments by asset category (Long Exposures, Short Exposures for Qualifying Assets held for Risk Mitigation Purposes and Short Exposures for Non-Qualifying as Assets for Risk Mitigating Purposes) and liability category (Without Management Actions and with Management Actions);
c) Spread risk for credit derivatives by spread up (for long and short exposures) and spread down (for long and short exposures);
d) Counterparty default risk for over-the-counter derivatives by market value of derivatives with positive market values, market value of derivatives with negative market value and market value of collateral excluding any over-collateralisation; and
e) Cash and Cash Equivalents

C24.2 This schedule applies a capital charge to fixed income investments based on the type of category and rating of the security held; a shock to equity investments based on the type of investment; and a shock to credit derivatives based on the rating of the underlying asset. In addition, a counterparty credit risk for any OTC derivatives is applied. The fixed income (including credit derivatives) and equity charges are aggregated in the fixed income and equity risk tabs, respectively, while the counterparty credit risk charges are aggregated in the credit risk tab. Further, this information provides the BMA with high-level type and quality of investments held for assessing the insurer's market risk. It is noted that the cash and cash equivalent balances reported on this schedule are to be included in the balances in Schedule XIXA Cash and Cash Equivalents.

C24.3 The investment categorisation and BSCR ratings shall be based on the same rating scale and principles as those found on Schedule IIB.

Items

C24.3a The amounts reported should correspond to balances reported on Form 4EBS lines 13(g) Intangible Assets, 13(i) Pension Benefit Surplus, 13(j) Other Sundry Assets, 36(i) Other Sundry Liabilities and 14(d) Letters of Credit, Guarantees and Other Instruments is allocated in the five sections listed above.

Instructions Affecting Schedule IIF

C24.3b All other sundry assets and liabilities with identifiable assets (as reported in Form 4EBS, lines 13(j)) and liabilities (as reported in Form 4EBS, lines 36 (i)) and Letters of Credit, Guarantees and Other Instruments (as reported in Form 1EBS, line 14(d)), such as fixed income investments, equity investments, mortgage loans, and cash and cash equivalents, shall be included here;

C24.3c Amounts shall be reported on EBS valuation basis.

C24.3d All the instructions affecting Schedule IIB apply also to Schedule IIF, as applicable.

C25. SCHEDULE OF LAPSE RISK (SCHEDULE VIIA)

Background

C25.1 Schedule VIIA (EBS) collects inputs required for the determination of the lapse risk capital charges. The required inputs consist of pre-stress and post-stress asset and liability values.

Instructions Affecting Schedule VIIA

General – Valuation of assets and liabilities

C25.2 Assets and liabilities are to be valued on the EBS valuation basis.

C25.3 Please refer to paragraph 34A of Schedule I for Class D and E insurers and paragraph 34A of Part I for Class C insurers in the Rules for the definitions of the input components as necessary.

C25.4 For the avoidance of doubt, note that if the lapse stresses do not affect the t=0 values of the assets on the balance sheet, then the post-stress market value of assets is equal to the pre-stress market value of the assets (where the pre-stress market value is that fair value of the assets as of the valuation date). Please refer to the principal Rules and the Instructions on Lapse Risk for more details if necessary.

General – Scope

C25.5 The lapse stresses apply to all long-term business with potential lapse risk exposure (i.e., where any relevant policyholder options exist), regardless of the reporting line under Form 4EBS, including without limitation ‘separate account’ business, ‘segregated account’ business and entities that are members of the insurer that are registered to operate segregated accounts in accordance with the Segregated Accounts Companies Act 2000.

C26. SCHEDULE OF LONG-TERM EXPENSE RISK (SCHEDULE VIIB)

Background

C26.1 Schedule VIIB (EBS) collects inputs required for the determination of the expense risk capital charges. The required inputs consist of pre-stress and post-stress asset and liability values.

Instructions Affecting Schedule VIIB

General – Valuation of assets and liabilities

C26.2 Assets and liabilities are to be valued on the EBS valuation basis.

C26.3 Please refer to paragraph 34B of Schedule I for Class D and E insurers and paragraph 34A of Part I for Class C insurers in the Rules for the definitions of the input components as necessary.

C26.4 For the avoidance of doubt, note that if the expense stresses do not affect the t=0 values of the assets on the balance sheet, then the post-stress market value of assets is equal to the pre-stress market value of the assets (where the pre-stress market value is that fair value of the assets as of the valuation date). Please refer to the principal Rules and the Instructions on Expense Risk for more details if necessary.

General – Scope

C26.5 The expense stresses apply to all Long-Term business, regardless of the reporting line under Form 4EBS, including without limitation ‘separate account’ business, ‘segregated account’ business and entities that are members of the insurer that are registered to operate segregated accounts in accordance with the Segregated Accounts Companies Act 2000.

C27. SCHEDULE OF CASH AND CASH EQUIVALENT COUNTERPARTY ANALYSIS (SCHEDULE XIXA)

Background

C27.1 For assessing the underlying credit security of cash and cash equivalent counterparties, the Authority is requiring insurers to provide details of the largest 10 exposures and rating of those institutions. The remaining balance can be aggregated by BSCR rating (which is a similar methodology to the Schedule of Particulars of Ceded Reinsurance).

Instructions Affecting Schedule XIXA

C27.1a An insurer may disclose at least the top 10 cash and cash counterparty exposures (as reflected in Form 4EBS line 1 and Schedules IIB to IIF column 1, line 58)

C27.1b The remaining balance may be grouped according to BSCR rating;

C27.1c All unreconciled balances shall be allocated to the single consolidated exposure balance that receives a BSCR Rating of 8;

C27.1d Cash and cash equivalents issued by a country that is rated AA- or better in its own currency shall be classified under BSCR rating class 0;

C27.1e Insurers may allocate BSCR Ratings based on the short-term ratings in the table below, or alternatively based on the long-term ratings detailed in Schedule II, in each case following the process specified in the instructions affecting Schedule II; and

C27.1f Amounts shall be reported on an EBS valuation basis.

BSCR Ratings	Standard & Poor's	Moody's	AM Best	Fitch
Class 2	A1+	P1	AMB-1+	F1+
Class 3	A1	P2	AMB-1	F1
Class 4	A2, A3	P3	AMB-2, AMB-3	F2, F3
Class 5				
Class 6	B-1, B-2			B
Class 7	B-3			
Class 8	Unrated short-term investments and all other ratings			

BSCR Ratings	KBRA	DBRS	Egan-Jones	Japan Credit Rating Agency
Class 2	K1+	R-1 H,M	A-1+	J1+
Class 3	K1	R-1 L	A-1	J1
Class 4	K2, K3	R-2 H,M,L	A-2, A-3	J2
Class 5		R-3	B-1	J3
Class 6	B	R-4	B-2	
Class 7			B-3	NJ
Class 8	Unrated short-term investments and all other ratings			

C28. SCHEDULE OF CURRENCY RISK (SCHEDULE XXA)

C28.1 For insurers that write business in multiple currencies, the Authority has developed a capital charge for each currency where the insurer's liabilities may exceed its assets. All of the currency exposures should be included where feasible. However, for the grounds of proportionality, the Authority is requiring insurers to provide currency exposures for at least 95% of total assets and liabilities held.

C28.2 For those currencies for which the assets in the currency are less than the sum of the liabilities denominated in the currency plus a proxy BSCR for that currency, shocks are applied to the assets and liabilities to determine a capital charge. The proxy BSCR for a given currency shall be calculated as the product of the liabilities in that currency and the proxy BSCR factor. The Proxy BSCR factor is calculated as the total liabilities found on Form 1EBS line 39 divided by the total ECR Charge. The proxy BSCR factor shall be the maximum of:

a) The prior year value; and
b) The Average of the last three years.

a

Instructions Affecting Schedule XXA

C28.2a Insurers shall report currencies representing not less than 95% of their economic balance sheet assets and liabilities. Where less than 100% of all currency exposures are reported, this and the reasons for not being able to report all the currency exposures should be documented with appropriate signoffs;

C28.2b Assets qualifying as held for risk mitigation purposes, assets not qualifying for risk mitigation purposes and liabilities without management actions shall be valued in line with the Economic Balance Sheet principles set out in Schedule XIV and in accordance with criteria prescribed by the Authority;

C28.2c Liabilities with management actions shall be valued in accordance with criteria prescribed in section B5 in relation to the valuation of future bonuses and other discretionary benefits;

C28.2d For all exposures other than Foreign Exchange (FX) derivatives, a default calculation of after-shock value is provided to expedite the filling of the schedule. It is expected that the default calculation will be appropriate in the majority of cases5; however, the insurer always needs to review the appropriateness and approve any resulting values. If the

---

[5] In particular, this is true for all assets whose value is not directly sensitive to exchange rate movements (i.e., whose local (foreign) currency value is independent of changes in exchange rates). For example, and assuming that USD is the reporting currency, although the value *in dollars* of a bond or common stock denominated in, say, Euros (EUR) will change as a result of a shock to USD/EUR exchange rate, the local currency value of the bond or common stock will not change as a result of the shock. For such assets the only change in value is the change in reporting currency terms, meaning that the percentage shock can be straightforwardly applied to the reporting currency value of the foreign currency position.

default formula is not appropriate for a certain asset class, or for certain instruments within an asset class, the insurer is responsible for entering correct after-shock values by overriding the default formula;

C28.2e For FX derivatives, no default formula can generally be provided, due to the non-linearity of the change in value. That is, the change in derivative value (in percentages) is generally different from the shock (in percentages) that is applied to the exchange rate underlying the derivative;

C28.2f Amounts shall be reported on both a EBS valuation and unconsolidated basis.

Additional Guidance

Calculating the BSCR Proxy

C28.i. When calculating the BSCR Proxy, insurers are to provide Liabilities (on an EBS basis) and the total full (new basis) ECR capital charge on an EBS basis for the prior 3 years. In the instance the insurer does not have liabilities and the ECR capital charge on an EBS basis, the Authority will allow insurers to provide the unconsolidated balances for each. Note that for financial year-ends within the BSCR transitory period, insurers are to report the full new-basis BSCR for that period.

C28.ii. If the insurer does not have either liabilities or ECR capital charge for the prior three years:

a) Insurers filing their BSCR for the first time are to use current year figures for the prior year; and
b) Insurers that have previously filed a BSCR however do not have 3 years of historical data shall provide the years they have data for, and leave the years with no data reported as blank

Meeting the 95% minimum Asset and Liability test

C28.iii. If an insurer does not meet at least the 95% minimum test on this schedule, this will impact the BMA's risk assessment of the insurer?

a) The Authority may require additional information from the insurer to assess its currency risk. This may result in a capital add-on which will require the insurer's ECR and TCL ratios to be revised on its published Financial Condition Report.

Guidance for reporting currency shocks for FX forward positions

C28.iv. When reporting foreign exchange hedges on Schedule XXA, the before-shock market value is the fair value of the contract on an EBS basis, and should be already available without a need for separate calculations (from the financial statements/asset reports/asset system). The after-shock value is to be calculated by the insurer under the prescribed currency shocks, following standard market practices and using generally accepted models for valuation of specific assets.

C28.v. Alternatively, instead of reporting the (net) market value of an FX forward contract, insurers may report both legs of the FX forward separately on Schedule XXA, with each leg allocated to the line for the appropriate currency. In this case, the sum of the reported (before-shock) values of the legs should equal to fair value, as of valuation date, of the FX forward contract as a whole. Similarly, the sum of the mark-to-model values of the legs after the shock should, by definition, be equal to the after-shock mark-to-model value of the contract as a whole, if the calculation is carried out correctly. That is, the market value of the contract, or the results of the shock calculation, shall not be affected by the chosen representation.

C29. SCHEDULE OF CONCENTRATION RISK (SCHEDULE XXI)

Background

C29.1 To assess the insurer's concentration risk, the Authority requires the identification of largest 10 independent counterparties, and all exposures relating to these counterparties (e.g., equity holdings, bonds, real estate, loans, etc.), which would be an addition to the existing BSCR market and/or credit risk contributed by those exposures.

C29.2 In deciding which counterparties need to be grouped, a single counterparty should include all related/connected counterparties, which are defined as:

a) Control relationship: one of the counterparties, directly or indirectly, has control over the other(s); and
b) Economic inter-dependence: if one of the counterparties were to experience financial problems, in particular funding or repayment difficulties, the other(s) as a result, would also be likely to encounter funding or repayment difficulties.

Instructions Affecting Schedule XXI

C29.2a Disclosure of all exposures to the ten largest counterparties of an insurer, by reporting the name, the exposure and allocation by asset type, bond or mortgage type (if applicable), BSCR Rating (if applicable) and asset value consistent with Form 4EBS.

C29.2b For the purposes of this Schedule, a counterparty shall include all related or connected counterparties captured by either of the following criteria:

a) Controller relationship: if a counterparty, directly or indirectly, has control of (as a result of its majority shareholding in or significant influence) the other counterparties; or

b) Economic interdependence: if one of the counterparties were to experience financial difficulties which directly or indirectly affect the ability of any or all of the remaining counterparties to perform their financial obligations (e.g., where a counterparty becomes unable to fund or repay certain financial contractual obligations, and as a result, other counterparties, are likely to be unable to fund or repay certain obligations imposed on them);

C29.2c Asset type (column A) shall be determined by the insurer as one of the following:

a) Cash and Cash Equivalents (as defined in Schedule XIX column B Schedules IIB, IIC, IID, IIE, and IIF column (1), line 68);
b) Quoted and Unquoted Investments (as defined in Schedules IIB, IIC, IID, IIE, and IIF column (11), line 14);

c) Equity Holdings (as defined in Schedules IIB, IIC, IID, IIE, and IIF column (11), line 37);
d) Advances to Affiliates (reported on Form 4EBS, line 4(g));
e) Policy Loans (reported on Form 4EBS, line 6);
f) Real Estate 1 (reported on Form 4EBS, line 7(a));
g) Real Estate 2 (reported on Form 4EBS, line 7(b));
h) Collateral Loans (reported on Form 4EBS, line 8).

C29.2d When reporting asset sub-type (under column B) shall provide further details of the type of asset as included in table 1, table 2 or table 8 as appropriate;

C29.2e When applying the BSCR Rating (under column C) the insurer shall apply the BSCR rating that was allocated to the asset when it was included in table 1, table 2 or table 8 as appropriate;

C29.2f Asset value (under column D) shall be the value of the asset as required by the EBS valuation principles as set out in Schedule XIV; and

C29.2g Amounts shall be reported on both an EBS valuation and unconsolidated basis.

Additional Guidance

Reporting Largest 10 Independent Exposures

C29.i. Complete the schedule by providing all exposures, relating to all instruments (e.g. equity holdings, bonds, real estate, loans, etc.), related to the 10 largest counterparties. If a counterparty has more than one BSCR rating or Asset Type, enter each rating separately (i.e., if an insurer has purchased bonds and preferred shares of a company, then the insurer is to report 'Asset Type' as 'Bond Types'; 'Bond/Mortgage Loan Type' as the applicable bond type, and 'BSCR Rating' as the rating of the bond in one line. In the second line, the insurer is to report the 'Asset Type' as 'Preferred Shares' and 'BSCR Rating' as the rating of the shares.

C30. SCHEDULE OF INTEREST RATE SENSITIVE ASSETS AND LIABILITIES (SCHEDULE XXIII)

Background

C30.1 An alternative and more risk sensitive method for determining capital requirements for interest and liquidity risk has been developed. This method will require companies to apply shocks to the yield curve used for determining best estimate liabilities (which includes segregated account company liabilities, deposit liabilities and sundry liabilities) and market values of assets (which includes segregated account company assets, deposit assets and sundry assets) exposed to interest rate risk (e.g., fixed income and hybrid assets, bank deposits, etc.). Any changes in market values of assets and best estimate liabilities due to interest rate-sensitive cash flows should be accounted for. The capital requirement is then determined as the highest negative change to the net asset value (highest mark-to-market loss)resulting from these shocks.

Instructions Affecting Schedule XXIII

C30.1a The shock-based method requires companies to apply shocks to the yield curves used for determining best estimate liabilities[6] and market values of assets[7] exposed to interest rate changes (e.g., fixed income and hybrid assets, bank deposits, etc.). Any changes in market values of assets and best estimate liabilities due to interest rate-sensitive cash flows should be accounted for.

C30.1b Two shocks are to be applied: an upwards shock and a downwards shock. The capital requirement is then determined as the highest negative change to the net asset value (highest mark-to-market loss) resulting from these shocks.

C30.1c For the purposes of calculating capital requirements for interest rate risk, rates are allowed to go negative. If the application of the downward shock leads to negative rates, these shall not be floored at zero.

C30.1d For the calculation of the interest risk capital charge under the shock-based approach, hedging and risk transfer mechanisms should be taken into account as long as they comply with the requirements set in Section B4 of these instructions. Also, management actions should be taken into account as long as they comply with the requirements set in Section B5 of these instructions.

Interaction between shock-based approach and interest rate risk captured in Variable Annuity (VA) guarantee risk

C30.1e • In order to prevent double-counting capital charges for VA guarantees when using the shock-based approach, the following provisions apply:

a) Where companies are using an internal model for Variable Annuity risk, assets and liabilities associated with VA guarantees may be excluded from the interest rate shock, if the following conditions are fulfilled:

---

[6] And segregated account company liabilities, deposit liabilities and sundry liabilities.

[7] Including segregated account company assets, deposit assets and sundry assets.

(i) The company is able to identify and track assets associated with Variable Annuity guarantees.

(ii) Interest rate risk associated with both the VA guarantee liabilities and the associated assets is explicitly modelled in the internal model.

b) Where interest rate risk is modelled for VA guarantees, but not for the associated assets, or the associated assets cannot be separately identified, then the VA guarantee liabilities may be excluded from the interest rate shock, but any assets may not.

c) Where companies are using the BSCR Standard Formula to calculate Variable Annuity guarantee risk, only the VA guarantee liabilities may be excluded from the interest rate shock, but any assets may not.

Additional Guidance

C30.i. The shocks (per currency) are to be applied to the valuation date spot curve (per currency). The shocks are absolute shocks expressed in percentage points (i.e., are added on top of the base spot curve).

a) For companies using the standard approach to calculate best estimate liability (BEL), the shocks are applied to the standard spot curves published by the Authority.

C30.ii. The assets and liabilities need to be revalued under the shocks. For assets, this involves calculating the market value of assets after the shock (i.e., the shocked value). Depending on the asset, this may be a mark-to-model calculation. Conceptually the shocked value corresponds to the expected present value of cash flows projected under the stress scenario (taking into account that the amount and/or timing of cash flows themselves might change due to the shock (e.g., for bonds with call/put options or for derivatives)).

C30.iii. Revaluing the (best estimate) liabilities involves calculating the expected present value of cash flows projected under the stress scenarios. In particular, where the amount and/or timing of liability cash flows themselves depends on interest rates, the liability cash flows need to be projected (re-evaluated) under the stress scenarios, as opposed to, for example, simply re-discounting the base scenario cash flows.

Interaction between shock-based approach and the scenario-based approach for BEL

C30.1f For companies using the scenario-based approach for BEL calculation there is an offset from the interest rate risk capital charge when the shock-based approach is used. The offset is based on the difference in the best estimate liability between the ‘worst’ scenario and the base scenario under the scenario-based approach, according to the formula specified in the Prudential Rules.

C30.1g As a simplification companies using the scenario-based approach may calculate the capital charge for interest rate risk (before the application of offset) based on shocks to the balance sheet as if the base scenario had been applied. In this case the offset is to be calculated as the difference between the ‘worst’ scenario and the base scenario before the application of shocks.

D. SUMMARY

D1. FEATURES – BSCR ON TRANSITIONAL BASIS

Background

D1.1 The Summary exhibit has seven key features: Required Capital and Surplus, Available Statutory Capital and Surplus, MSM, ECR and TCL, Ratios, Solvency Capital Distribution chart and Regulatory Action Level graph. Each feature is described below. At the bottom of the page the BSCR formula for combining the various risk capital charges is displayed. The only financial data input into the Summary exhibit is the BMA-approved Capital Contribution of the insurer.

Required Capital and Surplus

D1.2 The BSCR is determined according to the following formula:

$$BSCR = \sqrt{C_{fi}^2 + C_{eq}^2 + C_{LT\mathrm{int}}^2 + C_{Curr}^2 + C_{Conc}^2 + C_{LTcred}^2 + (C_{LTmort} + C_{LTsl} + C_{LTr})^2 + C_{LTmorb}^2}$$

$$\text{cont'd } \sqrt{+C_{LTlong}^2 - .5 \times (C_{LTmort} + C_{LTsl} + C_{LTr}) \times C_{LTlong} + C_{LTVA}^2 + C_{LTother}^2} + C_{op} + C_{adj}$$

$$+ \left[BSCR_{Corr} - \left(\sqrt{C_{fi}^2 + C_{eq}^2 + C_{LT\mathrm{int}}^2 + C_{Curr}^2 + C_{Conc}^2 + C_{LTcred}^2 + (C_{LTmort} + C_{LTsl} + C_{LTr})^2 + C_{LTmorb}^2}\right.\right.$$

$$\left.\left.\text{cont'd } \sqrt{+C_{LTlong}^2 - .5 \times (C_{LTmort} + C_{LTsl} + C_{LTr}) \times C_{LTlong} + C_{LTVA}^2 + C_{LTother}^2} + C_{op} + C_{adj}\right)\right]$$

$$\boxed{\times \text{TransitionalFactor}}$$

Where:

C_{fi} = capital charge in respect of fixed income investment risk;

C_{eq} = capital charge in respect of equity investment risk capital;

C_{LTint} = capital charge in respect of interest rate and liquidity risk;

C_{curr} = capital charge in respect of currency risk;

C_{conc} = capital charge in respect of concentration risk;

C_{LTcred} = capital charge in respect of credit risk capital;

C_{LTmort} = capital charge in respect of long-term insurance risk – mortality;

C_{LTsl} = capital charge in respect of long-term insurance risk – stop loss;

C_{LTr} = capital charge in respect of long-term insurance risk – riders;

C_{LTmorb} = capital charge in respect of long-term insurance risk – morbidity and disability;

C_{LTlong} = capital charge in respect of long-term insurance risk – longevity;

C_{LTVA} = capital charge in respect of long-Term variable annuity guarantee risk;

b) C_{LToth} = capital charge in respect of long-term other insurance risk;

C_{op} = capital charge in respect of operational risk; and

C_{adj} = capital charge adjustment, calculated as the sum of (a) and (b) where:

(a) Regulatory capital requirement for regulated non-insurance financial operating entities;
(b) Capital adjustment for the loss absorbing capacity of deferred taxes.

$BSCRC_{corr}$ = as calculated in accordance with paragraph D16.2;

$TransitionalFactor$

(a) 10%**,** for the financial year beginning on or after 1St January 2019;
(b) 20%, for the financial year beginning on or after 1St January 2020;
(c) 30%, for the financial year beginning on or after 1St January 2021;
(d) 40% for the financial year beginning on or after 1st January 2022;
(e) 50% for the financial year beginning on or after 1st January 2023;
(f) 60% for the financial year beginning on or after 1st January 2024;
(g) 70% for the financial year beginning on or after 1st January 2025;
(h) 80% for the financial year beginning on or after 1st January 2026;
(i) 90% for the financial year beginning on or after 1st January 2027;
(j) 100% for the financial year beginning on or after 1st January 2028.'

D1.3 This formula utilises the square root rule to aggregate the various risks under the assumption that the risks are at least partially independent of one another and, therefore, some diversification benefit is provided when combining the risk charges. The end result is the BSCR (after covariance adjustment).

D1.4 The operational risk capital charge is the operational risk charge multiplied by the BSCR (after covariance adjustment). The risk charge ranges from 1% to 10% based on each insurer's self-assessment of the CIRA framework.

D1.5 Capital add-ons/reductions may be assessed where the BMA believes that an insurer's risk profile deviates significantly from the risk assumptions underlying the ECR or from the insurer's assessment of its risk management policies and practices. These include, but are not limited to, items such as provisions for reserve deficiencies, significant growth in premiums and quality of risk management surrounding operational risk.

D1.6 The BSCR is equal to the sum of the BSCR (after covariance adjustment), operational risk capital charge and capital add-ons/reductions (if assessed).

Available Statutory Economic Capital and Surplus

D1.7 Available Statutory Economic Capital and Surplus is defined as the Total Statutory Economic Capital and Surplus of the insurer, including subsequent Capital Contribution less Capital Add-ons/Reductions (BMA assessment). All capital contributions are to be approved by the BMA, and all capital add-ons/reductions are determined at the discretion of the BMA.

D1.8 The insurer's available statutory economic capital and surplus is determined for purposes of calculating the BSCR and ECR ratios.

Minimum Margin of Solvency

D1.9 The MSM is prescribed by the IAR.

ECR and TCL

D1.10 The ECR is the higher of the MSM and the BSCR/approved internal capital model.

D1.11 The TCL is equal to 120% of the ECR.

Ratios

D1.12 The BSCR Ratio is the ratio of the Available Statutory Economic Capital and Surplus to the BSCR.

D1.13 The ECR Ratio is the ratio of the Available Statutory Economic Capital and Surplus to the ECR.

Solvency Capital Distribution Chart

D1.14 The Solvency Capital Distribution chart displays the relative contribution of each charge to the BSCR, prior to the covariance adjustment.

Regulatory Action Level Graph

D1.15 The Regulatory Action Level graph displays the insurer's Available Statutory Economic Capital and Surplus position relative to the BMA's regulatory action guidelines, where Regulatory Action Level 1 is equal to the insurer's ECR and Regulatory Action Level 2 is equal to the insurer's TCL.

Items

a) Required Capital and Surplus – The calculation of the Required Capital and Surplus is used for the purpose of determining the required capital level.

Line Item		Description
1	Fixed Income Investment Risk	Based on current year fixed income investment risk (column (3), Row (g)).
2	Equity Investment Risk	Based on current year equity investment risk (column (3), Row (e)).
3	Interest Rate / Liquidity Risk	Based on current year interest rate / liquidity risk (column (10)).
4	Currency Risk	Based on current year currency risk (column (G)).
5	Concentration Risk	Based on current year concentration risk (column (3), Row (i)).
6	Credit Risk	Based on current year credit risk (column (3), Row (d)).
7	Insurance Risk – Mortality (long-term business)	Based on current year insurance risk – mortality (column (6)).
8	Insurance Risk – Morbidity and Disability (long-term business)	Based on current year insurance risk – morbidity and disability (column (6)).
9	Insurance Risk – Longevity (long-term business)	Based on current year insurance risk – longevity (column (6)).
10	Insurance Risk – Stop Loss (long-term business)	Based on current year insurance risk – stop loss (column (6)).
11	Insurance Risk – Riders (long-term business)	Based on current year insurance risk – riders (column (6)).
12	Other Insurance Risk (long-term business)	Based on current year other insurance risk (column (6)).
13	Variable Annuity Guarantee Risk (Long-Term Business)	Based on current year variable annuity guarantee risk (column (13), Row (33)) or Schedule VIIIA (column (7), line (1)).
14	BSCR (Prior to Covariance Adjustment)	BSCR (Prior to Covariance Adjustment) is the sum of the line items (1) to (13) above.

Line Item		Description
15	BSCR (After Covariance Adjustment)	BSCR (After Covariance Adjustment) is the resulting amount after applying the square root rule on line item (14) to reflect a diversification benefit when aggregating all the risks described above.
16	Operational Risk (%)	Operational Risk (%) is the applicable operational risk charge % of 'BSCR After Covariance Adjustment' based on the overall score derived from the CIRA framework as prescribed by the BMA.
17	Operational Risk Capital Charge ($)	Operational Risk Capital Charge ($) is the resulting amount when the operational risk (%), as prescribed in line item (15), is applied to the BSCR (After Covariance Adjustment).
18	Regulated Non-Insurance Financial Operating Entities Capital Charge	Regulated Non-Insurance Financial Operating Entities Capital Charge is the resulting amount from the sum of the insurer's proportionate share of each entity's regulatory capital requirement in accordance with the applicable solvency laws of the jurisdiction where the entity is licensed or registered.
19	Capital Add-On / Reduction (BMA Assessment)	Capital Add-Ons/Reductions on the Required Capital and Surplus is the difference between the user required capital (using insurer-specific capital factors) and the standard required capital (using the prescribed BSCR capital factors) determined under the company-specific parameters section, which is to be completed only with the prior approval of the BMA.
20	BSCR	BSCR is the sum of the line items (15), (17) (18) and (19) above.
21	BSCR Correlation	BSCR capital charge on the new basis after the correlation adjustment. The revised capital charge approach is phased in ten year period with 10% for the financial year beginning on or after 1 of January 2019, 20% for the financial year beginning on or after 1 of January 2020, 30% for the financial year beginning on or after 1 of January 2021, 40% for the financial year beginning on or after 1 of January 2022, 50% for the financial year beginning on or after 1 of January 2023, 60% for the financial year beginning on or after 1 of January 2024, 70% for the financial year beginning on or after 1 of January 2025, 80% for the financial year beginning on or after 1 of January 2026, 90% for the financial year beginning on or after 1 of January 2027 and 100% for the financial year beginning on or after 1 of January 2028.
22	Final BSCR	BSCR is the sum of the line items (20) and [the difference between (21) and (20)] times the Transitional Factor.

b) Available Statutory Economic Capital and Surplus – The calculation of the Available Statutory Economic Capital and Surplus is used for the purpose of determining the appropriate regulatory action level.

Line Item		Description
1	Total Statutory Economic Capital and Surplus	Based on the current year economic balance sheet of the insurer; as reported on Form 4EBS, line 40.
2	Capital Contribution	Capital Contributions must be approved by the BMA. Note that a Capital Contribution increases the Total Statutory Capital and Surplus.
3	Pre-Adjustment Available Statutory Economic Capital and Surplus	Pre-Adjustment Available Statutory Economic Capital and Surplus is the sum of lines (1) and (2) above.
4	Capital Add-Ons/Reductions (BMA assessment)	Capital Add-ons/Reductions may be assessed where the BMA believes that an insurer's risk profile deviates significantly from the risk assumptions underlying the ECR.
5	Available Statutory Economic Capital and Surplus	Available Statutory Economic Capital and Surplus is the sum of lines (3) and (4) above.

D2. FIXED INCOME INVESTMENT RISK (C_{fi})

Background

D2.1 There are various categories of assets comprising of bonds, loans and other miscellaneous investments that are used to determine the Fixed Income Investment Risk capital charge.

D2.2 Where applicable, the amounts must reconcile to the appropriate line(s) of the insurer's Form 4 EBS or to the schedules prescribed by or under the Rules for the relevant year.

Fixed Income Investment Risk Capital Charge

D2.3 The fixed income investment risk charge calculation can be summarised by the following formula:

$C_{fi} = \sum_i \chi_i \times FIastclass_i \times \mu_r,$ where:

i = ranges over the classes set out below;

χ_i = BMA supplied asset class capital charge factor for type of fixed income asset class i;

$FIastclass_i$= value of investment in fixed income asset class i and

μ_r = additional diversification adjustment factor applied to cash and cash equivalent balances, or 1 for other asset classes.

Items

a) <u>Corporate and Sovereign Bonds</u>

Line Item		Statement Source – The Rules
1	BSCR rating 0	Based on Schedule II EBS and IIA EBS, line 1, column (1).
2	BSCR rating 1	Based on Schedule II EBS and IIA EBS, line 2, column (1).
3	BSCR rating 2	Based on Schedule II EBS and IIA EBS, line 3, column (1).
4	BSCR rating 3	Based on Schedule II EBS and IIA EBS, line 4, column (1).
5	BSCR rating 4	Based on Schedule II EBS and IIA EBS, line 5, column (1).
6	BSCR rating 5	Based on Schedule II EBS and IIA EBS, line 6, column (1).
7	BSCR rating 6	Based on Schedule II EBS and IIA EBS, line 7, column (1).
8	BSCR rating 7	Based on Schedule II EBS and IIA EBS, line 8, column (1).
9	BSCR rating 8	Based on Schedule II EBS and IIA EBS, line 9, column (1).

b) <u>Residential Mortgage-Backed Securities</u>

	Line Item	Statement Source – The Rules
1	BSCR rating 1	Based on Schedule II EBS and IIA EBS, line 2, column (3).
2	BSCR rating 2	Based on Schedule II EBS and IIA EBS, line 3, column (3).
3	BSCR rating 3	Based on Schedule II EBS and IIA EBS, line 4, column (3).
4	BSCR rating 4	Based on Schedule II EBS and IIA EBS, line 5, column (3).
5	BSCR rating 5	Based on Schedule II EBS and IIA EBS, line 6, column (3).
6	BSCR rating 6	Based on Schedule II EBS and IIA EBS, line 7, column (3).
7	BSCR rating 7	Based on Schedule II EBS and IIA EBS, line 8, column (3).
8	BSCR rating 8	Based on Schedule II EBS and IIA EBS, line 9, column (3).

c) Commercial Mortgage-Backed Securities/Asset-Backed Securities

	Line Item	Statement Source – The Rules
1	BSCR rating 1	Based on Schedule II EBS and IIA EBS, line 2, column (5).
2	BSCR rating 2	Based on Schedule II EBS and IIA EBS, line 3, column (5).
3	BSCR rating 3	Based on Schedule II EBS and IIA EBS, line 4, column (5).
4	BSCR rating 4	Based on Schedule II EBS and IIA EBS, line 5, column (5).
5	BSCR rating 5	Based on Schedule II EBS and IIA EBS, line 6, column (5).
6	BSCR rating 6	Based on Schedule II EBS and IIA EBS, line 7, column (5).
7	BSCR rating 7	Based on Schedule II EBS and IIA EBS, line 8, column (5).
8	BSCR rating 8	Based on Schedule II EBS and IIA EBS, line 9, column (5).

d) Bond Mutual Funds

	Line Item	Statement Source – The Rules
1	BSCR rating 0	Based on Schedule II EBS and IIA EBS, line 1, column (7).
2	BSCR rating 1	Based on Schedule II EBS and IIA EBS, line 2, column (7).
3	BSCR rating 2	Based on Schedule II EBS and IIA EBS, line 3, column (7).
4	BSCR rating 3	Based on Schedule II EBS and IIA EBS, line 4, column (7).
5	BSCR rating 4	Based on Schedule II EBS and IIA EBS, line 5, column (7).
6	BSCR rating 5	Based on Schedule II EBS and IIA EBS, line 6, column (7).
7	BSCR rating 6	Based on Schedule II EBS and IIA EBS, line 7, column (7).

	Line Item	Statement Source – The Rules
8	BSCR rating 7	Based on Schedule II EBS and IIA EBS, line 8, column (7).
9	BSCR rating 8	Based on Schedule II EBS and IIA EBS, line 9, column (7).

e) Mortgage Loans

	Line Item	Statement Source – The Rules
1	Insured/guaranteed mortgages	Based on Schedule II EBS and IIA EBS, line 22, column (1).
2	Other commercial and farm mortgages	Based on Schedule II EBS and IIA EBS, line 23, column (1).
3	Other residential mortgages	Based on Schedule II EBS and IIA EBS, line 24, column (1).
4	Mortgages not in good standing	Based on Schedule II EBS and IIA EBS, line 25, column (1).

f) Other Fixed Income Investments

	Line Item	Statement Source – The Rules or IAR
1	Other loans	Based on Form 4 EBS, line 8.

g) Cash and Cash Equivalents

	Line Item	Statement Source – The Rules
1	BSCR rating 0	Based on Schedule XIX, column (B).
2	BSCR rating 1	Based on Schedule XIX, column (B).
3	BSCR rating 2	Based on Schedule XIX, column (B).
4	BSCR rating 3	Based on Schedule XIX, column (B).
5	BSCR rating 4	Based on Schedule XIX, column (B).
6	BSCR rating 5	Based on Schedule XIX, column (B).
7	BSCR rating 6	Based on Schedule XIX, column (B).
8	BSCR rating 7	Based on Schedule XIX, column (B).

	Line Item	Statement Source – The Rules
9	Less: Diversification Adjustment	Based on Schedule XIX, column (B).

Instructions Affecting Fixed Income Investment Risk

a) All assets comprising of bonds and debentures, loans, and other miscellaneous investments that are subject to capital charges within the fixed income investment risk charge shall be included;

b) All non-affiliated quoted and unquoted bonds and debentures shall be included in the fixed income investment charge;

c) All bonds and debentures, loans, and other miscellaneous investments shall be reported on a basis consistent with that used for purposes of statutory financial reporting;

d) The capital requirements relating to cash and cash equivalents shall be reduced by a diversification adjustment of up to a maximum of 40%;

e) The diversification adjustment in paragraph (d) is determined as 40% multiplied by 1 minus the ratio of the largest cash and cash equivalent balance held with a single counterparty to the total of all cash and cash equivalent balance; and

f) Amounts are to be reported on a consolidated EBS basis.

D3. EQUITY INVESTMENT RISK (C_{eq})

Background

D3.1 There are various categories of equity investments comprising common stocks, preferred stocks, real estate, and other miscellaneous investments that are used to determine the Equity Investment Risk capital charge. All non-affiliated stocks held by the insurer should be reported, including both quoted and unquoted issues.

D3.2 Where applicable, the amounts must reconcile to the appropriate line(s) of the insurer's Form 4EBS or to the schedules prescribed by or under the Prudential Standards for the relevant year.

Equity Investment Risk Capital Charge

D3.3 The equity investment risk charge calculation can be summarised by the following formula:

$C_{eq} = \sum_i \chi_i \times Eqastclass_i$, where

i = ranges over the classes set out below;

χ_i = BMA supplied asset class capital factor for type of equity class i; and

$Eqastclass_i$= value of investment in corresponding asset class i.

Items

a) <u>Common Stocks</u>

line Item		Statement Source – The Rules
1	Non-affiliated quoted common stock	Based on Schedule II EBS and IIA EBS, line 19, column (1).
2	Non-affiliated unquoted common stock	Based on Schedule II EBS and IIA EBS, line 20, column (1).
3	Equity mutual funds	Based on Schedule II EBS and IIA EBS, line 21, column (5).

b) <u>Preferred Stocks</u>

line Item		Statement Source – The Rules
1	BSCR rating 1	Based on Schedule II EBS and IIA EBS, line 11, column (3).
2	BSCR rating 2	Based on Schedule II EBS and IIA EBS, line 12, column (3).

	line Item	Statement Source – The Rules
3	BSCR rating 3	Based on Schedule II EBS and IIA EBS, line 13, column (3).
4	BSCR rating 4	Based on Schedule II EBS and IIA EBS, line 14, column (3).
5	BSCR rating 5	Based on Schedule II EBS and IIA EBS, line 15, column (3).
6	BSCR rating 6	Based on Schedule II EBS and IIA EBS, line 16, column (3).
7	BSCR rating 7	Based on Schedule II EBS and IIA EBS, line 17, column (3).
8	BSCR rating 8	Based on Schedule II EBS and IIA EBS, line 18, column (3).

c) <u>Other Equity Investments</u>

	line Item	Statement Source – The IAR or the Rules
1	Real estate: company - occupied less encumbrances	Based on Form 4 EBS, line 7(a).
2	Real estate: other properties less encumbrances	Based on Form 4 EBS, line 7(b).
3	Other equity investments	Based on Form 4 EBS, lines 2(e) and 3(e).
4	Other tangible assets – net of segregated account companies	Based on Form 4 EBS, lines 13(k), 14(d), and 36(f) less lines 13(b), 13(c) and 13(h).

d) <u>Investments in Affiliates</u>

	line Item	Statement Source – The IAR
1	Unregulated entities that conduct ancillary services	Based on Form 4 EBS, line 4(a).
2	Unregulated non-financial operating entities	Based on Form 4 EBS, line 4(b).
3	Unregulated financial operating entities	Based on Form 4 EBS, line 4(c).
4	Regulated insurance financial operating entities	Based on Form 4 EBS, line 4(e).

Instructions Affecting Equity Investment Risk

a) All assets comprising of common stock, preferred stock, real estate, and other miscellaneous investments that are subject to capital charges within the equity investment risk charge shall be included;

b) All non-affiliated quoted and unquoted common and preferred stock shall be included in the equity investment charge;

c) All common and preferred stock, real estate, and other miscellaneous investments shall be reported on a basis consistent with that used for purposes of statutory financial reporting; and

d) Amounts are to be reported on a consolidated EBS basis.

D4. INTEREST RATE/LIQUIDITY RISK (C_{int})

Background

D4.1 The interest rate/liquidity risk represents the economic risk an insurer is subjected to due to changes in interest rates. The charge is calculated by applying the 'shock' of a 2% increase in interest rates to the portion of the insurer's assets (proportionate to the percentage of reserves) related to the duration difference. These assets include quoted and unquoted bonds and debentures - other, quoted and unquoted preferred stocks, and mortgage loans.

D4.2 The interest rate/liquidity risk calculation takes into account known and unknown asset-liability duration mismatches. For known differences in duration mismatches, a set of asset-liability management questions have to be answered ('Interest Rate / Liquidity Risk' tab in the model) in order to arrive at a discount factor. The discount factor is applied on the interest rate / liquidity risk capital requirement: the higher the quality of the insurer's Asset-Liability Management (ALM) policies and procedures, the higher the discount factor (referred to as 'ALM credit'), the lower the capital requirement. The insurer can receive up to 50% credit based on the quality of its ALM practices.

Interest Rate/Liquidity Risk Capital Charge

D4.3 The interest rate/liquidity risk charge calculation can be summarised by the following formula:

$C(duration1 \times rateshock \times reserveshare \times assets \times 100\% - (ALMCredit)_{LTint} + (duration2 \times rateshock \times (1 - reserveshare) \times assets)$,

where

$assets$ = quoted and unquoted value of total bonds and debentures, preferred stock, or mortgage loans;

$duration1$ = duration that applies for business where the duration of assets and liabilities is known;

$rateshock$ = assumed interest rate shock prescribed by the BMA;

$duration2$ = applies for business where the duration of assets and liabilities is not known. duration2 is equal to 2;

$AMLCredit$ = the ALM credit based on the quality of an insurer's practices; and

$reserveshare$ = the amount of reserves with known duration divided by the total reserves. The statement source for $reserveshare$ is Schedule V paragraph (h) of these Rules.

Items

D4.4 Asset Values – These include the quoted and unquoted values of bonds and debentures, preferred stocks and mortgage loans.

D4.5 Assumed interest shock – The BMA prescribed this as 200 basis points.

D4.6 Duration that applies for business where the duration of assets and liabilities is known – This duration is the higher of:

a) 1; or

b) The insurer's weighted average of the difference in asset duration and liability duration.

The statement source for the weighted average of the difference in asset duration and liability duration is Schedule V paragraph (f) of the Rules.

Duration that applies for business where the duration of assets and liabilities is not known – This duration is equal to 2.

D4.7 The amount of reserves with known duration to total reserves – The statement source for the amount of reserves with known duration divided by the total reserves is Schedule V paragraph (g) of the Prudential Standard Rules.

D4.8 ALM Credit – Based on the insurer's responses to its asset-liability management policies, an insurer can receive up to 50% credit on its interest rate/liquidity risk capital charge where the duration mismatch is known. The insurer answers the initial question 'Has the insurer implemented policies on Asset-Liability Management, including tolerances for deviation?' If the answer is 'no', the insurer does not have to complete the remaining five questions and no ALM credit is granted. If the answer is 'yes', answers to the following questions will determine the total discount credit available to the insurer. The higher the quality of the insurer's policies and procedures, the higher the discount factor the insurer gets.

Instructions Affecting Interest Rate/Liquidity Risk

a) All assets comprising of total bonds and debentures, preferred stock, and mortgage loans investments that are subject to capital charges within the interest rate/liquidity risk charge shall be included;

b) All quoted and unquoted non-affiliated other bond and debentures and preferred stock shall be included in the interest rate/liquidity risk charge; and

c) Total bonds and debentures, preferred stock, and mortgage loans investments shall be reported on a basis consistent with that used for purposes of statutory financial reporting; and

d) Amounts are to be reported on a consolidated EBS basis.

D5. CURRENCY RISK (C_{Curr})

Background

D5.1 The currency risk charge is based on amounts reported on Form 4EBS total assets and liabilities. It represents the risk that the net asset position of an insurer may worsen as a result of exchange rate changes if assets and liabilities are not currency matched. Insurers are to include at least 95% of their total assets and liabilities based on the predefined five currency types (USD, Euro, GBP, Canadian Dollar and Japanese Yen) and ten other currency types.

D5.2 The charge is first calculated by determining the assessment charge which is based on the greater of:

a) The prior year ECR charge to the prior year total EBS liabilities reported and
b) The average of the last three prior years' ECR charge to last three prior years total EBS liabilities reported.

D5.3 The currency risk capital charge is applied based on the asset held for each currency type less the liabilities and the proxy BSCR (proxy BSCR is determined by applying the assessment charge to the currency type's liabilities). In instances there is a currency type that has insufficient assets held to the liabilities and proxy BSCR, a 25% capital charge is applied to the difference, if there are sufficient assets held to the liabilities and proxy BSCR, then there is no/NIL capital charge applied.

Currency Risk Capital Charge

D5.4 The currency risk charge calculation can be summarised by the following formula:

$C_{Curr} = \sum_i \chi_i \times (Currproxybscr_i + Currliab_i - Currast_i)$, where

χ_i = 25% where $(Currast_i - Currliab_i -) < Currproxybscr_i 0$

0% otherwise

$Currency_i$ = refers to currency type that has been translated to the functional currency as expressed in Form 4EBS

$GrossCurrast_i$ = value of assets corresponding to $Currency_i$ as reported on Form 4EBS line 15

$Currast_i$ = value of assets corresponding to $Currency_i$ as reported on Form 4EBS line 15 adjusted to allow for currency hedging arrangements

$GrossCurrliab_i$ = value of liabilities corresponding to $Currency_i$ as reported on Form 4EBS line 39.

$Currliab_i$ = value of liabilities corresponding to $Currency_i$ as reported on Form 4EBS line 39 adjusted to allow for currency hedging arrangements

$Currproxybscr_i$ = refers to the product of $GrossCurrliab_i$ and BSCR Proxy factor; and

$BSCR\ Proxyfactors$ = greater of:

a) The Enhanced Capital Requirement divided by Form 4EBS line 39 Total Liabilities for the preceding year;

b) the average of the above ratio for the preceding three years.

Where there are no prior submissions available, the BSCR proxy factor is the above ratio that would be obtained from the current submission without taking into account the currency risk charge.

Items

D5.5 EBS Assets by Currency Types – Based on current year Form 4 EBS line 15; 95% of total EBS assets by type of currency.

D5.6 EBS Liabilities by Currency Types – Based on current year Form 4 EBS line 39; 95% of total EBS liabilities by type of currency.

D5.7 Total ECR Requirement– Based on three prior years ECR Requirement.

D5.8 Total EBS Liabilities– Based on three prior years Form 4 EBS line 39; total EBS liabilities (note if the EBS liabilities for the preceding three years is not available, provide the statutory liability as reported on line 39).

Instructions Affecting Currency Risk

a) Where the insurer uses currency hedging arrangements to manage its currency risk, then $Currast_i$ and $Currliab_i$ may reflect the impact of those arrangements on $GrossCurrast_i$ and $GrossCurrliab_i$ of a 25% adverse movement in foreign exchange currency rates, otherwise the amounts $GrossCurrast_i$ and $GrossCurrliab_i$ shall apply;

b) Any adjustment to reflect currency hedging arrangements shall not apply to the calculation of $Currproxybscr_i$;

c) ‘Currency hedging arrangements’ means derivative or other risk mitigation arrangements designed to reduce losses due to foreign currency exchange movements, and which meet the Authority’s requirements to be classed as such;

d) Insurers are to report currencies representing at least 95% of their economic balance sheet liabilities; and

e) Amounts are to be reported on a consolidated EBS basis.

D6. CONCENTRATION RISK (C_{Conc})

Background

D6.1 The concentration risk charge is based on asset counterparty exposures as reported on the Form 4EBS. It represents the risk of losses due to asset concentrations.

D6.2 The charge is calculated by aggregating all the Asset Type, Bond/Mortgage Loan Type (if applicable), BSCR Rating (if applicable) and Asset Value together and assigning the values to the respective fixed income, equity, credit capital factor charge.

Concentration Risk Capital Charge

D6.3 The concentration risk charge calculation can be summarised by the following formula:

$$C_{Conc} = \sum_i \chi_i \times Concastclass_i$$ where

χ_i = the capital charge factors supplied by the BMA for each type $Concastclass_i$ of and

$Concastclass_i$ = value of corresponding asset in Asset Class.

Items

a) Cash and Cash Equivalents

Line Item		Description
1	BSCR rating 0	Based on Schedule XXI, column H
2	BSCR rating 1	Based on Schedule XXI, column H
3	BSCR rating 2	Based on Schedule XXI, column H
4	BSCR rating 3	Based on Schedule XXI, column H
5	BSCR rating 4	Based on Schedule XXI, column H
6	BSCR rating 5	Based on Schedule XXI, column H
7	BSCR rating 6	Based on Schedule XXI, column H
8	BSCR rating 7	Based on Schedule XXI, column H
9	BSCR rating 8	Based on Schedule XXI, column H

b) Corporate & Sovereign Bonds

Line Item		Description
1	BSCR rating 0	Based on Schedule XXI, column H
2	BSCR rating 1	Based on Schedule XXI, column H
3	BSCR rating 2	Based on Schedule XXI, column H
4	BSCR rating 3	Based on Schedule XXI, column H
5	BSCR rating 4	Based on Schedule XXI, column H
6	BSCR rating 5	Based on Schedule XXI, column H
7	BSCR rating 6	Based on Schedule XXI, column H
8	BSCR rating 7	Based on Schedule XXI, column H
9	BSCR rating 8	Based on Schedule XXI, column H

c) Residential Mortgage- Backed Securities

Line Item		Description
1	BSCR rating 0	Based on Schedule XXI, column H
2	BSCR rating 1	Based on Schedule XXI, column H
3	BSCR rating 2	Based on Schedule XXI, column H
4	BSCR rating 3	Based on Schedule XXI, column H
5	BSCR rating 4	Based on Schedule XXI, column H
6	BSCR rating 5	Based on Schedule XXI, column H
7	BSCR rating 6	Based on Schedule XXI, column H
8	BSCR rating 7	Based on Schedule XXI, column H
9	BSCR rating 8	Based on Schedule XXI, column H

d) Commercial Mortgage-Backed Securities/Asset-Backed Securities

Line Item		Description
1	BSCR rating 0	Based on Schedule XXI, column H
2	BSCR rating 1	Based on Schedule XXI, column H
3	BSCR rating 2	Based on Schedule XXI, column H
4	BSCR rating 3	Based on Schedule XXI, column H

Line Item		Description
5	BSCR rating 4	Based on Schedule XXI, column H
6	BSCR rating 5	Based on Schedule XXI, column H
7	BSCR rating 6	Based on Schedule XXI, column H
8	BSCR rating 7	Based on Schedule XXI, column H
9	BSCR rating 8	Based on Schedule XXI, column H

e) Bond Mutual Funds

Line Item		Description
1	BSCR rating 0	Based on Schedule XXI, column H
2	BSCR rating 1	Based on Schedule XXI, column H
3	BSCR rating 2	Based on Schedule XXI, column H
4	BSCR rating 3	Based on Schedule XXI, column H
5	BSCR rating 4	Based on Schedule XXI, column H
6	BSCR rating 5	Based on Schedule XXI, column H
7	BSCR rating 6	Based on Schedule XXI, column H
8	BSCR rating 7	Based on Schedule XXI, column H
9	BSCR rating 8	Based on Schedule XXI, column H

f) Preferred Shares

Line Item		Description
1	BSCR rating 1	Based on Schedule XXI, column H
2	BSCR rating 2	Based on Schedule XXI, column H
3	BSCR rating 3	Based on Schedule XXI, column H
4	BSCR rating 4	Based on Schedule XXI, column H
5	BSCR rating 5	Based on Schedule XXI, column H
6	BSCR rating 6	Based on Schedule XXI, column H
7	BSCR rating 7	Based on Schedule XXI, column H
8	BSCR rating 8	Based on Schedule XXI, column H

g) Mortgage Loans

Line Item		Description
1	Insured/Guaranteed Mortgages	Based on Schedule XXI, column H
2	Other Commercial and Farm Mortgages	Based on Schedule XXI, column H
3	Other Residential Mortgages	Based on Schedule XXI, column H
4	Mortgages Not In Good Standing	Based on Schedule XXI, column H

h) Other Asset Classes

Line Item		Description
1	Quoted and Unquoted Common Stock and Mutual Funds	Based on Schedule XXI, column H
2	Other Quoted and Unquoted Investments	Based on Schedule XXI, column H
3	Investment in Affiliates – Unregulated entities that conduct ancillary services	Based on Schedule XXI, column H
4	Investment in Affiliates – Unregulated non-financial operating entities	Based on Schedule XXI, column H
5	Investment in Affiliates – Unregulated financial operating entities	Based on Schedule XXI, column H
6	Investment in Affiliates – Regulated insurance financial operating entities	Based on Schedule XXI, column H
7	Advances to Affiliates –	Based on Schedule XXI, column H
8	Policy Loans	Based on Schedule XXI, column H
9	Real Estate: occupied by company	Based on Schedule XXI, column H
10	Real Estate: other properties	Based on Schedule XXI, column H
11	Collateral Loans	Based on Schedule XXI, column H

Instructions Affecting Concentration Risk

a) $Concastclass_i$ shall apply to all exposures to the ten largest counterparties of the insurer, based on the aggregate of all exposures relating to those ten counterparties;

b) A counterparty shall include all related/connected counterparties defined as:

(i) Control relationship: if the counterparty, directly or indirectly, has control over the other(s); or

(ii) Economic interdependence: if one of the counterparties were to experience financial problems, in particular funding or repayment difficulties, the other(s) as a result, would also be likely to encounter funding or repayment difficulties;

c) Amounts are to be reported on a consolidated EBS basis.

d) It is allowed to perform look through on collective investment funds such as equity and hedge funds as well as on exposures to diversified fund-of-one structures, whenever information at position level is available. Instructions on points a) and b) above apply also in this case.

D7. CREDIT RISK (C_{cred})

Background

D7.1 Credit risks are partitioned into three categories: accounts and premiums receivable, reinsurance balances, and all other receivables.

D7.2 Where applicable, the amounts must reconcile to the appropriate line(s) of the insurer's Form 4 EBS or to the schedules prescribed by or under the Prudential Standard Rules for the relevant year.

Credit Risk Capital Charge

D7.3 The credit risk charge calculation can be summarised by the following formula:

$$C_{cred} = \sum_i \delta_i \times debtor_i \times \mu_r ,$$ where

δ_i = BMA-supplied credit risk capital charge factor for type of debtor i;

$debtor_i$= receivable amount from debtor i; and

μ_{r_i} = additional diversification adjustment factor applied to reinsurance balances only taking into consideration diversification by number of reinsurers, equal to 40%.

Items

a) Accounts and Premiums Receivable

Line Item		Statement Source – The IAR
1	In course of collection	Based on Form 4EBS, line 10(a).
3	Receivables from retrocessional contracts Less: Collateralised balances	Based on Form 4EBS, line 10(c) less Notes to Form 4EBS. Collateralised balances are all collaterals issued in favour of the group members relating to accounts and premiums receivable. Assets accounted in Form 4EBS, line (34) should not be included here.

b) Particulars of reinsurance balances by BSCR rating - (i) amounts receivable on account of policies of reinsurance from any person, whether an affiliate or not, should be included; (ii) any amount included in 'Accounts and Premiums Receivable' and 'Funds Held by Ceding Reinsurers' should not be included; (iii) all uncollectible amounts, as determined by the insurer, should be deducted.

Line Item		Statement Source – The Rules
1	BSCR rating 0	Based on Schedule XVIII column E
2	BSCR rating 1	Based on Schedule XVIII column E
3	BSCR rating 2	Based on Schedule XVIII column E
4	BSCR rating 3	Based on Schedule XVIII column E
5	BSCR rating 4	Based on Schedule XVIII column E
6	BSCR rating 5	Based on Schedule XVIII column E
7	BSCR rating 6	Based on Schedule XVIII column E
8	BSCR rating 7	Based on Schedule XVIII column E
9	BSCR rating 8	Based on Schedule XVIII column E
10	Less: Diversification adjustment	Based on Schedule XVIII column E

c) All Other Receivables

Line Item		Statement Source – IAR
1	Advances to affiliates	Based on Form 4EBS, line 4(g).
2	Accrued investment income	Based on Form 4EBS, line 9.
3	Policy loans	Based on Form 4EBS, line 6.

Instructions Affecting Credit Risk

a) All accounts and premiums receivable and all other receivables that are subject to capital charges within the credit risk charge shall be included;

b) All accounts and premiums receivable, reinsurance balances receivables, all other receivables, and reinsurance recoverable balances shall be reported on a basis consistent with that used for purposes of statutory financial reporting;

c) Collateralised balances are all collaterals issued in favour of the insurer relating to accounts and premiums receivable;

d) The net qualifying exposure comprises of reinsurance balances receivable and reinsurance recoverable balances less the corresponding reinsurance balances payable and other payables less the qualifying collateral issued in favour of the insurer in relation to the reinsurance balances;

e) The net qualifying exposure in instruction (d) shall be subject to the prescribed credit risk capital factor;

f) The total capital requirement relating to the reinsurance balances shall be reduced by a diversification adjustment of up to a maximum of 40%;

g) The diversification adjustment in instruction (f) is determined as 40% multiplied by 1 minus the ratio of the largest net reinsurance exposure, on an individual reinsurer basis, to total net reinsurance exposure; and

h) Amounts are to be reported on a consolidated EBS basis.

D8. INSURANCE RISK – MORTALITY (C_{LTmort})

Background

D8.1 Insurance products that are considered to be exposed to mortality risk include term assurance, whole life, universal life, and accidental death and dismemberment insurance. These exclude life policies with critical illness acceleration riders.

D8.2 The insurance risk-mortality charge is calculated by applying a capital factor to the respective net amount at risk. The capital risk factors are applied on an additive basis (i.e. 3.97/1000 on first $1 billion of business, plus 1.80/1000 on the next $4 billion of business, etc.).

D8.3 A 50% reduction is applied to adjustable products and accidental death products. Adjustable products are defined as any insurance contracts in which the insurer has the ability to make a material adjustment to the premiums/cost of insurance charges/dividends, based on recent experience.

Insurance Risk – Mortality Capital Charge

D8.4 The insurance risk - mortality charge calculation can be summarised by the following formula:

$$C_{LTmort} = [\sum_i \alpha 1_i \times NAAR1_i] + [\sum_i \alpha 2_i \times NAAR2_i],$$ where

$\alpha 1_i$ = capital charge factor for adjustable mortality long-term business;
$NAAR1_i$ = the net amount at risk of all adjustable mortality long-term business;
$\alpha 2_i$ = capital charge factor for non-adjustable mortality long-term business; and
$NAAR2_i$ = the net amount at risk of all non-adjustable mortality long-term business.

Items

	Column Item	Description
1	Net Amount At Risk	Column item 1: Net amount at risk for adjustable products/treaties, as reported on Schedule VII EBS, column (9), line 1; and Net amount at risk for non-adjustable products/treaties, as reported on Schedule VII, column (10), line 1.
2	Capital Factor	Column item 2: Supplied by the BMA; capital charge factors applied to individual net amount at risk for (a) adjustable products/treaties; and (b) non-adjustable products/treaties.
3	Required Capital	Column item 3: Calculated using [column item 1 x column item 2] for both (a) and (b) and summed up.

D9. INSURANCE RISK – STOP LOSS (C_{LTsl})

Background

D9.1 A capital factor is applied to the respective net annual earned premiums of stop loss covers provided.

Insurance Risk – Stop Loss Capital Charge

D9.2 The insurance risk – stop loss charge calculation can be summarised by the following formula:

C_{LTsl} = 50% x net annual premium for stop loss covers.

Items

Column Item		Description
1	Net Annual Premium	Column item 1: Net annual premium for stop loss covers, as reported on Schedule VII EBS, column (11), line 14.
2	Capital Factor	Column item 2: Supplied by the BMA; capital charge factors applied on net annual premiums for stop loss covers.
3	Required Capital	Column item 3: Calculated using [column item 1 x column item 2].

D10. INSURANCE RISK – RIDERS (C_{LTr})

Background

D10.1 For any other product riders not included in the following insurance risk charges: i) mortality; ii) morbidity and disability; iii) longevity; and iv) stop loss, a capital factor is applied to the respective net annual earned premiums.

Insurance Risk – Riders Capital Charge

D10.2 The insurance risk – riders charge calculation can be summarised by the following formula:

$C_{LTr} =$ 25% x net annual premium for insurance product riders not included elsewhere.

Items

Column Item		Description
1	Net Annual Premium	Column item 1: Net annual premium for other product riders, as reported on Schedule VII EBS, column (11), line 15.
2	Capital Factor	Column item 2: Supplied by the BMA; capital charge factors applied on net annual premiums for other products' riders.
3	Required Capital	Column item 3: Calculated using [column item 1 x column item 2].

D11. INSURANCE RISK – MORBIDITY AND DISABILITY(C_{LTmorb})

Background

D11.1 Morbidity and disability risks are separated by critical illness insurance products and health insurance products.

D11.2 For critical illness insurance products, including accelerated critical illness insurance products, a prescribed capital factor is applied to the net amount at risk, on an additive basis. A 50% reduction in the capital risk factors is applied to adjustable products.

D11.3 Health insurance products include disability income products, long-term care insurance products, waiver of premium benefits, and other accidental and sickness products.

Insurance Risk – Morbidity and Disability Capital Charge

D11.4 The insurance risk – morbidity and disability charge calculation can be summarised by the following formula:

$C_{LTmorb} =$ (a) + (b) + (c) + (d) + (e) where:

a) = 7% x BSCR-adjusted reserves for disability income claims in payment on waiver of premium and long-term care;
b) = 10% x BSCR-adjusted reserves for disability income claims in payment on other accident and sickness products;
c) $= [\sum_i \alpha_i \times NAP_i]$ Where –
   α_i = individual NAP_i capital charge factor;
   NAP_i = the Net Annual Premium for disability income business – active lives;
d) = 12% x net annual premiums for disability income - active lives for other accident and sickness; and
e) $= [\sum_i \alpha 1_i \times NAAR1_i] + [\sum_i \alpha 2_i \times NAAR2_i]$ Where –
   $\alpha 1_i$ = capital charge factor for adjustable critical illness insurance business;
   $NAAR1_i$ = the Net Amount at Risk of all adjustable critical illness insurance business in force;
   $\alpha 2_i$ = capital charge factor for non-adjustable critical illness insurance business; and
   $NAAR2_i$ = the Net Amount at Risk of all non-adjustable critical illness insurance business in force.

Items

a) <u>Subtotal Charge for Critical Illness</u>

Column Item		Description
1	Net Amount At Risk	Column item 1: Net amount at risk for adjustable products/treaties, as reported on Schedule VII EBS, column (9), line 2; and Net amount at risk for non-adjustable products/treaties, as reported on Schedule VII , column (10), line 2.
2	Capital Factor	Column item 2: Supplied by the BMA; capital charge factors applied to individual net amount at risk for (a) adjustable products/treaties; and (b) non-adjustable products/treaties.
3	Required Capital	Column item 3: Calculated using [column item 1 x column item 2] for both (a) and (b) and summed up.

b) <u>Subtotal Charge for Disability Income (Active Lives with Premium Guarantee)</u>

Column Item		Description
1	Net Annual Premium	Column item 1: Net annual premium with benefit period of less than or equal to two years listed according to length of premium guarantee, as reported on Schedule VII EBS, column (9) - (i) Premium guarantee of less than one year – line 7(a), (ii) Premium guarantee of more than one year but less than five years – line 7(b), and (iii) Premium guarantee of over five years – line 7(c); and Net annual premium with benefit period of greater than two years listed according to length of premium guarantee, as reported on Schedule VII EBS, column (10) — (i) Premium guarantee of less than one year – line 7(a), (ii) Premium guarantee of more than one year but less than five years – line 7(b), and (iii) Premium guarantee of over five years – line 7(c).
2	Capital Factor	Column item 2: Supplied by the BMA; capital charge factors applied to individual a) Net annual premiums with benefit period of less than or equal to two years according to the length of premium guarantee – (i) Less than one year, (ii) More than a year but less than five years, and (iii) Over five years; and b) On net annual premiums with benefit period of greater than two years according to the length of premium guarantee – (i) Less than one year, (ii) More than a year but less than five years, and (iii) Over five years.

	Column Item	Description
3	Required Capital	Column item 3: Calculated using [column item 1 x column item 2] for both (a) and (b) for each length of premium guarantee provided – (i), (ii) and (iii) – and summed up.

c) Subtotal Charge for Disability Income (Claims in Payment)

	Column Item	Description
1	BSCR Adjusted Reserve	Column item 1: (a) Disability income: claims in payment relating to waiver of premium and long-term care, as reported on Schedule VII EBS, column (7), line 9; and Disability income: claims in payment relating to other accident and sickness, as reported on Schedule VII EBS, column (7), line 10.
2	Capital Factor	Column item 2: Supplied by the BMA; capital charge factors applied to individual BSCR-adjusted reserves with respect to disability income – claims in payment relating to (a) waiver of premium and long-term care, and (b) other accident and sickness.
3	Required Capital	Column item 3: Calculated using [column item 1 x column item 2] for both (a) and (b) and summed up.

d) Subtotal Charge for Disability Income (Active Lives for other accident and sickness products):

	Column Item	Description
1	Net Annual Premium	Column item 1: Net annual premium for disability income (active lives), including other accident and sickness; as reported on Schedule VII EBS, column (11), line 8.
2	Capital Factor	Column item 2: Supplied by the BMA; capital charge factor applied on the net annual premium for disability income – active lives.
3	Required Capital	Column item 3: Calculated using [column item 1 x column item 2].

e) Total Charge – Calculated using lines [(a) + (b) + (c) + (d)] above; the resulting figure is carried to the Summary section.

D12. INSURANCE RISK – LONGEVITY (C_{LTlong})

Background

D12.1 Products that are considered to be exposed to longevity risks include, but are not limited to, payout annuities and contingent annuities.

Insurance Risk – Longevity Capital Charge

D12.2 The insurance risk – longevity charge calculation can be summarised by the following formula:

$C_{LTlong} = \sum_i \alpha_i \times BAR_i$ Where –

α_i = individual BAR_i capital charge factor; and

BAR_i = the BSCR-adjusted reserves for long-term products with longevity risk.

Items

Column Item		Description
1	BSCR Adjusted Reserves	Column item 1: BSCR-adjusted reserves for long-term products with longevity risk as follows: a) Immediate pay-out annuities, contingent annuities, pension pay-outs according to the attained age of annuitant, as reported on Schedule VII EBS, column (7): (i) 0-55 – line 3(a) (ii) 56-65 – line 3(b) (iii) 66-70 – line 3(c) (iv) 71-80 – line 3(d) and (v) 81+ – line 3(e); b) Deferred pay-out annuities, future contingent annuities, future pension pay-outs according to the age at which the annuity benefits commence, as reported on Schedule VII EBS, column (7): (i) 0-55 – line 4(a) (ii) 56-60 – line 4(b) (iii) 61-65 – line 4(c) (iv) 66-70 – line 4(d) (v) 71-75 – line 4(e) and (vi) 76+ – line 4(f)
2	Capital Factor	Column item 2: Supplied by the BMA; capital charge factor applied to individual BSCR-adjusted reserves for longevity risk for both (a) immediate pay-out annuities, contingent annuities, pension pay-outs – (i) to (v); and (b) deferred pay-out annuities, future contingent annuities, future pension pay-outs – (i) to (vi).
3	Required Capital	Column item 3: Calculated using [column item 1 x column item 2] for both (a) and (b) for each attained age of annuitant and for each age at which the annuity benefits commence, respectively, and summed up.

Instructions Affecting Longevity Risk

a) For joint and survivor annuities, the youngest age should be used.

D13. OTHER INSURANCE RISK (C_{LToth})

Background

D13.1 The other insurance risk captures other risks related to policyholder behaviour, expenses and guarantees.

Other Insurance Risk Capital Charge

D13.2 The other insurance risk charge calculation can be summarised by the following formula:

$\boxed{C_{LToth} = \sum_i \alpha_i \times BAR_i}$ Where:

α_i = individual BAR_i capital charge factor; and

BAR_i = the BSCR-adjusted reserves for other insurance risk.

Items

Line Item		Description
1	BSCR Adjusted Reserves	Column item 1: Current year BSCR-adjusted reserves by the 15 predefined lines, as reported on Schedule VII EBS, column (1), lines 1 to 15.
2	Capital Factor	Column item 2 Supplied by the BMA; capital charge factors applied to individual BSCR-adjusted reserves for other insurance risk.
3	Required Capital	Column item 3: Calculated using [column item 1 x column item 2] for each line item.

D14. VARIABLE ANNUITY GUARANTEE RISK (C_{LTVA})

Background

D14.1 Variable annuity benefits are partitioned into five categories:

a) Guaranteed Minimum Accumulation Benefit (GMAB);
b) Guaranteed Minimum Death Benefit (GMDB),
c) Guaranteed Minimum Income Benefit (GMIB),
d) Guaranteed Minimum Withdrawal Benefit (GMWB), and
e) Guaranteed Enhanced Earnings Benefit (GEEB). Variable annuities contain various minimum guarantees that expose insurers to risks of a particularly volatile nature.

D14.2 The capital risk factors differentiate by volatility levels and are applied to the et Amount at Risk (NAR). Volatility is defined as the annual historic volatility of the fund. In the case where there is no or limited, history of the fund, use the volatility of the benchmark. Where the Guarantee Value (GV) is less than the Account Value (AV), the minimum floor factors are applied to the account values. The proportion used for the AV under reinsurance is the proportion used for net amount at risk.

D14.3 Net amount at risk (net of reinsurance) is defined as follows:

a) GMAB – total claim payable if all contracts mature immediately;
b) GMDB – total claim amount payable upon immediate death of all policyholders;
c) GMIB – total claim payable upon full and immediate annuitisation of all policies using an 80% factor applied to the GV (the 80% represents the ratio between current market annuitisation factors and the guaranteed annuitisation factors);
d) GMWB – total claim payable if 100% of the guaranteed withdrawal benefit base in excess of the current AV is withdrawn immediately; and
e) GEEB – total guaranteed enhanced payments upon immediate death of all policyholders.

Variable Annuity Guarantee Capital Charge

D14.4 The variable annuity guarantee risk charge calculation can be summarised by the following formula:

$$C_{LTVA} = \text{either } \left(\sum_i TotalBSReq_i - TotalBAR - TotalGMB_{adj}\right) \text{ or } (IMCReq_{LTVA})$$

wherein —

$TotalBS\,\mathrm{Re}\,q_i =$ higher of (a) $(\alpha 1_i \times GV1_i + \alpha 2_i \times GV2_i + \alpha 3_i \times GV3_i)$ and (b) $(\alpha 4_i \times NAR1_i + \alpha 5_i \times NAR2_i + \alpha 6_i \times NAR3_i)$;

a) $TotalBAR$ = the total BSCR adjusted reserves for variable annuity guarantee risk;
b) $TotalGMDB_{adj}$ = capital requirement charged on Guaranteed Minimum Death Benefit (GMDB) policies multiplied by the percentage of GMDB with multiple guarantees;
c) $IMC\,\mathrm{Re}\,q_{LTVA}$ = the capital requirement for variable annuity guarantee risk determined in accordance with an insurer's internal capital model, if applicable;
d) $GV1_i$, $GV2_i$, $GV3_i$, $NAR1_i$, $NAR2_i$, and $NAR3_i$ are the guaranteed value and net amount at risk under each range of volatility for each specified variable annuity product risk; and
e) $\alpha 1_i$, $\alpha 2_i$, $\alpha 3_i$, $\alpha 4_i$, $\alpha 5_i$ and $\alpha 6_i$ are the capital factors applied to the guaranteed value and net amount at risk under each range of volatility for each specified variable annuity product risk.

Items

a) Factor-Based Capital Requirement

Column Item		Description
1	Guaranteed Values: Volatility 0%-10%	Column (1): Guaranteed values for each type of variable annuity risk with volatility that is less than or equal to 10% according to policy position (i.e., in/out-of-the-money); as reported on Schedule VIII EBS, column (2).
2	Capital Factor	Column (2): Capital factors supplied by the BMA for each type of variable annuity risk with volatility that is less than or equal to 10% according to policy position.
3	Guaranteed Values: Volatility 10%-15%	Column (3): Guaranteed values for each type of variable annuity risk with volatility that is more than 10% but less than 15% according to policy position; as reported on Schedule VIII EBS, column (3).
4	Capital Factor	Column (4): Capital factors supplied by the BMA for each type of variable annuity risk with volatility that is more than 10% but less than 15% according to policy position.
5	Guaranteed Values: Volatility >15%	Column (5): Guaranteed values for each type of variable annuity risk with volatility that is more than 15% according to policy position; as reported on Schedule VIII EBS, column (4).
6	Capital Factor	Column (6): Capital factors supplied by the BMA for each type of variable annuity risk with volatility that is more than 15% according to policy position.

Column Item		Description
7	Net Amount at Risk: Volatility 0%-10%	Column (7): Net amount at risk for each type of variable annuity risk with volatility that is less than or equal to 10% for in-the-money positions only; as reported on Schedule VIII EBS, column (5).
8	Capital Factor	Column (8): Capital factors supplied by the BMA for each type of variable annuity risk with volatility that is less than or equal to 10% for in-the-money positions only.
9	Net Amount at Risk: Volatility 10%-15%	Column (9): Net amount at risk for each type of variable annuity risk with volatility that is more than 10% but less than 15% for in-the-money positions only; as reported on Schedule VIII EBS, column (6).
10	Capital Factor	Column (10): Capital factors supplied by the BMA for each type of variable annuity risk with volatility that is more than 10% but less than 15% for in-the-money positions only.
11	Net Amount at Risk: Volatility >15%	Column (11): Net amount at risk for each type of variable annuity risk with volatility that is more than 15% for in-the-money positions only; as reported on Schedule VIIII EBS, column (7).
12	Capital Factor	Column (12): Capital factors supplied by the BMA for each type of variable annuity risk with volatility that is more than 15% for in-the-money positions only.
13	Capital Requirements	Column (13): Calculated using the maximum of [{column (1) x column (2) + column (3) x column (4) + column (5) x column (6)} or {column (7) x column (8) + column (9) x column (10) + column (11) x column (12)}]; less percentage of guaranteed minimum death benefit with multiple guarantees, as reported on Schedule VIII EBS, column (4), line 32, applied to GMDB; less total BSCR-adjusted reserves for variable annuities.

b) Internal Model-Based Capital Requirement

Column Item		Description
1	Without Hedging	Column (1): The total capital requirement for variable annuity risk based on internal model results without taking into account hedging; as reported on Schedule VIIIA EBS, column (6), line 1.
2	With Hedging	Column (2): The total capital requirement for variable annuity risk based on internal model results taking into account hedging; as reported on Schedule VIIIA EBS, column (7), line 1.

D15. CAPITAL ADJUSTMENT (C_{adj})

Background

D15.1 The capital adjustment represents the capital requirements for regulated non-insurance financial operating entities and shall comprise the capital adjustment, which is added to the BSCR (after covariance adjustment) to arrive at the BSCR. The BSCR will be used to determine an insurer's ECR for the relevant year, as reported in the Summary section of the BSCR model.

Capital adjustment

The capital adjustment charge calculation can be summarised by the following formula:

C_{adj} = Regulatory capital requirement for regulated non-insurance financial operating entities.

Items

D15.2 Regulatory capital requirement for regulated non-insurance financial operating entities – This capital adjustment charge shall be determined in accordance with Schedule XVI, where this amount shall be equal to the sum of the insurer's proportionate share of each registered entity's regulatory capital in accordance with the applicable solvency rules of the jurisdiction where the entity was licensed or registered.

D16. FEATURES – BSCR ON NEW BASIS ($BSCR_{Corr}$)

Background

D16.1 The Summary Exhibit has seven key features:

a) Required Capital and Surplus,
b) Available Statutory Capital and Surplus,
c) MSM,
d) ECR and TCL,
e) Ratios,
f) Solvency Capital Distribution chart, and
g) Regulatory Action Level graph.

Each feature is described below. At the bottom of the page the BSCR formula for combining the various risk capital charges is displayed. The data input into the Summary Exhibit are:

a) The BMA-approved Capital Contribution of the insurer;
b) The initial best estimate liabilities held for future discretionary benefits (FDB) (if any);
c) The federal tax rate of the insurer; and
d) The amount of tax loss carryback.

Required Capital and Surplus

D16.2 The $BSCR_{Corr}$ shall be established on an economic balance sheet (EBS) valuation basis in accordance with the following formula -

$$\boxed{BSCR_{Corr} = \text{Basic BSCR} + C_{operational} + C_{regulatoryadj} + C_{otheradj} + C_{AdjTP}}$$

Where:

Basic BSCR	= basic BSCR risk module charge;
$C_{operational}$	= operational risk charge;
$C_{regulatoryadj}$	= regulatory capital requirement for regulated non-insurance financial operating entities;
C_{AdjTP}	= adjustment for the loss absorbing capacity of technical provisions;
$C_{otheradj}$	= adjustment for the loss absorbing capital of deferred taxes;

D16.3 The Basic BSCR risk module charge calculation is determined in accordance with the following formula—

$$\boxed{Basic\ BSCR = \sqrt{\sum_{i,j} CorrBBSCR_{i,j} \times C_i \times C_j}}$$

Where —

$CorrBBSCR_{i,j}$ = the correlation factors of the Basic BSCR correlation matrix in accordance with Table A;

i, j = the sum of the different terms should cover all possible combinations of *i* and *j*;

C_i and C_j = risk module charge *i* and risk module charge *j* which are replaced by the following: C_{Market}, C_{LT}, C_{Credit};

C_{Market} = capital charge in respect to market risk;

C_{LT} = capital charge in respect to Long-Term risk; and

C_{Credit} = capital charge in respect to credit risk.

Table A – Basic BSCR Correlation Matrix

$CorrBBSCR_{i,j}$	C_{Market}	C_{Credit}	$C_{P\&C}$
C_{Market}	1		
C_{Credit}	0.25	1	
C_{LT}	0.125	0.50	1

D16.4 The market risk module charge calculation is determined in accordance with the following formula—

$$\boxed{C_{Mrket} = \sqrt{\sum_{i,j} Market_{i,j} \times C_i \times C_j}}$$

Where —

$CorrMarket_{i,j}$ = the correlation factors of the market risk module in accordance with Table B; where A = 0 if interest rate and liquidity risk charge is calculated using the shock-based approach and the risk charge is being determined based on the interest rate up shock, and A = 0.25 otherwise;

i,j = the sum of the different terms should cover all possible combinations of i and j;

C_i and C_j = risk charge *i* and risk charge *j* which are replaced by the following: $C_{fixedIncome}$, C_{equity}, C_{interest}, C_{currency}, $C_{\text{concentration}}$;

$C_{fixedIncome}$ = capital charge in respect to fixed income investment risk;

C_{equity} = capital charge in respect to equity investment risk;

C_{interest} = capital charge in respect to interest rate and liquidity risk;

C_{currency} = capital charge in respect to currency risk; and

$C_{\text{concentration}}$ = capital charge in respect to concentration risk.

Table B – Market Risk Module Correlation Matrix

$CorrMarket_{i,j}$	$C_{fixedIncome}$	C_{equity}	C_{interest}	C_{currency}	$C_{\text{concentration}}$
$C_{fixedIncome}$	1				
C_{equity}	0.50	1			
C_{interest}	A	A	1		
C_{currency}	0.25	0.25	0.25	1	
$C_{\text{concentration}}$	0.00	0.00	0.00	0.00	1

D16.5 The long-term risk module charge calculation is determined in accordance with the following formula—

$$C_{LT} = LT\_TransitionalFactor \times C_{LT,New} + (1 - LT\_TransitionalFactor) \times C_{LT,Old};$$

Where –

$C_{LT,Old}$ = the Long-Term risk module charge calculated in accordance with D16.6;

$C_{LT,New}$ = the Long-Term risk module charge calculated in accordance with paragraph D16.7;

LT_TransitionalFactor = the transitional factor that increases, from 10% for the financial year beginning on or after 1 January 2024, in equal 10 percentage point increments for each subsequent financial year until it reaches 100% for the financial year ending on or after 1 January 2033, and stays at 100% for all financial years thereafter.
When projecting future Long-Term Insurance Risk charges for the purposes of the Risk Margin calculation, insurers may keep the *LT_TransitionalFactor* fixed at its actual value as of the applicable valuation date i.e., without reflecting further run-off of the transitional within the Risk Margin projection. See D29.38 onwards for more details.

D16.6 The $C_{LT,Old}$ charge calculation shall be determined in accordance with the following formula —

$$C_{LT,Old} = \sqrt{\sum_{i,j} CorrLT_{i,j} \times C_i \times C_j};$$

Where—

$CorrLT_{i,j}$ = the correlation factors of the long-term risk module correlation matrix in accordance with Table C;

i,j = the sum of the different terms should cover all possible combinations of *i*

$CorrLT_{i,j}$	$C_{LTmortality}$	$C_{LTstoploss}$	$C_{LTrider}$	$C_{LTmorbidity}$	$C_{LTlongevity}$	$C_{LTVariableAnnuity}$	$C_{LTotherrisk}$
$C_{LTmortality}$	1						
$C_{LTstoploss}$	0.75	1					
$C_{LTrider}$	0.75	0.75	1				
$C_{LTmorbidity}$	0.25	0.00	0.00	1			
$C_{LTlongevity}$	-0.50	-0.50	-0.50	0.00	1		
$C_{LTVariableAnnuity}$	0.00	0.00	0.00	0.00	0.00	1	
$C_{LTotherrisk}$	0.125	0.25	0.25	0.25	0.25	0.25	1

and j;

C_i and C_j = risk charge i and risk charge j which are replaced by the following: $C_{LTmortality}$, $C_{LTstoploss}$, $C_{LTrider}$, $C_{LTmorbidity}$, $C_{LTlongevity}$, $C_{LTVariableAnnuity}$, $C_{LTotherrisk}$;

$C_{LTmortality}$ = capital charge in respect to mortality risk;

$C_{LTstoploss}$ = capital charge in respect to stop loss risk;

$C_{LTmorbidity}$ = capital charge in respect to morbidity risk;

$C_{LTlongevity}$ = capital charge in respect to longevity risk;

$C_{LTVariableAnnuity}$ = capital charge in respect to variability annuity risk;

$C_{LTotherrisk}$ = capital charge in respect to other long-term insurance risk.

Table C – Long-Term Risk Module Correlation Matrix

D16.7 The $C_{LT,New}$ charge calculation shall be determined in accordance with the following formula —

$$C_{LT,New} = \sqrt{\sum_{i,j} CorrLT_{i,j} \times C_i \times C_j}\,;$$

Where —

$CorrLT_{i,j}$ = the correlation factors of the Long-Term risk module correlation matrix in accordance with Table D;

i,j = the sum of the different terms should cover all possible combinations of i and j;

C_i and C_j = risk charge *i* and risk charge *j* which are replaced by the following: $C_{LTmortality}$, $C_{LTstoploss}$, $C_{LTrider}$, $C_{LTmorbidity}$, $C_{LTlongevity}$, $C_{LTVariableAnnuity}$, $C_{LTlapse}$, $C_{LTexpense}$;

$C_{LTmortality}$ = capital charge in respect to mortality risk;

$C_{LTstoploss}$ = capital charge in respect to stop loss risk;

$C_{LTmorbidity}$ = capital charge in respect to morbidity risk;

$C_{LTlongevity}$ = capital charge in respect to longevity risk;

$C_{LTVariableAnnuity}$ = capital charge in respect to variability annuity risk;

$C_{LTlapse}$ = capital charge in respect to lapse risk;

$C_{LTexpense}$ = capital charge in respect to long-term expense risk.

Table D – Long-Term Risk Module Correlation Matrix

$CorrLT_{i,j}$	$C_{LTmortality}$	$C_{LTstoploss}$	$C_{LTrider}$	$C_{LTmorbidity}$	$C_{LTlongevity}$	$C_{LTVariableAnnuity}$	$C_{LTlapse}$	$C_{LTexpense}$
$C_{LTmortality}$	1							
$C_{LTstoploss}$	0.75	1						
$C_{LTrider}$	0.75	0.75	1					
$C_{LTmorbidity}$	0.25	0	0	1				
$C_{LTlongevity}$	-0.5	-0.5	-0.5	0	1			
$C_{LTVariableAnnuity}$	0	0	0	0	0	1		
$C_{LTlapse}$	0	0	0	0	0.25	0	1	
$C_{LTexpense}$	0.25	0.5	0.5	0.5	0.25	0.5	0.5	1

Aggregation, operational risk and adjustments

D16.8 This BSCR formula utilises the correlation matrix to aggregate the various risks under the assumption that the risks are not independent with one another, and therefore, provides a linear diversification benefit when combining the risk charges. The end result is the BSCR (after correlation adjustment).

D16.9 The operational risk capital charge is the operational risk charge multiplied by the sum of (gross) BSCR (after correlation adjustment) and the adjustment for loss-absorbing capacity of technical provisions according to paragraph D32.4. The risk charge ranges from 1% to 20% based on each insurer's self-assessment of the CIRA framework.

D16.10 Capital add-ons/reductions may be assessed where the BMA believes that an insurer's risk profile deviates significantly from the risk assumptions underlying the ECR or from the insurer's assessment of its risk management policies and practices. These include, but are not limited to, items such as: provisions for reserve deficiencies, significant growth in premiums, and quality of risk management surrounding operational risk.

D16.11 The BSCR is equal to the sum of the BSCR (after correlation adjustment), operational risk capital charge, capital add-ons/reductions (if assessed), adjustment for loss-absorbing capacity of technical provisions and adjustment for loss-absorbing capacity of deferred taxes.

Available Statutory Economic Capital and Surplus

D16.12 Available Statutory Economic Capital and Surplus is defined as the Total Statutory Economic Capital and Surplus of the insurer, including subsequent Capital Contribution less Capital Add-ons/Reductions (BMA assessment). All capital contributions are to be approved by the BMA, and all capital add-ons/reductions are determined at the discretion of the BMA.

D16.13 The insurer's available statutory economic capital and surplus is determined for purposes of calculating the BSCR and ECR ratios.

Minimum Margin of Solvency

D16.14 The MSM is prescribed by the Insurance Account Rules 2016 ('IAR').

ECR and TCL

D16.15 The ECR is the higher of the MSM and the BSCR/approved internal capital model.

D16.16 The TCL is equal to 120% of the ECR.

Ratios

D16.17 The BSCR Ratio is the ratio of the Available Statutory Economic Capital and Surplus to the BSCR.

D16.18 The ECR Ratio is the ratio of the Available Statutory Economic Capital and Surplus to the ECR.

Solvency Capital Distribution Chart

D16.19 The Solvency Capital Distribution chart displays the relative contribution of each charge to the BSCR, prior to the correlation adjustment.

Regulatory Action Level Graph

D16.20 The Regulatory Action Level graph displays the insurer's Available Statutory Capital and Surplus position relative to the BMA's regulatory action guidelines, where Regulatory

Action Level 1 is equal to the insurer's ECR and Regulatory Action Level 2 is equal to the insurer's TCL.

Items

a) Required Capital and Surplus – The calculation of the Required Capital and Surplus is used for the purpose of determining the required capital level.

Line Item		Description
1	Fixed Income Investment Risk	Based on current year fixed income investment risk (column (3), Row (g)).
2	Equity Investment Risk	Based on current year equity investment risk (column (11), Row (f)).
3	Interest Rate/Liquidity Risk	Based on current year interest rate/liquidity risk (column (10)).
4	Currency Risk	Based on current year currency risk (column (20)).
5	Concentration Risk	Based on current year concentration risk (column (3), Row (i)).
6	Credit Risk	Based on current year credit risk (column (3), Row (d)).
7	Insurance Risk – Mortality	Based on current year insurance risk – mortality (column (6)).
8	Insurance Risk – Morbidity and Disability	Based on current year insurance risk – morbidity and disability (column (6)).
9	Insurance Risk – Longevity	Based on current year insurance risk – longevity (column (6)).
10	Insurance Risk – Stop Loss	Based on current year insurance risk – stop loss (column (6)).
11	Insurance Risk – Riders	Based on current year insurance risk – riders (column (6)).
12	Other Insurance Risk	Based on current year other insurance risk (column (6)).
13	Variable Annuity Guarantee Risk	Based on current year variable annuity guarantee risk (column (13), Row (33)) or Schedule VIIIA (column (7), line (1)).
14	BSCR (Prior to Correlation Adjustment)	BSCR (Prior to Correlation Adjustment) is the sum of the line items (1) to (13) above.
15	BSCR (After Correlation Adjustment)	BSCR (After Correlation Adjustment) is the resulting amount after applying the square root rule on line item (14) to reflect a diversification benefit when aggregating all the risks described above.

Line Item		Description
16	Operational Risk (%)	Operational Risk (%) is the applicable operational risk charge % of 'BSCR After Correlation Adjustment' based on the overall score derived from the CIRA framework as prescribed by the BMA.
17	Operational Risk Capital Charge ($)	Operational Risk Capital Charge ($) is the resulting amount when the operational risk (%), as prescribed in line item (15), is applied to the BSCR (After Covariance Adjustment).
18	Regulated Non-Insurance Financial Operating Entities Capital Charge	Regulated Non-Insurance Financial Operating Entities Capital Charge is the resulting amount from the sum of the insurer's proportionate share of each entity's regulatory capital requirement in accordance with the applicable solvency laws of the jurisdiction where the entity is licensed or registered.
19	Capital Add-On/Reduction (BMA Assessment)	Capital Add-Ons/Reductions on the Required Capital and Surplus is the difference between the user required capital (using insurer-specific capital factors) and the standard required capital (using the prescribed BSCR capital factors) determined under the company-specific parameters section, which is to be completed only with the prior approval of the BMA.
20	Adj. for Loss Absorbing Capacity of Technical Provision	Adjustment for Loss Absorbing Capacity of Technical Provision is the resulting amount from the sum of Basic BSCR correlation before management actions less the sum of Basic BSCR correlation after management actions, capped at the initial base level of bonus reserves at EBS basis.
21	Adj. for Loss Absorbing Capacity of Deferred Taxes	Adjustment for Loss Absorbing Capacity of Deferred Taxes reflects a potential tax benefit, in a loss scenario envisaged by the BSCR, resulting in potential tax benefits, as determined according to paragraph D32.5.
22	Final BSCR	BSCR is the sum of the line items (15), (17), (18), (19), (20) and (21) above.

b) Available Statutory Economic Capital and Surplus – The calculation of the Available Statutory Economic Capital and Surplus is used for the purpose of determining the appropriate regulatory action level.

Line Item		Description
1	Total Statutory Economic Capital and Surplus	Based on the current year economic balance sheet of the insurer; as reported on Form 4EBS, line 40.
2	Capital Contribution	Capital Contributions must be approved by the BMA. Note that a Capital Contribution increases the Total Statutory Economic Capital and Surplus.

Line Item		Description
3	Pre-Adjustment Available Statutory Economic Capital and Surplus	Pre-Adjustment Available Statutory Economic Capital and Surplus is the sum of lines (1) and (2) above.
4	Capital Add-Ons/Reductions (BMA assessment)	Capital Add-ons / Reductions may be assessed where the BMA believes that an insurer's risk profile deviates significantly from the risk assumptions underlying the ECR.
5	Available Statutory Economic Capital and Surplus	Available Statutory Economic Capital and Surplus is the sum of lines (3) and (4) above.

D17. FIXED INCOME INVESTMENT RISK ($BSCR_{Corr}$)

Background

D17.1 There are various categories of assets comprised of bonds, loans, and other miscellaneous investments that are used to determine the Fixed Income Investment Risk capital charge.

D17.2 Where applicable, the amounts must reconcile to the appropriate line(s) of the insurer's Form 4EBS or to the schedules prescribed by or under the Rules for the relevant year.

Fixed Income Investment Risk Capital Charge

D17.3 The fixed income investment risk charge calculation can be summarised by the following formula:

$$C_{fixedIncome} = \sum_i \chi_i \times FIastclass_i \times \mu_r + \text{Credit Derivatives},$$ where:

χ_i = the BMA-supplied asset class capital charge factor for type of fixed income asset class i;

$FIastclass_i$ = value of investment in fixed income asset class i;

μ_r = additional diversification adjustment factor applied to cash and cash equivalent balances, or 1 for other asset classes;

$CreditDerivatives$ = the spread risk charge for credit derivatives calculated as per the following formula: Greater of:

i) $CreditDerivatives_{ShockUp}$;
ii) $CreditDerivatives_{ShockDown}$; and
iii) 0.

$CreditDerivatives_{ShockUp}$ = the spread risk charge for credit derivatives resulting from a upward credit spread shock calculated as per the following formula:

$$CreditDerivatives_{ShockUp} = \sum_i \left[\left(LCD_i^{BShock} - LCD_i^{AShock}(\chi_i) \right) + \left(SCD_i^{BShock} - SCD_i^{AShock}(\chi_i) \right) \right]$$

$CreditDerivatives_{ShockDown}$ = the spread risk charge for credit derivatives resulting from an downward credit spread shock calculated as per the following formula:

$$CreditDerivatives_{ShockDown} = \sum_i \left[\left(LCD_i^{BShock} - LCD_i^{AShock}(\chi_i) \right) + \left(SCD_i^{BShock} - SCD_i^{AShock}(\chi_i) \right) \right]$$

LCD_i^{BShock} = refers to the valuation of long exposures for credit derivatives before applying the instantaneous shock χ_i over the classes as set out below;

$LCD_i^{AShock}(\chi_i)$ = refers to the valuation of long exposures for credit derivatives after applying instantaneous shock χ_i over the classes as set out below

SCD_i^{BShock} = refers to the valuation of short exposures for credit derivatives before applying the instantaneous shock χ_i over the classes as set out below

$SCD_i^{AShock}(\chi_i)$ = refers to the valuation of short exposures for credit derivatives after applying the instantaneous shock χ_i over the classes as set out below

Items

a) Corporate and Sovereign Bonds

	Line Item	Statement Source – The Rules
1	BSCR rating 0	Based on Schedule IIB-IIF EBS, line 1, column (1).
2	BSCR rating 1	Based on Schedule IIB-IIF EBS, line 2, column (1).
3	BSCR rating 2	Based on Schedule IIB-IIF EBS, line 3, column (1).
4	BSCR rating 3	Based on Schedule IIB-IIF EBS, line 4, column (1).
5	BSCR rating 4	Based on Schedule IIB-IIF EBS, line 5, column (1).
6	BSCR rating 5	Based on Schedule IIB-IIF EBS, line 6, column (1).
7	BSCR rating 6	Based on Schedule IIB-IIF EBS, line 7, column (1).
8	BSCR rating 7	Based on Schedule IIB-IIF EBS, line 8, column (1).
9	BSCR rating 8	Based on Schedule IIB-IIF EBS, line 9, column (1).

b) Residential Mortgage-Backed Securities

	Line Item	Statement Source – The Rules
1	BSCR rating 1	Based on Schedule IIB-IIF EBS, line 2, column (3).
2	BSCR rating 2	Based on Schedule IIB-IIF EBS, line 3, column (3).
3	BSCR rating 3	Based on Schedule IIB-IIF EBS, line 4, column (3).
4	BSCR rating 4	Based on Schedule IIB-IIF EBS, line 5, column (3).
5	BSCR rating 5	Based on Schedule IIB-IIF EBS, line 6, column (3).
6	BSCR rating 6	Based on Schedule IIB-IIF EBS, line 7, column (3).
7	BSCR rating 7	Based on Schedule IIB-IIF EBS, line 8, column (3).
8	BSCR rating 8	Based on Schedule IIB-IIF EBS, line 9, column (3).

c) Commercial Mortgage-Backed Securities/Asset-Backed Securities

	Line Item	Statement Source – The Rules
1	BSCR rating 1	Based on Schedule IIB-IIF EBS, line 2, column (5).
2	BSCR rating 2	Based on Schedule IIB-IIF EBS, line 3, column (5).
3	BSCR rating 3	Based on Schedule IIB-IIF EBS, line 4, column (5).
4	BSCR rating 4	Based on Schedule IIB-IIF EBS, line 5, column (5).
5	BSCR rating 5	Based on Schedule IIB-IIF EBS, line 6, column (5).
6	BSCR rating 6	Based on Schedule IIB-IIF EBS, line 7, column (5).
7	BSCR rating 7	Based on Schedule IIB-IIF EBS, line 8, column (5).
8	BSCR rating 8	Based on Schedule IIB-IIF EBS, line 9, column (5).

d) Bond Mutual Funds

	Line Item	Statement Source – The Rules
1	BSCR rating 0	Based on Schedule IIB-IIF EBS and IIA EBS, line 1, column (7).
2	BSCR rating 1	Based on Schedule IIB-IIF EBS and IIA EBS, line 2, column (7).
3	BSCR rating 2	Based on Schedule IIB-IIF EBS and IIA EBS, line 3, column (7).
4	BSCR rating 3	Based on Schedule IIB-IIF EBS and IIA EBS, line 4, column (7).
5	BSCR rating 4	Based on Schedule IIB-IIF EBS and IIA EBS, line 5, column (7).
6	BSCR rating 5	Based on Schedule IIB-IIF EBS and IIA EBS, line 6, column (7).
7	BSCR rating 6	Based on Schedule IIB-IIF EBS and IIA EBS, line 7, column (7).
8	BSCR rating 7	Based on Schedule IIB-IIF EBS and IIA EBS, line 8, column (7).
9	BSCR rating 8	Based on Schedule IIB-IIF EBS and IIA EBS, line 9, column (7).

e) Mortgage Loans

	Line Item	Statement Source – The Rules
1	Insured/guaranteed mortgages	Based on Schedule IIB-IIF EBS, line 10, column (9).
2	Other commercial and farm mortgages	Based on Schedule IIB-IIF EBS, line 11, column (9).
3	Other residential mortgages	Based on Schedule IIB-IIF EBS, line 12, column (9).
4	Mortgages not in good standing	Based on Schedule IIB-IIF EBS, line 13, column (9).

f) Other Fixed Income Investments

	Line Item	Statement Source – The Rules or IAR
1	Other loans	Based on Form 4EBS, line 8.

g) Cash and Cash Equivalents

	Line Item	Statement Source – The Rules
1	BSCR rating 0	Based on Schedule XIXA, column (A).
2	BSCR rating 1	Based on Schedule XIXA, column (A).
3	BSCR rating 2	Based on Schedule XIXA, column (A).
4	BSCR rating 3	Based on Schedule XIXA, column (A).
5	BSCR rating 4	Based on Schedule XIXA, column (A).
6	BSCR rating 5	Based on Schedule XIXA, column (A).
7	BSCR rating 6	Based on Schedule XIXA, column (A).

	Line Item	Statement Source – The Rules
8	BSCR rating 7	Based on Schedule XIXA, column (A).
9	Less: Diversification Adjustment	Based on Schedule XIXA, column (A).

Instructions Affecting Fixed Income Investment Risk

(a) All assets comprising of bonds and debentures, loans, and other miscellaneous investments that are subject to capital charges within the fixed income investment risk charge shall be included;

(b) All non-affiliated quoted and unquoted bonds and debentures shall be included in the fixed income investment charge;

(c) All bonds and debentures, loans, and other miscellaneous investments shall include amounts reported for economic balance sheet reporting purposes and include fixed income risk exposures as determined by application of the 'look-through' approach calculated in accordance with the criteria prescribed in section B6 for the following items:

(i) Collective investment vehicles and other investments packaged as funds, including related undertakings used as investment vehicles;
(ii) Segregated accounts assets and liabilities;
(iii) Deposit asset and liabilities;
(iv) Assets and liabilities held by ceding insurers or under retrocession;
(v) Other sundry assets and liabilities; and
(vi) Derivatives.

(d) The capital requirements relating to cash and cash equivalents shall be reduced by a diversification adjustment of up to a maximum of 40%;

(e) the diversification adjustment in paragraph (d) is determined as 40% multiplied by 1 minus the ratio of the largest cash and cash equivalent balance held with a single counterparty to the total of all cash and cash equivalent balance; and

(f) Spread Shocks for Credit Derivatives are as prescribed in the Prudential Rules.

Line Item		Statement Source – The Rules	
Spread Up			
		Long Exposures	Short Exposures

1	BSCR rating 0	Based on Schedules IIB-IIF column (1) line 38	Based on Schedules IIB-IIF column (3), line 38
2	BSCR rating 1	Based on Schedules IIB-IIF column (1) line 39	Based on Schedules IIB-IIF column (3), line 39
3	BSCR rating 2	Based on Schedules IIB-IIF column (1) line 40	Based on Schedules IIB-IIF column (3), line 40
4	BSCR rating 3	Based on Schedules IIB-IIF column (1) line 41	Based on Schedules IIB-IIF column (3), line 41
5	BSCR rating 4	Based on Schedules IIB-IIF column (1) line 42	Based on Schedules IIB-IIF column (3), line 42
6	BSCR rating 5	Based on Schedules IIB-IIF column (1) line 43	Based on Schedules IIB-IIF column (3), line 43
7	BSCR rating 6	Based on Schedules IIB-IIF column (1) line 44	Based on Schedules IIB-IIF column (3), line 44
8	BSCR rating 7	Based on Schedules IIB-IIF column (1) line 45	Based on Schedules IIB-IIF column (3), line 45
9	BSCR rating 8	Based on Schedules IIB-IIF column (1) line 46	Based on Schedules IIB-IIF column (3), line 46
Spread Down			
		Long Exposures	Short Exposures
10	BSCR rating 0	Based on Schedules IIB-IIF column (6) line 38	Based on Schedules IIB-IIF column (8), line 38
11	BSCR rating 1	Based on Schedules IIB-IIF column (6) line 39	Based on Schedules IIB-IIF column (8), line 39
12	BSCR rating 2	Based on Schedules IIB-IIF column (6) line 40	Based on Schedules IIB-IIF column (8), line 40
13	BSCR rating 3	Based on Schedules IIB-IIF column (6) line 41	Based on Schedules IIB-IIF column (8), line 41
14	BSCR rating 4	Based on Schedules IIB-IIF column (6) line 42	Based on Schedules IIB-IIF column (8), line 42
15	BSCR rating 5	Based on Schedules IIB-IIF column (6) line 43	Based on Schedules IIB-IIF column (8), line 43
16	BSCR rating 6	Based on Schedules IIB-IIF column (6) line 44	Based on Schedules IIB-IIF column (8), line 44
17	BSCR rating 7	Based on Schedules IIB-IIF column (6) line 45	Based on Schedules IIB-IIF column (8), line 45
18	BSCR rating 8	Based on Schedules IIB-IIF column (6) line 46	Based on Schedules IIB-IIF column (8), line 46

D18. EQUITY INVESTMENT RISK ($BSCR_{Corr}$)

Background

D18.1 There are various categories of equity investments comprising common stocks, real estate, infrastructure equity and other miscellaneous investments that are used to determine the Equity Investment Risk capital charge. All equity exposures of the insurer should be reported, including both quoted and unquoted exposures.

Equity Investment Risk Capital Charge

D18.2 The equity investment risk charge calculation can be summarised by the following formula:

$$C_{\text{equity}} = \sqrt{C_{equity}^{basic} + C_{equity}^{grandfathered}}$$

, where

$$C_{equity}^{basic} = \sqrt{\sum_{i,j} CorrEq_{i,j} \times C_i \times C_j}$$

$C_{equity}^{grandfathered}$ = the equity risk charge calculated according to section D3 for equity exposures that are grandfathered according to paragraph D18A below;

$CorrEq_{i,j}$ = the correlation factors of the equity risk correlation matrix in accordance with Table 2A;

i,j = the sum of the different terms should cover all possible combinations of correlation *i* and *j*;

C_i and C_j = risk charge i and risk charge j which are replaced by the following: C_{Type1}, C_{Type2}, C_{Type3}, C_{Type4};

C_{Type1} = *Type1* equity risk charge as calculated over the classes set out below;

C_{Type2} = *Type2* equity risk charge as calculated over the classes set out below;

C_{Type3} = *Type3* equity risk charge as calculated over the classes set out below; and

C_{Type4} = *Type4* equity risk charge as calculated over the classes set out below;

Table 2A – Equity Risk Charge Correlation Matrix

Equity Corr Matrix	C_{Type1}	C_{Type2}	C_{Type3}	C_{Type4}
C_{Type1}	1.00			
C_{Type2}	0.75	1.00		
C_{Type3}	0.75	0.75	1.00	
C_{Type4}	0.50	0.50	0.50	1.00

D18.3 Type1, Type2 Type3 and Type4 equity risk charges calculation shall be determined in accordance with the following formulas—

$$C_{Type1} = \max\left\{\sum_{i \in Type1}\left[\begin{array}{c}\max\left(LAssets_i^{BShock} - LAssets_i^{AShock}(\chi_i),0\right) + \left(SQAssets_i^{BShock} - SQAssets_i^{AShock}(\chi_i)\right) + \cdots \\ + \max\left(SNQAssets_i^{BShock} - SNQAssets_i^{AShock}(\chi_i),0\right) - \left(BELiabilities_i^{BShock} - BELiabilities_i^{AShock}(\chi_i)\right)\end{array}\right],0\right\}$$

$$C_{Type2} = \max\left\{\sum_{i \in Type2}\left[\begin{array}{c}\max\left(LAssets_i^{BShock} - LAssets_i^{AShock}(\chi_i),0\right) + \left(SQAssets_i^{BShock} - SQAssets_i^{AShock}(\chi_i)\right) + \cdots \\ + \max\left(SNQAssets_i^{BShock} - SNQAssets_i^{AShock}(\chi_i),0\right) - \left(BELiabilities_i^{BShock} - BELiabilities_i^{AShock}(\chi_i)\right)\end{array}\right],0\right\}$$

$$C_{Type3} = \max\left\{\sum_{i \in Type3}\left[\begin{array}{c}\max\left(LAssets_i^{BShock} - LAssets_i^{AShock}(\chi_i),0\right) + \left(SQAssets_i^{BShock} - SQAssets_i^{AShock}(\chi_i)\right) + \cdots \\ + \max\left(SNQAssets_i^{BShock} - SNQAssets_i^{AShock}(\chi_i),0\right) - \left(BELiabilities_i^{BShock} - BELiabilities_i^{AShock}(\chi_i)\right)\end{array}\right],0\right\}$$

$$C_{Type4} = \max\left\{\sum_{i \in Type4}\left[\begin{array}{c}\max\left(LAssets_i^{BShock} - LAssets_i^{AShock}(\chi_i),0\right) + \left(SQAssets_i^{BShock} - SQAssets_i^{AShock}(\chi_i)\right) + \cdots \\ + \max\left(SNQAssets_i^{BShock} - SNQAssets_i^{AShock}(\chi_i),0\right) - \left(BELiabilities_i^{BShock} - BELiabilities_i^{AShock}(\chi_i)\right)\end{array}\right],0\right\}$$

Where—

χ_i	= the instantaneous shocks prescribed in Table 2B for each type of equity class *i* ;
$LAssets^{BShock}$	= refers to the valuation of long asset exposures before applying shock;
$LAssets^{AShock}$	= refers to the valuation of long asset exposures after applying shock;
$SQAssets_{BShock}$	= refers to the valuation of short exposures for qualifying assets that are held for risk-mitigating purposes as determined in accordance with the criteria prescribed in section B5 before applying shock;
$SQAssets_{AShock}$	= refers to the valuation of short exposures for qualifying assets that are held for risk-mitigating purposes as determined in accordance with the criteria prescribed in section B5 after applying shock;
$SNQAssets_{BShock}$	= refers to the valuation of short exposures for assets that do not qualify for risk-mitigating purposes as determined in accordance with the criteria prescribed in section B5 before applying shock;
$SNQAssets_{AShock}$	= refers to the valuation of short exposures for assets that do not qualify for risk-mitigating purposes as determined in accordance with the criteria prescribed in Section B5 after applying shock;
$BELiabilities^{BShock}$	= refers to the best estimate of insurance liabilities and other liabilities before applying shock; and
$BELiabilities^{AShock}$	= refers to the best estimate of insurance liabilities and other liabilities after applying shock.

Items

a) Type 1 Equity Holdings

	Line Item	Statement Source – The Rules			
		Assets			Liabilities
		Long Exposures	Short Exposures		
			Qualifying as Assets held for risk mitigation purposes	Qualifying as Assets held for risk mitigation purposes	Without Management Actions
1	Strategic Holdings – Listed	Based on Sch. IIB-IIF Col. (1) line 15 Col. (2) line 15	Based on Sch. IIB-IIF Col. (3) line 15 Col. (4) line 15	Based on Sch. IIB-IIF Col. (5) line 15 Col. (6) line 15	Based on Sch. IIB-IIF Col. (7) line 15 Col. (8) line 15
2	Duration Based	Based on Sch. IIB-IIF Col. (1) line 16 Col. (2) line 16	Based on Sch. IIB-IIF Col. (3) line 16 Col. (4) line 16	Based on Sch. IIB-IIF Col. (5) line 16 Col. (6) line 16	Based on Sch. IIB-IIF Col. (7) line 16 Col. (8) line 16
3	Listed Equities	Based on Sch. IIB-IIF Col. (1) line 17 Col. (2) line 17	Based on Sch. IIB-IIF Col. (3) line 17 Col. (4) line 17	Based on Sch. IIB-IIF Col. (5) line 17 Col. (6) line 17	Based on Sch. IIB-IIF Col. (7) line 17 Col. (8) line 17
4	Preferred Stocks Rating 1	Based on Sch. IIB-IIF Col. (1) line 18 Col. (2) line 18	Based on Sch. IIB-IIF Col. (3) line 18 Col. (4) line 18	Based on Sch. IIB-IIF Col. (5) line 18 Col. (6) line 18	Based on Sch. IIB-IIF Col. (7) line 18 Col. (8) line 18
5	Preferred Stocks Rating 2	Based on Sch. IIB-IIF Col. (1) line 19 Col. (2) line 19	Based on Sch. IIB-IIF Col. (3) line 19 Col. (4) line 19	Based on Sch. IIB-IIF Col. (5) line 19 Col. (6) line 19	Based on Sch. IIB-IIF Col. (7) line 19 Col. (8) line 19
6	Preferred Stocks Rating 3	Based on Sch. IIB-IIF Col. (1) line 20 Col. (2) line 20	Based on Sch. IIB-IIF Col. (3) line 20 Col. (4) line 20	Based on Sch. IIB-IIF Col. (5) line 20 Col. (6) line 20	Based on Sch. IIB-IIF Col. (7) line 20 Col. (8) line 20
7	Preferred Stocks Rating 4	Based on Sch. IIB-IIF Col. (1) line 21 Col. (2) line 21	Based on Sch. IIB-IIF Col. (3) line 21 Col. (4) line 21	Based on Sch. IIB-IIF Col. (5) line 21 Col. (6) line 21	Based on Sch. IIB-IIF Col. (7) line 21 Col. (8) line 21
8	Preferred Stocks Rating 5	Based on Sch. IIB-IIF Col. (1) line 22 Col. (2) line 22	Based on Sch. IIB-IIF Col. (3) line 22 Col. (4) line 22	Based on Sch. IIB-IIF Col. (5) line 22 Col. (6) line 22	Based on Sch. IIB-IIF Col. (7) line 22 Col. (8) line 22
9	Preferred Stocks Rating 6	Based on Sch. IIB-IIF Col. (1) line 23 Col. (2) line 23	Based on Sch. IIB-IIF Col. (3) line 23 Col. (4) line 23	Based on Sch. IIB-IIF Col. (5) line 23 Col. (6) line 23	Based on Sch. IIB-IIF Col. (7) line 23 Col. (8) line 23
10	Preferred Stocks Rating 7	Based on Sch. IIB-IIF Col. (1) line 24 Col. (2) line 24	Based on Sch. IIB-IIF Col. (3) line 24 Col. (4) line 24	Based on Sch. IIB-IIF Col. (5) line 24 Col. (6) line 24	Based on Sch. IIB-IIF Col. (7) line 24 Col. (8) line 24
11	Preferred Stocks Rating 8	Based on Sch. IIB-IIF Col. (1) line 25 Col. (2) line 25	Based on Sch. IIB-IIF Col. (3) line 25 Col. (4) line 25	Based on Sch. IIB-IIF Col. (5) line 25 Col. (6) line 25	Based on Sch. IIB-IIF Col. (7) line 25 Col. (8) line 25
12	Equity Derivatives on Type 1 Equities	Based on Sch. IIB-IIF Col. (1) line 26 Col. (2) line 26	Based on Sch. IIB-IIF Col. (3) line 26 Col. (4) line 26	Based on Sch. IIB-IIF Col. (5) line 26 Col. (6) line 26	Based on Sch. IIB-IIF Col. (7) line 26 Col. (8) line 26

b) Type 2 Equity Holdings

	Line Item	Statement Source – The Rules			
		Assets			Liabilities
		Long Exposures	Short Exposures		
			Qualifying as Assets held for risk mitigation purposes	Qualifying as Assets held for risk mitigation purposes	Without Management Actions

	Line Item	Statement Source – The Rules			
16	Strategic Holdings – Unlisted	Based on Sch. IIB-IIF Col. (1) line 27 Col. (2) line 27	Based on Sch. IIB-IIF Col. (3) line 27 Col. (4) line 27	Based on Sch. IIB-IIF Col. (5) line 27 Col. (6) line 27	Based on Sch. IIB-IIF Col. (7) line 27 Col. (8) line 27
17	Other Equities	Based on Sch. IIB-IIF Col. (1) line 28 Col. (2) line 28	Based on Sch. IIB-IIF Col. (3) line 28 Col. (4) line 28	Based on Sch. IIB-IIF Col. (5) line 28 Col. (6) line 28	Based on Sch. IIB-IIF Col. (7) line 28 Col. (8) line 28
18	Letters of Credit	Based on Sch. IIB-IIF Col. (1) line 29 Col. (2) line 29	Based on Sch. IIB-IIF Col. (3) line 29 Col. (4) line 29	Based on Sch. IIB-IIF Col. (5) line 29 Col. (6) line 29	Based on Sch. IIB-IIF Col. (7) line 29 Col. (8) line 29
19	Intangible Assets	Based on Sch. IIB-IIF Col. (1) line 30 Col. (2) line 30	Based on Sch. IIB-IIF Col. (3) line 30 Col. (4) line 30	Based on Sch. IIB-IIF Col. (5) line 30 Col. (6) line 30	Based on Sch. IIB-IIF Col. (7) line 30 Col. (8) line 30
20	Pension Benefit Surplus	Based on Sch. IIB-IIF Col. (1) line 31 Col. (2) line 31	Based on Sch. IIB-IIF Col. (3) line 31 Col. (4) line 31	Based on Sch. IIB-IIF Col. (5) line 31 Col. (6) line 31	Based on Sch. IIB-IIF Col. (7) line 31 Col. (8) line 31
21	Equity Derivatives on Type 2 Investments	Based on Sch. IIB-IIF Col. (1) line 32 Col. (2) line 32	Based on Sch. IIB-IIF Col. (3) line 32 Col. (4) line 32	Based on Sch. IIB-IIF Col. (5) line 32 Col. (6) line 32	Based on Sch. IIB-IIF Col. (7) line 32 Col. (8) line 32

c) Type 3 Equity Holdings

	Line Item	Statement Source – The Rules			
		Assets			Liabilities
		Long Exposures	Short Exposures		
			Qualifying as Assets held for risk mitigation purposes	Qualifying as Assets held for risk mitigation purposes	Without Management Actions
22	Infrastructure	Based on Sch. IIB-IIF Col. (1) line 33 Col. (2) line 33	Based on Sch. IIB-IIF Col. (3) line 33 Col. (4) line 33	Based on Sch. IIB-IIF Col. (5) line 33 Col. (6) line 33	Based on Sch. IIB-IIF Col. (7) line 33 Col. (8) line 33
23	Derivatives on Infrastructure	Based on Sch. IIB-IIF Col. (1) line 34 Col. (2) line 34	Based on Sch. IIB-IIF Col. (3) line 34 Col. (4) line 34	Based on Sch. IIB-IIF Col. (5) line 34 Col. (6) line 34	Based on Sch. IIB-IIF Col. (7) line 34 Col. (8) line 34

d) Type 4 Equity Holdings

	Line Item	Statement Source – The Rules			
		Assets			Liabilities
		Long Exposures	Short Exposures		
			Qualifying as Assets held for risk mitigation purposes	Qualifying as Assets held for risk mitigation purposes	Without Management Actions
24	Equity Real Estate 1	Based on Sch. IIB-IIF Col. (1) line 35 Col. (2) line 35	Based on Sch. IIB-IIF Col. (3) line 35 Col. (4) line 35	Based on Sch. IIB-IIF Col. (5) line 35 Col. (6) line 35	Based on Sch. IIB-IIF Col. (7) line 35 Col. (8) line 35
25	Equity Real Estate 2	Based on Sch. IIB-IIF Col. (1) line 36 Col. (2) line 36	Based on Sch. IIB-IIF Col. (3) line 36 Col. (4) line 36	Based on Sch. IIB-IIF Col. (5) line 36 Col. (6) line 36	Based on Sch. IIB-IIF Col. (7) line 36 Col. (8) line 36

Instructions Affecting Equity Investment Risk

a) All assets (except regulated non-insurance financial operating entities) and liabilities (except the risk margin) whose value is subject to equity shocks are to be reported on a basis consistent with that used for the purposes of economic balance sheet reporting. Such assets and liabilities shall include equity risk exposures determined by application of the ‘look-through’ approach calculated in accordance with criteria prescribed in section B6 for the following items:

(i) Collective investment vehicles and other investments packaged as funds, including related undertakings used as investment vehicles;
(ii) Segregated accounts assets and liabilities;
(iii) Deposit asset and liabilities;
(iv) Assets and liabilities held by ceding insurers or under retrocession;
(v) Other sundry assets and liabilities; and
(vi) Derivatives.

b) For asset types referred to in paragraph (a) (i) to (vi) where the ‘look-through’ approach cannot be applied, the residual balance shall be included in ‘Equity Securities – Other Investments’;

c) Short exposures qualifying as assets held for risk-mitigation purposes and short exposures not qualifying as assets held for risk-mitigation purposes, shall both be determined in accordance with criteria prescribed in section B4; and

d) Amounts are to be reported on an EBS valuation basis.

D18A. The equity investments that are eligible to be used in the calculation of $C_{equity}^{grandfathered}$ as defined in section D18.2 are determined as follows:

(i) The average value of equities as a percentage of total assets over the prior three financial year ends before 1 January 2019 (i.e., over the financial years ending 2016 to 2018) is calculated.
   1) Similarly, for each class of equities in accordance with Table 2B, the average amounts as a percentage of total equities shall be determined over the same prior three years, (i.e. the allocations for each equity class).
(ii) The total amount of equities eligible to be used in the calculation of $C_{equity}^{grandfathered}$ as defined in section D18.2 at each year end is determined by multiplying the amount of legacy reserves by the equity percentage of paragraph (i)., where
   1) ‘Legacy reserves’ are defined as the long term best estimate labilities, at the applicable point in time (financial year-end), for insurance business carried on as at 31 December 2018.
   2) The total amount of equities eligible to be used in the calculation of $C_{equity}^{grandfathered}$ as defined in section D18.2 at each year-end shall not be greater than the amount of the legacy reserves.

(iii) The equity investments eligible to be used in the calculation of $C_{equity}^{grandfathered}$ as defined in section D18.2 per equity class are calculated by multiplying the total amount in paragraph (ii). by the equity class allocation in paragraph (i).

(iv) Future applicable reserves shall be capped at the initial reserve. The amount of equities eligible to be used in the calculation of $C_{equity}^{grandfathered}$ as defined in section D18.2 can therefore never be greater than the initial amount.

(v) Equities that are eligible to be used being used in the calculation of $C_{equity}^{grandfathered}$ as defined in section D18.2 may be traded or replaced within a specific equity class and still receive the aforementioned treatment.

Instructions – Equity Grandfathering in the BSCR Model

D18.4 Insurers that do not use equity grandfathering are required to calculate equity risk both on the old BSCR basis and the new BSCR basis; both calculations are required for the transitional functionality. (If an insurer opts to transition immediately to the new BSCR basis and receives the Authority's approval, calculation on the old basis is not needed; in this case the BSCR model needs to be modified to eliminate the transitional calculation in the Summary tab.)

D18.5 Those insurers that decide to use equity grandfathering for their eligible long-term business are required to calculate the equity risk with grandfathering (the 'grandfathered equity risk') *in addition* to the two calculations above (i.e., pure old and pure new basis), for a total of three separate equity risk calculations. In the calculation of the grandfathered equity risk, part of the equity investments (the grandfathered part) are allocated to the old equity risk calculation, and the remaining part of the equity investments (the non-grandfathered part) are allocated to the new equity risk calculation.

D18.6 Since the implementation of the grandfathered equity risk calculation requires both the old equity risk tab and the new equity risk tab, in order to be able to determine all three equity risk amounts – old basis, new basis, grandfathered – at the same time in one BSCR model, two copies of both the old and the new equity risk calculation are required. To this end, two additional tabs are introduced to calculate the grandfathered equity risk amount, together with the required supporting schedules that feed the input data into the equity risk calculation tabs.

D18.7 In practical terms, the process is as follows:

a) To calculate the equity risk charge on the old BSCR basis, all the equity investments are to be allocated to the 'Equity Investments' tab (through filling the appropriate schedules), as if the old rules applied.
b) To calculate the equity risk charge on the new BSCR basis, all the equity investments are to be allocated to the 'Equity Investments (Revised)' tab (through filling the appropriate schedules), as if the new rules applied.
c) To calculate the grandfathered equity risk charge on the new basis,

(i) The amount of equity investments eligible for grandfathering, per each equity class, is determined using the helper tab 'Equity Grandfathering'; by extension, this determines the amounts of equity investments, per each class, that are not eligible for grandfathering as the difference between the total investment amounts and the grandfathered amounts.

(ii) Those (and only those) equity investments that are eligible for grandfathering are to be allocated to the 'Equity Investments (Grandf)' tab, as if the old rules applied.

1) This is done by filling in the helper schedule 'Grandfathered Equity Part' with the grandfathered equity investments.

(iii) The remaining (non-grandfathered) equity investments are to be allocated to the 'Equity Investments (Non-Grandf)' tab following the new rules.

1) This is done by filling in the helper schedule 'Non-Grandfathered Equity Part' with the non-grandfathered equity investments.

D18.8 Although the pure new basis equity risk capital requirement (in subparagraph B above) is not directly used in determining the BSCR for insurers using equity grandfathering, it is required as additional information. This is to assess the effect of equity grandfathering and the capital position the insurer would have without it. The Authority expects the insurers to calculate the capital requirements without grandfathering for their own risk management purposes as well.

D19. INTEREST RATE AND LIQUIDITY RISK ($BSCR_{Corr}$)

Background

D19.1 The interest rate and liquidity risk charge may be determined based on “option 1” or “option 2”. Once the insurer chooses to use option 2, the insurer cannot move back to using option 1 without the prior written approval of the Authority.

D19.2 The interest rate/liquidity risk represents the economic risk an insurer is subjected to due to changes in interest rates. The charge is calculated by applying the ‘shock’ of a 2% increase in interest rates to the portion of the insurer’s assets (proportionate to the percentage of reserves) related to the duration difference. These assets include quoted and unquoted bonds and debentures - other, quoted and unquoted preferred stocks, and mortgage loans.

D19.3 The interest rate/liquidity risk calculation takes into account known and unknown asset-liability duration mismatches. For known differences in duration mismatches, a set of asset-liability management questions have to be answered (‘Interest Rate/Liquidity Risk’ tab in the model) in order to arrive at a discount factor. The discount factor is applied on the interest rate / liquidity risk capital requirement: the higher the quality of the insurer’s asset-liability management policies and procedures, the higher the discount factor (referred to as ‘ALM credit’), the lower the capital requirement. The insurer can receive up to 50% credit based on the quality of its asset-liability management practices.

Interest Rate and Liquidity Risk Capital Charge - Option 1

D19.4 The interest rate/liquidity risk charge calculation can be summarised by the following formula:

$C(duration1 \times rateshock \times reserveshare \times assets \times 100\% - ALMCredit)_{LTint} + (duration2 \times rateshock \times (1 - reserveshare) \times assets)$, where

$assets$ = quoted and unquoted value of total bonds and debentures, preferred stock, or mortgage loans;

$duration1$ = duration that applies for business where the duration of assets and liabilities is known;

$rateshock$ = assumed interest rate shock prescribed by the BMA;

$duration2$ = the amount of reserves with known duration divided by the total reserves;

$AML \rightleftarrows Credit$ = the ALM credit based on the quality of an insurer’s practices; and

$reserveshare$ = the amount of reserves with known duration divided by the total reserves. The statement source for $reserveshare$ is Schedule V paragraph (h) of these Rules.

Items

D19.5 <u>Asset Values</u> – These include the quoted and unquoted values of bonds and debentures, preferred stocks and mortgage loans.

D19.6 <u>Assumed interest shock</u> – The BMA prescribed this as 200 basis points.

D19.7 Duration that applies for business where the duration of assets and liabilities is known – This duration is the higher of:

a) 1; or

b) The insurer's weighted average of the difference in asset duration and liability duration.

The statement source for the weighted average of the difference in asset duration and liability duration is Schedule V paragraph (f) of the Rules.

Duration that applies for business where the duration of assets and liabilities is not known – This duration is equal to 2.

D19.8 The amount of reserves with known duration to total reserves – The statement source for the amount of reserves with known duration divided by the total reserves is Schedule V paragraph (g) of the Prudential Standard Rules.

D19.9 ALM Credit – Based on the insurer's responses to its asset-liability management policies, an insurer can receive up to 50% credit on its interest rate/liquidity risk capital charge where the duration mismatch is known. The insurer answers the initial question 'Has the insurer implemented policies on Asset-Liability Management, including tolerances for deviation?' If the answer is 'no', the insurer does not have to complete the remaining five questions and no ALM credit is granted. If the answer is 'yes', answers to the following questions will determine the total discount credit available to the insurer. The higher the quality of the insurer's policies and procedures, the higher the discount factor the insurer gets.

Instructions Affecting Interest Rate and Liquidity Risk

a) All assets comprising of total bonds and debentures, preferred stock and mortgage loans investments that are subject to capital charges within the interest rate/liquidity risk charge shall be included;

b) All quoted and unquoted non-affiliated other bonds and debentures and preferred stock shall be included in the interest rate/liquidity risk charge; and

c) All other bonds and debentures, preferred stock and mortgage loans investments shall be reported on a basis consistent with that used for purposes described in the Prudential Standard Rules Schedule XIV and the guidance note for the statutory reporting regime.

Interest Rate and Liquidity Risk Capital Charge Option 2

D19.10 The interest rate and liquidity risk option 2 charge calculation can be summarised by the following formula:

$$\boxed{C_{Interest} = \max\{\max(Shock_{IR,Down}, Shock_{IR,Up}) - OffSet_{ScenarioBased}, 0\}}$$

Where—

$$Shock_{IR,\omega} = \sum_{CCY} Shock_{IR,\omega}^{CCY}$$

$$Shock_{IR,\omega}^{CCY} = \left(MVA_{Before}^{CCY,Q} - MVA_{After,\omega}^{CCY,Q}\right) + \max\left(MVA_{Before}^{CCY,NQ} - MVA_{After,\omega}^{CCY,NQ}, 0\right) - \left(MVL_{Before}^{CCY} - MVL_{After,\omega}^{CCY}\right)$$

$$\omega = Down,\ Up$$

$$OffSet_{ScenarioBased} = \min\left(0.5 \cdot \left(BELiability_{WorstScenario} - BELiability_{BaseScenario}\right), 0.75 \cdot C_{Interest}^{WithoutOffset}\right)$$

$$C_{Interest}^{WithoutOffset} = max\left(Shock_{IR,Down}, Shock_{IR,Up}\right)$$

$MVA_{Before}^{CCY,Q}$ = refers to the market value of qualified assets including derivatives qualifying as held for risk-mitigating purposes (as described in section B4) before shock ω (ω =Up or Down) by currency type (CCY), that has been converted to the functional currency as expressed in Form 4EBS;

$MVA_{After}^{CCY,Q}$ = refers to the revaluation of qualified assets including derivatives qualifying as held for risk-mitigating purposes (as described in section B4) after shocking interest rates by **χ**(CCY,ω) where (CCY) refers to currency type, ω refers to shock Down and Up, and **χ** refers to the shock vector where the revalued amount has been converted to the functional currency as reported in Form 4EBS prescribed in Table 3B;

$MVA_{Before}^{CCY,NQ}$ = refers to the market value of non-qualified assets that are derivatives not qualifying as held for risk-mitigating purposes (as described in section B4) before shockω (ω =Up or Down) by currency type (CCY), that has been converted to the functional currency as expressed in Form 4EBS;

$MVA_{After}^{CCY,NQ}$ = refers to the revaluation of non-qualified assets that are derivatives not qualifying as held for risk-mitigating purposes (as described in section B4) after shocking interest rates by **χ**(CCY,ω) where (CCY) refers to currency type, ω refers to shock Down and Up, and **χ** refers to the shock vector where the revalued amount has been converted to the functional currency as reported in Form 4EBS prescribed in Table 3B;

MVL_{Before}^{CCY} = refers to the best estimate of insurance liabilities and other liabilities before shock ω (ω =Up or Down) by currency type that has been converted to the functional currency as reported in Form 4EBS;

MVL_{After}^{CCY} = refers to the revaluation of the best estimate of insurance liabilities and other liabilities after shocking interest rates by **χ**(CCY,ω) where (CCY) refers to currency type, ω refers to shock Down and Up, and **χ** refers to the shock vector where the revalued amount has been converted to the functional currency as reported in Form 4EBS prescribed in Table 3B;

$BELiability_{BaseScenario}$ = refers to best estimate of liabilities in the base case scenario when using the scenario-based approach; and

$BELiability_{WorstScenario}$ = refers to best estimate of liabilities in the worst-case scenario when using the scenario-based approach.

Items

D19.11 Assets (exposures other than derivatives) –interest rate-sensitive assets, including interest rate-sensitive exposures from investment holdings packaged as funds, segregated account company assets, deposit assets and other sundry assets as determined from the application of the look-through provisions.

D19.12 Assets Qualifying as held for risk-mitigating purposes (derivative exposures) –interest rate-sensitive derivative exposures qualifying as risk-mitigating, including interest rate-sensitive derivative exposures from investment holdings packaged as funds, segregated account company assets, deposit assets and other sundry assets as determined from the application of the look-through provisions.

D19.13 Assets Not Qualifying as held for risk-mitigating purposes (derivative exposures) – interest rate-sensitive derivative exposures not qualifying as risk-mitigating, including interest rate-sensitive derivative exposures from investment holdings packaged as funds, segregated account company assets, deposit assets and other sundry assets as determined from the application of the look-through provisions.

D19.14 Liabilities –interest rate-sensitive exposures from insurance technical provisions, segregated account company liabilities, deposit liabilities and other sundry liabilities as determined from the application of the look-through provisions.

a) Interest Rate Down – Exposures without Derivatives

Currency	Market Value of Assets	Market Value of Liabilities
United States Dollars	Based on Sch. XXIII, Col.(A), line 1 Less Col. (B), line 1	Based on Sch. XXIII, Col. (C), line 1 Less Col. (D), line 1
Euro	Based on Sch. XXIII, Col.(A), line 2 Less Col. (B), line 2	Based on Sch. XXIII, Col.(C), line 2 Less Col. (D), line 2
UK Pounds	Based on Sch. XXIII, Col.(A), line 3 Less Col. (B), line 3	Based on Sch. XXIII, Col.(C), line 3 Less Col. (D), line 3
Japan Yen	Based on Sch. XXIII, Col.(A), line 4 Less Col. (B), line 4	Based on Sch. XXIII, Col.(C), line 4 Less Col. (D), line 4
Canada Dollars	Based on Sch. XXIII, Col.(A), line 5 Less Col. (B), line 5	Based on Sch. XXIII, Col.(C), line 5 Less Col. (D), line 5
Swiss Francs	Based on Sch. XXIII, Col.(A), line 6 Less Col. (B), line 6	Based on Sch. XXIII, Col.(C), line 6 Less Col. (D), line 6
Australia Dollars	Based on Sch. XXIII, Col.(A), line 7 Less Col. (B), line 7	Based on Sch. XXIII, Col.(C), line 7 Less Col. (D), line 7
New Zealand Dollars	Based on Sch. XXIII, Col.(A), line 8 Less Col. (B), line 8	Based on Sch. XXIII, Col.(C), line 8 Less Col. (D), line 8
Other currency 1	Based on Sch. XXIII, Col.(A), line 9 Less Col. (B), line 9	Based on Sch. XXIII, Col.(C), line 9 Less Col. (D), line 9
Other currency 2	Based on Sch. XXIII, Col.(A), line 10 Less Col. (B), line 10	Based on Sch. XXIII, Col.(C), line 10 Less Col. (D), line 10
Other currency 3	Based on Sch. XXIII, Col.(A), line 11 Less Col. (B), line 11	Based on Sch. XXIII, Col.(C), line 11 Less Col. (D), line 11
Other currency 4	Based on Sch. XXIII, Col.(A), line 12 Less Col. (B), line 12	Based on Sch. XXIII, Col.(C), line 12 Less Col. (D), line 12
Other currency 5	Based on Sch. XXIII, Col.(A), line 13 Less Col. (B), line 13	Based on Sch. XXIII, Col.(C), line 13 Less Col. (D), line 13
Other currency 6	Based on Sch. XXIII, Col.(A), line 14 Less Col. (B), line 14	Based on Sch. XXIII, Col.(C), line 14 Less Col. (D), line 14
Other currency 7	Based on Sch. XXIII, Col.(A), line 15 Less Col. (B), line 15	Based on Sch. XXIII, Col.(C), line 15 Less Col. (D), line 15
Other currency 8	Based on Sch. XXIII, Col.(A), line 16 Less Col. (B), line 16	Based on Sch. XXIII, Col.(C), line 16 Less Col. (D), line 16
Other currency 9	Based on Sch. XXIII, Col.(A), line 17 Less Col. (B), line 17	Based on Sch. XXIII, Col.(C), line 17 Less Col. (D), line 17
Other currency 10	Based on Sch. XXIII, Col.(A), line 18 Less Col. (B), line 18	Based on Sch. XXIII, Col.(C), line 18 Less Col. (D), line 18

b) Interest Rate Down – Derivative Exposure

Currency	Market Value of Assets Qualifying for Risk Mitigating Purposes	Market Value of Assets Not Qualifying for Risk Mitigating Purposes	Market Value of Liabilities
United States Dollars	Based on Sch. XXIII, Col.(G), line 1 Less Col. (H), line 1	Based on Sch. XXIII, Col. (I), line 1 Less Col. (J), line 1	Based on Sch. XXIII, Col. (K), line 1 Less Col. (L), line 1
Euro	Based on Sch. XXIII, Col.(G), line 2 Less Col. (H), line 2	Based on Sch. XXIII, Col.(I), line 2 Less Col. (J), line 2	Based on Sch. XXIII, Col.(K), line 2 Less Col. (L), line 2
UK Pounds	Based on Sch. XXIII, Col.(G), line 3 Less Col. (H), line 3	Based on Sch. XXIII, Col.(I), line 3 Less Col. (J), line 3	Based on Sch. XXIII, Col.(K), line 3 Less Col. (L), line 3
Japan Yen	Based on Sch. XXIII, Col.(G), line 4 Less Col. (H), line 4	Based on Sch. XXIII, Col.(I), line 4 Less Col. (J), line 4	Based on Sch. XXIII, Col.(K), line 4 Less Col. (L), line 4

Canada Dollars	Based on Sch. XXIII, Col.(G), line 5 Less Col. (H), line 5	Based on Sch. XXIII, Col.(I), line 5 Less Col. (J), line 5	Based on Sch. XXIII, Col.(K), line 5 Less Col. (L), line 5
Swiss Francs	Based on Sch. XXIII, Col.(G), line 6 Less Col. (H), line 6	Based on Sch. XXIII, Col.(I), line 6 Less Col. (J), line 6	Based on Sch. XXIII, Col.(K), line 6 Less Col. (L), line 6
Australia Dollars	Based on Sch. XXIII, Col.(G), line 7 Less Col. (H), line 7	Based on Sch. XXIII, Col.(I), line 7 Less Col. (J), line 7	Based on Sch. XXIII, Col.(K), line 7 Less Col. (L), line 7
New Zealand Dollars	Based on Sch. XXIII, Col.(G), line 8 Less Col. (H), line 8	Based on Sch. XXIII, Col.(I), line 8 Less Col. (J), line 8	Based on Sch. XXIII, Col.(K), line 8 Less Col. (L), line 8
Other currency 1	Based on Sch. XXIII, Col.(G), line 9 Less Col. (H), line 9	Based on Sch. XXIII, Col.(I), line 9 Less Col. (J), line 9	Based on Sch. XXIII, Col.(K), line 9 Less Col. (L), line 9
Other currency 2	Based on Sch. XXIII, Col.(G), line 10 Less Col. (H), line 10	Based on Sch. XXIII, Col.(I), line 10 Less Col. (J), line 10	Based on Sch. XXIII, Col.(K), line 10 Less Col. (L), line 10
Other currency 3	Based on Sch. XXIII, Col.(G), line 11 Less Col. (H), line 11	Based on Sch. XXIII, Col.(I), line 11 Less Col. (J), line 11	Based on Sch. XXIII, Col.(K), line 11 Less Col. (L), line 11
Other currency 4	Based on Sch. XXIII, Col.(G), line 12 Less Col. (H), line 12	Based on Sch. XXIII, Col.(I), line 12 Less Col. (J), line 12	Based on Sch. XXIII, Col.(K), line 12 Less Col. (L), line 12
Other currency 5	Based on Sch. XXIII, Col.(G), line 13 Less Col. (H), line 13	Based on Sch. XXIII, Col.(I), line 13 Less Col. (J), line 13	Based on Sch. XXIII, Col.(K), line 13 Less Col. (L), line 13
Other currency 6	Based on Sch. XXIII, Col.(G), line 14 Less Col. (H), line 14	Based on Sch. XXIII, Col.(I), line 14 Less Col. (J), line 14	Based on Sch. XXIII, Col.(K), line 14 Less Col. (L), line 14
Other currency 7	Based on Sch. XXIII, Col.(G), line 15 Less Col. (H), line 15	Based on Sch. XXIII, Col.(I), line 15 Less Col. (J), line 15	Based on Sch. XXIII, Col.(K), line 15 Less Col. (L), line 15
Other currency 8	Based on Sch. XXIII, Col.(G), line 16 Less Col. (H), line 16	Based on Sch. XXIII, Col.(I), line 16 Less Col. (J), line 16	Based on Sch. XXIII, Col.(K), line 16 Less Col. (L), line 16
Other currency 9	Based on Sch. XXIII, Col.(G), line 17 Less Col. (H), line 17	Based on Sch. XXIII, Col.(I), line 17 Less Col. (J), line 17	Based on Sch. XXIII, Col.(K), line 17 Less Col. (L), line 18
Other currency 10	Based on Sch. XXIII, Col.(G), line 18 Less Col. (H), line 18	Based on Sch. XXIII, Col.(I), line 18 Less Col. (J), line 18	Based on Sch. XXIII, Col.(K), line 18 Less Col. (L), line 18

c) Interest Rate Up – Exposures without Derivatives

Currency	**Market Value of Assets**	**Market Value of Liabilities**
United States Dollars	Based on Sch. XXIII, Col.(A), line 20 Less Col. (B), line 20	Based on Sch. XXIII, Col.(C), line 20 Less Col. (D), line 20
Euro	Based on Sch. XXIII, Col.(A), line 21 Less Col. (B), line 21	Based on Sch. XXIII, Col.(C), line 21 Less Col. (D), line 21

UK Pounds	Based on Sch. XXIII, Col.(A), line 22 Less Col. (B), line 22	Based on Sch. XXIII, Col.(C), line 22 Less Col. (D), line 22
Japan Yen	Based on Sch. XXIII, Col.(A), line 23 Less Col. (B), line 23	Based on Sch. XXIII, Col.(C), line 23 Less Col. (D), line 23
Canada Dollars	Based on Sch. XXIII, Col.(A), line 24 Less Col. (B), line 24	Based on Sch. XXIII, Col.(C), line 24 Less Col. (D), line 24
Swiss Francs	Based on Sch. XXIII, Col.(A), line 25 Less Col. (B), line 25	Based on Sch. XXIII, Col.(C), line 25 Less Col. (D), line 25
Australia Dollars	Based on Sch. XXIII, Col.(A), line 26 Less Col. (B), line 26	Based on Sch. XXIII, Col.(C), line 26 Less Col. (D), line 26
New Zealand Dollars	Based on Sch. XXIII, Col.(A), line 27 Less Col. (B), line 27	Based on Sch. XXIII, Col.(C), line 27 Less Col. (D), line 27
Other currency 1	Based on Sch. XXIII, Col.(A), line 28 Less Col. (B), line 28	Based on Sch. XXIII, Col.(C), line 28 Less Col. (D), line 28
Other currency 2	Based on Sch. XXIII, Col.(A), line 29 Less Col. (B), line 29	Based on Sch. XXIII, Col.(C), line 29 Less Col. (D), line 29
Other currency 3	Based on Sch. XXIII, Col.(A), line 30 Less Col. (B), line 30	Based on Sch. XXIII, Col.(C), line 30 Less Col. (D), line 30
Other currency 4	Based on Sch. XXIII, Col.(A), line 31 Less Col. (B), line 31	Based on Sch. XXIII, Col.(C), line 31 Less Col. (D), line 31
Other currency 5	Based on Sch. XXIII, Col.(A), line 32 Less Col. (B), line 32	Based on Sch. XXIII, Col.(C), line 32 Less Col. (D), line 32
Other currency 6	Based on Sch. XXIII, Col.(A), line 33 Less Col. (B), line 33	Based on Sch. XXIII, Col.(C), line 33 Less Col. (D), line 33
Other currency 7	Based on Sch. XXIII, Col.(A), line 34 Less Col. (B), line 34	Based on Sch. XXIII, Col.(C), line 34 Less Col. (D), line 34
Other currency 8	Based on Sch. XXIII, Col.(A), line 35 Less Col. (B), line 35	Based on Sch. XXIII, Col.(C), line 35 Less Col. (D), line 35
Other currency 9	Based on Sch. XXIII, Col.(A), line 36 Less Col. (B), line 36	Based on Sch. XXIII, Col.(C), line 36 Less Col. (D), line 36
Other currency 10	Based on Sch. XXIII, Col.(A), line 37 Less Col. (B), line 37	Based on Sch. XXIII, Col.(C), line 37 Less Col. (D), line 37

d) Interest Rate Up – Derivative Exposure

Currency	**Market Value of Assets Qualifying for Risk Mitigating Purposes**	**Market Value of Assets Not Qualifying for Risk Mitigating Purposes**	**Market Value of Liabilities**
United States Dollars	Based on Sch. XXIII, Col.(G), line 20 Less Col. (H), line 20	Based on Sch. XXIII, Col.(I), line 20 Less Col. (J), line 20	Based on Sch. XXIII, Col.(K), line 20 Less Col. (L), line 20
Euro	Based on Sch. XXIII, Col.(G), line 21 Less Col. (H), line 21	Based on Sch. XXIII, Col.(I), line 21 Less Col. (J), line 21	Based on Sch. XXIII, Col.(K), line 21 Less Col. (L), line 21
UK Pounds	Based on Sch. XXIII, Col.(G), line 22 Less Col. (H), line 22	Based on Sch. XXIII, Col.(I), line 22 Less Col. (J), line 22	Based on Sch. XXIII, Col.(K), line 22 Less Col. (L), line 22
Japan Yen	Based on Sch. XXIII, Col.(G), line 23 Less Col. (H), line 23	Based on Sch. XXIII, Col.(I), line 23 Less Col. (J), line 23	Based on Sch. XXIII, Col.(K), line 23 Less Col. (L), line 23
Canada Dollars	Based on Sch. XXIII, Col.(G), line 24 Less Col. (H), line 24	Based on Sch. XXIII, Col.(I), line 24 Less Col. (J), line 24	Based on Sch. XXIII, Col.(K), line 24 Less Col. (L), line 24
Swiss Francs	Based on Sch. XXIII, Col.(G), line 25 Less Col. (H), line 25	Based on Sch. XXIII, Col.(I), line 25 Less Col. (J), line 25	Based on Sch. XXIII, Col.(K), line 25 Less Col. (L), line 25

Australia Dollars	Based on Sch. XXIII, Col.(G), line 26 Less Col. (H), line 26	Based on Sch. XXIII, Col.(I), line 26 Less Col. (J), line 26	Based on Sch. XXIII, Col.(K), line 26 Less Col. (L), line 26
New Zealand Dollars	Based on Sch. XXIII, Col.(G), line 27 Less Col. (H), line 27	Based on Sch. XXIII, Col.(I), line 27 Less Col. (J), line 27	Based on Sch. XXIII, Col.(K), line 27 Less Col. (L), line 27
Other currency 1	Based on Sch. XXIII, Col.(G), line 28 Less Col. (H), line 28	Based on Sch. XXIII, Col.(I), line 28 Less Col. (J), line 28	Based on Sch. XXIII, Col.(K), line 28 Less Col. (L), line 28
Other currency 2	Based on Sch. XXIII, Col.(G), line 29 Less Col. (H), line 29	Based on Sch. XXIII, Col.(I), line 29 Less Col. (J), line 29	Based on Sch. XXIII, Col.(K), line 29 Less Col. (L), line 29
Other currency 3	Based on Sch. XXIII, Col.(G), line 30 Less Col. (H), line 30	Based on Sch. XXIII, Col.(I), line 30 Less Col. (J), line 30	Based on Sch. XXIII, Col.(K), line 30 Less Col. (L), line 30
Other currency 4	Based on Sch. XXIII, Col.(G), line 31 Less Col. (H), line 31	Based on Sch. XXIII, Col.(I), line 31 Less Col. (J), line 31	Based on Sch. XXIII, Col.(K), line 31 Less Col. (L), line 31
Other currency 5	Based on Sch. XXIII, Col.(G), line 32 Less Col. (H), line 32	Based on Sch. XXIII, Col.(I), line 32 Less Col. (J), line 32	Based on Sch. XXIII, Col.(K), line 32 Less Col. (L), line 32
Other currency 6	Based on Sch. XXIII, Col.(G), line 33 Less Col. (H), line 33	Based on Sch. XXIII, Col.(I), line 33 Less Col. (J), line 33	Based on Sch. XXIII, Col.(K), line 33 Less Col. (L), line 33
Other currency 7	Based on Sch. XXIII, Col.(G), line 34 Less Col. (H), line 34	Based on Sch. XXIII, Col.(I), line 34 Less Col. (J), line 34	Based on Sch. XXIII, Col.(K), line 34 Less Col. (L), line 34
Other currency 8	Based on Sch. XXIII, Col.(G), line 35 Less Col. (H), line 35	Based on Sch. XXIII, Col.(I), line 35 Less Col. (J), line 35	Based on Sch. XXIII, Col.(K), line 35 Less Col. (L), line 35
Other currency 9	Based on Sch. XXIII, Col.(G), line 36 Less Col. (H), line 36	Based on Sch. XXIII, Col.(I), line 36 Less Col. (J), line 36	Based on Sch. XXIII, Col.(K), line 36 Less Col. (L), line 36
Other currency 10	Based on Sch. XXIII, Col.(G), line 37 Less Col. (H), line 37	Based on Sch. XXIII, Col.(I), line 37 Less Col. (J), line 37	Based on Sch. XXIII, Col.(K), line 37 Less Col. (L), line 37

Instructions Affecting Interest Rate and Liquidity Risk

a) All assets sensitive to interest rates shall be included in the table, including but not limited to fixed income assets, hybrid instruments, deposits, loans (including mortgage and policyholder loans), reinsurance balance receivables and exposures as determined by application of the 'look-through' approach calculated in accordance with criteria prescribed in section B6 for the following items:

(i) Collective investment vehicles and other investments packaged as funds, including related undertakings used as investment vehicles;
(ii) Segregated accounts assets;
(iii) Deposit asset;
(iv) Other sundry;
(v) Derivatives;
(vi) Funds held by ceding insurers.

b) All liabilities sensitive to interest rates shall be included in the table, including but not limited to best estimate of insurance liabilities, other liabilities (except risk margin) and liability exposures determined by application of the 'look-through' approach calculated in accordance with the criteria prescribed in section B6 for the following items:

(i) Segregated accounts liabilities;
(ii) Deposit liabilities;
(iii) Other sundry liabilities;
(iv) Derivatives;
(v) Funds held under retrocession.

c) Amounts are to be reported on an EBS valuation basis.

D20. CURRENCY RISK ($BSCR_{Corr}$)

Background

D20.1 The currency risk charge is based on amounts reported on Form 4EBS total assets and liabilities. It represents the risk that the net asset position of an insurer may worsen as a result of exchange rate changes if assets and liabilities are not currency matched. Insurers are to include at least 95% of their total assets and liabilities based on the predefined thirteen currency types (United States Dollar, Bermuda Dollar, Qatar Riyal, Hong Kong Dollar, Euro, Denmark Kroner, Bulgaria Leva, West African CFA Franc, Central African CFA Franc, Comorian Francs United Kingdom Pounds, Canadian Dollar and Japanese Yen) and ten other currency types.

D20.2 The currency risk capital charge is based on the assets held for each currency type and the liabilities and the proxy BSCR (proxy BSCR is determined by applying the proxy BSCR factor of D20.3 to the currency type's liabilities). In instances there is a currency type that has insufficient assets held to the liabilities and proxy BSCR, a shock is applied to both the assets and liabilities and the allocated capital requirement. The shock is a downwards shock to the reporting currency, meaning that the reporting currency will depreciate relative to other currencies. If there are sufficient assets held to the liabilities and proxy BSCR, then there is no/NIL capital charge applied.

D20.3 The proxy BSCR factor is determined as the greater of:

a. The prior year ECR charge to the prior year total EBS liabilities reported and
b. The average of the last three prior years ECR charge to last three prior years total EBS liabilities reported.

Currency Risk Capital Charge

D20.4 The currency risk charge calculation can be summarised by the following formula:

$$\boxed{C_{Currency} = \sum_i \max\left\{\left[\begin{array}{c} \left(MVA_{i,Before} - MVA_{i,After}(\chi_i)\right) + \left(MVDL^{Q}_{i,Before} - MVDL^{Q}_{i,After}(\chi_i)\right) + \cdots \\ + \left(MVDS^{Q}_{i,Before} - MVDS^{Q}_{i,After}(\chi_i)\right) + \max\left(MVDL^{NQ}_{i,Before} - MVDL^{NQ}_{i,After}(\chi_i), 0\right) + \cdots \\ + \max\left(MVDS^{NQ}_{i,Before} - MVDS^{NQ}_{i,After}(\chi_i), 0\right) - \left(MVL_{i,Before} - MVL_{i,After}(\chi_i)\right) + \cdots \\ + Currproxybscr_i \times \chi_i \end{array}\right], 0\right\}}$$

χ_i = the instantaneous shocks prescribed in Table 4A for each type of currency where ($MVA_{i,Before}$+$MVDL^{NQ}_{i,Before}$+$MVDS^{NQ}_{i,Before} + MVDL^{Q}_{i,Before} + MVDS^{Q}_{i,Before}$-$MVL^{Q}_{i,Before}$-$Currproxybscr_i$)<0 and 0 otherwise;

$Currency_i$ = refers to currency type that has been converted to the functional currency as reported in Form 4EBS

$MVA_{i,Before}$ = refers to the market value of assets excluding currency-sensitive derivatives prescribed by the Authority by currency type (CCY), that has been converted to the functional currency as reported in Form 4EBS;

$MVA_{i,After}$

= refers to the revaluation of assets excluding currency-sensitive derivatives after shocking by χ(CCY) where (CCY) refers to currency type, and χ refers to the shock, where the revalued amount has been converted to the functional currency as reported in Form 4EBS;

$MVDL^{Q}_{i,Before}$

= refers to the market value of long positions in derivatives qualifying as held for risk-mitigating purposes (as described in section B4) by currency type (CCY), that has been converted to the functional currency as reported in Form 4EBS;

$MVDL^{Q}_{i,After}$ = refers to the revaluation of long positions in derivatives qualifying as held for risk-mitigating purposes (as described in section B4) after shocking by χ(CCY) where (CCY) refers to currency type, and χ refers to the shock, where the revalued amount has been converted to the functional currency as reported in Form 4EBS;

$MVDS^{Q}_{i,Before}$ = refers to the market value of short positions in derivatives qualifying as held for risk-mitigating purposes (as described in section B4) by currency type (CCY), that has been converted to the functional currency as reported in Form 4EBS;

$MVDS^{Q}_{i,After}$ = refers to the revaluation of short positions in derivatives qualifying as held for risk-mitigating purposes (as described in section B4) after shocking by χ(CCY) where (CCY) refers to currency type, and χ refers to the shock, where the revalued amount has been converted to the functional currency as reported in Form 4EBS;

$MVDL^{NQ}_{i,Before}$ = refers to the market value of long positions in derivatives not qualifying as held for risk-mitigating purposes (as described in section B4) by currency type (CCY), that has been converted to the functional currency as reported in Form 4EBS;

$MVDL^{NQ}_{i,After}$ = refers to the revaluation of long positions in derivatives not qualifying as held for risk-mitigating purposes (as described in section B4) after shocking by χ(CCY) where (CCY) refers to currency type, and χ refers to the shock, where the revalued amount has been converted to the functional currency as reported in Form 4EBS;

$MVDS^{NQ}_{i,Before}$

= refers to the market value of short positions in derivatives not qualifying as held for risk-mitigating purposes (as described in section B4) by currency type (CCY), that has been converted to the functional currency as reported in Form 4EBS;

$MVDS^{NQ}_{i,After}$

= refers to the revaluation of short positions in derivatives not qualifying as held for risk-mitigating purposes (as described in section B4) after shocking by χ(CCY) where (CCY) refers to currency type, and χ refers to the shock, where the revalued amount has been converted to the functional currency as reported in Form 4EBS;

$MVL_{i,Before}$ = refers to the market value of the best estimate of insurance liabilities and other liabilities by currency type that has been converted to the functional currency as reported in Form 4EBS;

$MVL_{i,After}$ = refers to the revaluation of the best estimate of insurance liabilities and other liabilities after shocking by χ(CCY) where (CCY) refers to currency type and χ refers to the shock, where the revalued amount has been converted to the functional currency as reported in Form 4EBS;

$Currproxybscr_i$ = refers to the product of $MVL_{i,Before}$ and BSCR Proxy factor

BSCR Proxy Factor = greater of paragraphs (a) and (b) below:

(a) The ECR divided by Form 4EBS line 39 Total Liabilities for the preceding year and

(b) The average of the above ratio for the preceding three years.

where there are no prior submissions available, the BSCR proxy factor is the above ratio that would be obtained from the current submission without taking into account the currency risk charge.

Items

D20.5 Assets (exposures other than derivatives) –currency exposures / exchange rate-sensitive exposures including from cash, investment holdings packaged as funds, segregated account company assets, deposit assets and other sundry assets as determined from the application of the look-through provisions.

D20.6 Assets – Derivatives with Long Exposures Not Qualifying as held for risk-mitigating purposes – long FX/exchange rate-sensitive derivative exposures not qualifying as risk mitigating, including from investment holdings packaged as funds, segregated account company assets, deposit assets and other sundry assets as determined from the application of the look-through provisions.

D20.7 Assets – Derivatives with Short Exposures Qualifying as held for risk-mitigating purposes – short FX/exchange-rate sensitive derivative exposures qualifying as risk-mitigating, including from investment holdings packaged as funds, segregated account company assets, deposit assets and other sundry assets as determined from the application of the look-through provisions.

D20.8 Assets – Derivatives with Short Exposures Not Qualifying as held for risk-mitigating purposes – short FX/exchange-rate sensitive derivative exposures not qualifying as risk-mitigating, including from investment holdings packaged as funds, segregated account company assets, deposit assets and other sundry assets as determined from the application of the look-through provisions.

D20.9 Assets – Derivatives with Long Exposures Qualifying as held for risk-mitigating purposes – long FX/exchange-rate sensitive derivative exposures qualifying as risk-mitigating, including from investment holdings packaged as funds, segregated account company assets, deposit assets and other sundry assets as determined from the application of the look-through provisions.

D20.10 EBS Liabilities by Currency Types – Total Best estimate liabilities denominated in given currency.

D20.11 Total ECR Requirement– Based on three prior years ECR Requirement.

D20.12 Total EBS Liabilities– Based on three prior years Form 4EBS line 39; total EBS liabilities (note if the EBS liabilities for the preceding three years' is not available, provide the statutory liability as reported on line 39).

Currency	Assets Exposures Other than Derivatives	Long Exposures		Short Exposures		Liabilities
		Qualifying as Held for Risk Mitigation Purposes	Not Qualifying as Held for Risk Mitigation Purposes	Qualifying as Held for Risk Mitigation Purposes	Not Qualifying as Held for Risk Mitigation Purposes	
United States Dollars	Based on Sch. XXA, Col.(A), line 1	Based on Sch. XXA, Col.(B), line 1	Based on Sch. XXA, Col.(C), line 1	Based on Sch. XXA, Col.(D), line 1	Based on Sch. XXA, Col.(E), line 1	Based on Sch. XXA, Col.(F), line 1
Bermuda Dollars	Based on Sch. XXA, Col.(A), line 2	Based on Sch. XXA, Col.(B), line 2	Based on Sch. XXA, Col.(C), line 2	Based on Sch. XXA, Col.(D), line 2	Based on Sch. XXA, Col.(E), line 2	Based on Sch. XXA, Col.(F), line 2
Qatar Riyals	Based on Sch. XXA, Col.(A), line 3	Based on Sch. XXA, Col.(B), line 3	Based on Sch. XXA, Col.(C), line 3	Based on Sch. XXA, Col.(D), line 3	Based on Sch. XXA, Col.(E), line 3	Based on Sch. XXA, Col.(F), line 3
Hong Kong Dollars	Based on Sch. XXA, Col.(A), line 4	Based on Sch. XXA, Col.(B), line 4	Based on Sch. XXA, Col.(C), line 4	Based on Sch. XXA, Col.(D), line 4	Based on Sch. XXA, Col.(E), line 4	Based on Sch. XXA, Col.(F), line 4
Euro	Based on Sch. XXA, Col.(A), line 5	Based on Sch. XXA, Col.(B), line 5	Based on Sch. XXA, Col.(C), line 5	Based on Sch. XXA, Col.(D), line 5	Based on Sch. XXA, Col.(E), line 5	Based on Sch. XXA, Col.(F), line 5
Denmark Kroner	Based on Sch. XXA, Col.(A), line 6	Based on Sch. XXA, Col.(B), line 6	Based on Sch. XXA, Col.(C), line 6	Based on Sch. XXA, Col.(D), line 6	Based on Sch. XXA, Col.(E), line 6	Based on Sch. XXA, Col.(F), line 6
Bulgaria Leva	Based on Sch. XXA, Col.(A), line 7	Based on Sch. XXA, Col.(B), line 7	Based on Sch. XXA, Col.(C), line 7	Based on Sch. XXA, Col.(D), line 7	Based on Sch. XXA, Col.(E), line 7	Based on Sch. XXA, Col.(F), line 7
West African CFA Francs	Based on Sch. XXA, Col.(A), line 8	Based on Sch. XXA, Col.(B), line 8	Based on Sch. XXA, Col.(C), line 8	Based on Sch. XXA, Col.(D), line 8	Based on Sch. XXA, Col.(E), line 8	Based on Sch. XXA, Col.(F), line 8
Central African CFA Francs	Based on Sch. XXA, Col.(A), line 9	Based on Sch. XXA, Col.(B), line 9	Based on Sch. XXA, Col.(C), line 9	Based on Sch. XXA, Col.(D), line 9	Based on Sch. XXA, Col.(E), line 9	Based on Sch. XXA, Col.(F), line 9
Comorian Francs	Based on Sch. XXA, Col.(A), line 10	Based on Sch. XXA, Col.(B), line 10	Based on Sch. XXA, Col.(C), line 10	Based on Sch. XXA, Col.(D), line 10	Based on Sch. XXA, Col.(E), line 10	Based on Sch. XXA, Col.(F), line 10
UK Pounds	Based on Sch. XXA, Col.(A), line 11	Based on Sch. XXA, Col.(B), line 11	Based on Sch. XXA, Col.(C), line 11	Based on Sch. XXA, Col.(D), line 11	Based on Sch. XXA, Col.(E), line 11	Based on Sch. XXA, Col.(F), line 11
Canada Dollars	Based on Sch. XXA, Col.(A), line 12	Based on Sch. XXA, Col.(B), line 12	Based on Sch. XXA, Col.(C), line 12	Based on Sch. XXA, Col.(D), line 12	Based on Sch. XXA, Col.(E), line 12	Based on Sch. XXA, Col.(F), line 12
Japan Yen	Based on Sch. XXA, Col.(A), line 13	Based on Sch. XXA, Col.(B), line 13	Based on Sch. XXA, Col.(C), line 13	Based on Sch. XXA, Col.(D), line 13	Based on Sch. XXA, Col.(E), line 13	Based on Sch. XXA, Col.(F), line 13
Other currency 1	Based on Sch. XXA, Col.(A), line 14	Based on Sch. XXA, Col.(B), line 14	Based on Sch. XXA, Col.(C), line 14	Based on Sch. XXA, Col.(D), line 14	Based on Sch. XXA, Col.(E), line 14	Based on Sch. XXA, Col.(F), line 14

Other currency 2	Based on Sch. XXA, Col.(A), line 15	Based on Sch. XXA, Col.(B), line 15	Based on Sch. XXA, Col.(C), line 15	Based on Sch. XXA, Col.(D), line 15	Based on Sch. XXA, Col.(E), line 15	Based on Sch. XXA, Col.(F), line 15
Other currency 3	Based on Sch. XXA, Col.(A), line 16	Based on Sch. XXA, Col.(B), line 16	Based on Sch. XXA, Col.(C), line 16	Based on Sch. XXA, Col.(D), line 16	Based on Sch. XXA, Col.(E), line 16	Based on Sch. XXA, Col.(F), line 16
Other currency 4	Based on Sch. XXA, Col.(A), line 17	Based on Sch. XXA, Col.(B), line 17	Based on Sch. XXA, Col.(C), line 17	Based on Sch. XXA, Col.(D), line 17	Based on Sch. XXA, Col.(E), line 17	Based on Sch. XXA, Col.(F), line 17
Other currency 5	Based on Sch. XXA, Col.(A), line 18	Based on Sch. XXA, Col.(B), line 18	Based on Sch. XXA, Col.(C), line 18	Based on Sch. XXA, Col.(D), line 18	Based on Sch. XXA, Col.(E), line 18	Based on Sch. XXA, Col.(F), line 18
Other currency 6	Based on Sch. XXA, Col.(A), line 19	Based on Sch. XXA, Col.(B), line 19	Based on Sch. XXA, Col.(C), line 19	Based on Sch. XXA, Col.(D), line 19	Based on Sch. XXA, Col.(E), line 19	Based on Sch. XXA, Col.(F), line 19
Other currency 7	Based on Sch. XXA, Col.(A), line 20	Based on Sch. XXA, Col.(B), line 20	Based on Sch. XXA, Col.(C), line 20	Based on Sch. XXA, Col.(D), line 20	Based on Sch. XXA, Col.(E), line 20	Based on Sch. XXA, Col.(F), line 20
Other currency 8	Based on Sch. XXA, Col.(A), line 21	Based on Sch. XXA, Col.(B), line 21	Based on Sch. XXA, Col.(C), line 21	Based on Sch. XXA, Col.(D), line 21	Based on Sch. XXA, Col.(E), line 21	Based on Sch. XXA, Col.(F), line 21
Other currency 9	Based on Sch. XXA, Col.(A), line 22	Based on Sch. XXA, Col.(B), line 22	Based on Sch. XXA, Col.(C), line 22	Based on Sch. XXA, Col.(D), line 22	Based on Sch. XXA, Col.(E), line 22	Based on Sch. XXA, Col.(F), line 22
Other currency 10	Based on Sch. XXA, Col.(A), line 23	Based on Sch. XXA, Col.(B), line 23	Based on Sch. XXA, Col.(C), line 23	Based on Sch. XXA, Col.(D), line 23	Based on Sch. XXA, Col.(E), line 23	Based on Sch. XXA, Col.(F), line 23

Instructions Affecting Currency Risk

a) The initials 'A' to 'J' on the column labeled 'Shock Otherwise χ_i' shall be replaced by the following shock values:
   (i) 'A' by:
      1) '0%' if the reporting currency is Bermuda Dollar or,
      2) '5.00%' if the reporting currency is Qatari Riyal or,
      3) '1.00%' if the reporting currency is Hong Kong Dollar or,
      4) '25%' otherwise.
   (ii) 'B' by:
      1) '0%' if the reporting currency is United States Dollar or,
      2) '25%' otherwise.
   (iii) 'C' by:
      1) '5.00%' if the reporting currency is United States Dollar or,
      2) '25%' otherwise.
   (iv) 'D' by:
      1) '1.00%' if reporting currency is United States Dollar or,
      2) '25%' otherwise.
   (v) 'E' by:
      1) '0.39%' if the reporting currency is Danish Krone or,
      2) '1.81%' if the reporting currency is Bulgarian Lev or,
      3) '2.18%' if the reporting currency is West African CFA Franc or,
      4) '1.96%' if the reporting currency is Central African CFA Franc or,
      5) '2.00%' if the reporting currency is Comorian Franc or,
      6) '25%' otherwise.
   (vi) 'F' by:
      1) '0.39%' if reporting currency is Euro or,
      2) '25%' otherwise.
   (vii) 'G' by:
      1) '1.81%' if reporting currency is Euro or,
      2) '25%' otherwise.
   (viii) 'H' by:
      1) '2.18%' if reporting currency is Euro or,
      2) '25%' otherwise.
   (ix) 'I' by:
      1) '1.96%' if reporting currency is Euro or,
      2) '25%' otherwise.
   (x) 'J' by:
      1) '2.00%' if reporting currency is Euro or,
      2) '25%' otherwise.

b) All assets and liabilities (except the risk margin) whose value is subject to currency risk shocks shall be reported on a basis consistent with that used for purposes of economic balance sheet reporting. These assets and liabilities shall include currency risk exposures determined by application of the 'look-through approach' calculated in accordance with criteria prescribed in section B7 for the following items:

(i) Collective investment vehicles and other investments packaged as funds, including related undertakings used as investment vehicles;
(ii) Segregated accounts assets and liabilities;
(iii) Deposit asset and liabilities;
(iv) Assets and liabilities held by ceding insurers or under retrocession;
(v) Other sundry assets and liabilities; and
(vi) Derivatives.

c) Where the reporting currency is United States Dollar, the capital factor χ_i charge shall be reduced to:
   (i) 0.00% for Bermuda Dollar;
   (ii) 5.00% for Qatari Riyal;
   (iii) 1.00% for Hong Kong Dollar.

d) Where the reporting currency is Bermuda Dollar the capital factor χ_i charge shall be reduced to 0.00% for United States Dollar.

e) Where the reporting currency is Qatari Riyal the capital factor χ_i charge shall be reduced to 5.00% for United States Dollar.

f) Where the reporting currency is Hong Kong Dollar the capital factor χ_i charge shall be reduced to 1.00% for United States Dollar.

g) Where the reporting currency is Euros, the capital factor χ_i shall be reduced to:
   (i) 0.39% for Danish Krone;
   (ii) 1.81% for Bulgarian Lev;
   (iii) 2.18% for West African CFA Franc;
   (iv) 1.96% for Central African CFA Franc;
   (v) 2.00% for Comorian Franc.

h) Where the reporting currency is Danish Krone the capital factor χ_i charge shall be reduced to 0.39% for the Euro.

i) Where the reporting currency is Bulgarian Lev the capital factor χ_i charge shall be reduced to 1.81% for the Euro.

j) Where the reporting currency is West African CFA Franc the capital factor χ_i charge shall be reduced to 2.18% for the Euro.

k) Where the reporting currency is Central African CFA Franc the capital factor χ_i charge shall be reduced to 1.96% for the Euro.

l) Where the reporting currency is Comorian Franc the capital factor χ_i charge shall be reduced to 2.00% for the Euro.

m) Insurers are to report currencies representing at least 95% of their economic balance sheet liabilities; and

n) Amounts are to be reported on an EBS valuation basis.

.

D21. CONCENTRATION RISK ($BSCR_{Corr}$)

Background

D21.1 The concentration risk charge is based on asset counterparty exposures as reported on the Form 4EBS. It represents the risk of losses due to asset concentrations.

D21.2 The charge is calculated by aggregating all the Asset Type, Bond / Mortgage Loan Type (if applicable), BSCR Rating (if applicable) and Asset Value together and assigning the values to the respective fixed income, equity, credit capital factor charge.

Concentration Risk Capital Charge

D21.3 The concentration risk charge calculation can be summarised by the following formula:

$$\boxed{C_{Concentration} = \sum_i \chi_i \times Concastclass_i}$$

where

χ_i = the capital charge factors supplied by BMA for each type $Concastclass_i$ of and

$Concastclass_i$ = value of corresponding asset in Asset Class.

Items

a) Cash and Cash Equivalents

Line Item		Description
1	BSCR rating 0	Based on Schedule XXIA, column H
2	BSCR rating 1	Based on Schedule XXIA, column H
3	BSCR rating 2	Based on Schedule XXIA, column H
4	BSCR rating 3	Based on Schedule XXIA, column H
5	BSCR rating 4	Based on Schedule XXIA, column H
6	BSCR rating 5	Based on Schedule XXIA, column H
7	BSCR rating 6	Based on Schedule XXIA, column H
8	BSCR rating 7	Based on Schedule XXIA, column H
9	BSCR rating 8	Based on Schedule XXIA, column H

b) Corporate & Sovereign Bonds

Line Item		Description
1	BSCR rating 0	Based on Schedule XXIA, column H
2	BSCR rating 1	Based on Schedule XXIA, column H
3	BSCR rating 2	Based on Schedule XXIA, column H
4	BSCR rating 3	Based on Schedule XXIA, column H
5	BSCR rating 4	Based on Schedule XXIA, column H
6	BSCR rating 5	Based on Schedule XXIA, column H
7	BSCR rating 6	Based on Schedule XXIA, column H
8	BSCR rating 7	Based on Schedule XXIA, column H
9	BSCR rating 8	Based on Schedule XXIA, column H

c) Residential Mortgage- Backed Securities

Line Item		Description
1	BSCR rating 0	Based on Schedule XXIA, column H
2	BSCR rating 1	Based on Schedule XXIA, column H
3	BSCR rating 2	Based on Schedule XXIA, column H
4	BSCR rating 3	Based on Schedule XXIA, column H
5	BSCR rating 4	Based on Schedule XXIA, column H
6	BSCR rating 5	Based on Schedule XXIA, column H
7	BSCR rating 6	Based on Schedule XXIA, column H
8	BSCR rating 7	Based on Schedule XXIA, column H
9	BSCR rating 8	Based on Schedule XXIA, column H

d) Commercial Mortgage-Backed Securities/Asset-Backed Securities

Line Item		Description
1	BSCR rating 0	Based on Schedule XXIA, column H
2	BSCR rating 1	Based on Schedule XXIA, column H
3	BSCR rating 2	Based on Schedule XXIA, column H
4	BSCR rating 3	Based on Schedule XXIA, column H
5	BSCR rating 4	Based on Schedule XXIA, column H
6	BSCR rating 5	Based on Schedule XXIA, column H
7	BSCR rating 6	Based on Schedule XXIA, column H
8	BSCR rating 7	Based on Schedule XXIA, column H
9	BSCR rating 8	Based on Schedule XXIA, column H

e) Bond Mutual Funds

Line Item		Description
1	BSCR rating 0	Based on Schedule XXIA, column H
2	BSCR rating 1	Based on Schedule XXIA, column H
3	BSCR rating 2	Based on Schedule XXIA, column H
4	BSCR rating 3	Based on Schedule XXIA, column H
5	BSCR rating 4	Based on Schedule XXIA, column H
6	BSCR rating 5	Based on Schedule XXIA, column H
7	BSCR rating 6	Based on Schedule XXIA, column H
8	BSCR rating 7	Based on Schedule XXIA, column H
9	BSCR rating 8	Based on Schedule XXIA, column H

f) Preferred Shares

Line Item		Description
1	BSCR rating 1	Based on Schedule XXIA, column H
2	BSCR rating 2	Based on Schedule XXIA, column H
3	BSCR rating 3	Based on Schedule XXIA, column H
4	BSCR rating 4	Based on Schedule XXIA, column H
5	BSCR rating 5	Based on Schedule XXIA, column H
6	BSCR rating 6	Based on Schedule XXIA, column H

Line Item		Description
7	BSCR rating 7	Based on Schedule XXIA, column H
8	BSCR rating 8	Based on Schedule XXIA, column H

g) Mortgage Loans

Line Item		Description
1	Insured/Guaranteed Mortgages	Based on Schedule XXIA, column H
2	Other Commercial and Farm Mortgages	Based on Schedule XXIA, column H
3	Other Residential Mortgages	Based on Schedule XXIA, column H
4	Mortgages Not In Good Standing	Based on Schedule XXIA, column H

h) Other Asset Classes

Line Item		Description
1	Infrastructure	Based on Schedule XXIA, column H
2	Listed Equity Securities in Developed Markets	Based on Schedule XXIA, column H
3	Other Equities	Based on Schedule XXIA, column H
4	Strategic Holdings	Based on Schedule XXIA, column H
5	Duration Based	Based on Schedule XXIA, column H
6	Letters of Credit	Based on Schedule XXIA, column H
7	Advances to Affiliates –	Based on Schedule XXIA, column H
8	Policy Loans	Based on Schedule XXIA, column H
9	Equity Real Estate 1	Based on Schedule XXIA, column H
10	Equity Real Estate 2	Based on Schedule XXIA, column H
11	Collateral Loans	Based on Schedule XXIA, column H

Instructions Affecting Concentration Risk

a) $Concastclass_i$ shall apply to all exposures to the ten largest counterparties, based on the aggregate of all exposures relating to those ten counterparties;

b) A counterparty exposure shall be reported on the valuation of individually underlying assets (i.e., determined by application of the 'look-through' approach as described in section B6) for all amounts reported on the balance sheet;

c) A counterparty shall include all related or connected counterparties captured by either of the following criteria:

   (i) Controller relationship: if a counterparty, directly or indirectly, has control of (as a result of its majority shareholding or effective management) which it is a subsidiary company; or

   (ii) Economic interdependence: if one of the counterparties were to experience financial difficulties which directly or indirectly affect the ability of any or all of the remaining counterparties to perform their financial obligations (e.g., where a counterparty becomes unable to fund or repay certain financial contractual obligations, and as a result, other counterparties, are likely to be unable to fund or repay certain obligations imposed on them);

d) Amounts are to be reported on an EBS valuation basis.

D22. CREDIT RISK ($BSCR_{Corr}$)

Background

D22.1 Credit risks are partitioned into four categories: accounts and premiums receivable, all other receivables, particulars of reinsurance balances (current and future), and counterparty default risk for over-the-counter derivatives.

D22.2 Particulars of reinsurance balances is based on the greater of:

a) Current reinsurance balances receivable (as reported on Form 4EBS lines 11(e) Reinsurance Balances Receivable, 12(c) Funds Held by Ceding Reinsurers, which are not reported on Schedule IIA, and 17(c) Total Reinsurance Recoverable Balance); and
b) Future reinsurance balances receivable (as calculated on the Credit Risk Schedule).

This approach allows for new insurers that have not had claims and allows for a more reflective approach of reinsurance exposures in stressed circumstances.

D22.3 Where applicable, the amounts must reconcile to the appropriate line(s) of the insurer's Form 4EBS or to the schedules prescribed by or under the Prudential Standard Rules.

Credit Risk Capital Charge

D22.4 The credit risk charge calculation can be summarised by the following formula:

$$C_{credit} = \sum_i \delta_i \times debtor_i \times \mu_r + \text{CCROTC}$$

δ_i = BMA-supplied credit risk capital charge factor for type of $debtor_i$;

$debtor_i$ = receivable amount from $debtor_i$ net of any collateral in favour of the insurer;

μ_r = additional diversification adjustment factor applied to reinsurance balances only taking into consideration diversification by number of reinsurers, equal to 40%.

CCROTC = counterparty default risk for over-the-counter derivatives calculated as per the following formula:

$$CCROTC = \sum_i Max\left(0, MVDerivativeP_i - (1-\beta_i)Min\left(MVderivativeP_i, MVCollateral_i\right)\right) \times \alpha_i$$

$MVDerivativeP_i$ = market value of over-the-counter derivatives with positive market values and BSCR rating *i*,

β_i = BMA-supplied collateral factor;

α_i = BMA-supplied capital factor for the BSCR rating *i*;

$MVCollateral$ = market value of collateral of over-the-counter derivatives with positive market values and BSCR rating *i*.

Items

a) Accounts and Premiums Receivable

	Line Item	Statement Source – The Rules
1	In course of collection	Based on Form 4EBS, line 10(a).

	Line Item	Statement Source – The Rules
2	Deferred Not Yet Due	Based on Form 1SFS, line 10(b).
3	Receivables from retrocessional contracts Less: Collateralised balances	Based on Form 4EBS, line 10(c) less Notes to Form 14EBS. Collateralised balances are all collaterals issued in favour of the group members relating to accounts and premiums receivable. Assets accounted in Form 4EBS, line (34) should not be included here.

b) All Other Receivables

	Line Item	Statement Source –
1	Advances to affiliates	Based on Form 4EBS, line 4(g).
2	Accrued investment income	Based on Form 4EBS, line 9.
3	Balances Receivable on Sale of Investments	Based on Form 4EBS, line 13(f).

c) (i) Particulars of reinsurance balances by BSCR rating - (i) amounts receivable on account of policies of reinsurance from any person, whether an affiliate or not, should be included; (ii) any amount included in 'Accounts and Premiums Receivable' and 'Funds Held by Ceding Reinsurers' should not be included; (iii) all uncollectible amounts, as determined by the insurer, should be deducted.

	Line Item	Statement Source – The Rules
1	BSCR rating 0	Based on Schedule XVIII column E
2	BSCR rating 1	Based on Schedule XVIII column E
3	BSCR rating 2	Based on Schedule XVIII column E
4	BSCR rating 3	Based on Schedule XVIII column E
5	BSCR rating 4	Based on Schedule XVIII column E
6	BSCR rating 5	Based on Schedule XVIII column E
7	BSCR rating 6	Based on Schedule XVIII column E
8	BSCR rating 7	Based on Schedule XVIII column E
9	BSCR rating 8	Based on Schedule XVIII column E
10	Less: Diversification adjustment	Based on Schedule XVIII column E
11	Total	Sum of c(i) 1 to 10

Instructions Affecting Credit Risk

D22.5 All accounts and premiums receivable and all other receivables that are subject to capital charges within the credit risk charge shall be included;

D22.6 All accounts and premiums receivable, reinsurance balances receivables, all other receivables, and reinsurance recoverable balances shall be reported on a basis consistent with that used for purposes of statutory financial reporting;

D22.7 'Collateralized balances' for the purposes of this paragraph shall mean assets pledged in favor of the insurer relating to accounts and premiums receivable as prescribed by the BMA Capital charge factors for $debtor_i$;

D22.8 The net qualifying exposure which is comprised of reinsurance balances receivable and reinsurance balances recoverable, less the corresponding reinsurance balances payable and other payables less the qualifying collateral issued in favor of the insurer in relation to the reinsurance balances;

D22.9 The 'net qualifying exposure' referenced in paragraph D22.8) above shall be subject to the BMA prescribed credit risk capital factor;

D22.10 The total capital requirement relating to the reinsurance balances shall be reduced by a diversification adjustment of up to a maximum of 40%;

D22.11 The 'diversification' adjustment' referenced in paragraph D22.10) above shall be determined by calculating 40% multiplied by 1 minus the ratio of the largest net reinsurance exposure, on an individual reinsurer basis, to total net reinsurance exposure;

D22.12 Amounts are to be reported on an EBS valuation basis

D23. INSURANCE RISK – MORTALITY ($BSCR_{Corr}$)

Background

D23.1 Insurance products that are considered to be exposed to mortality risk include term assurance, whole life, universal life, and accidental death and dismemberment insurance. These exclude life policies with critical illness acceleration riders.

D23.2 The insurance risk-mortality charge is calculated by applying a capital factor to the respective net amount at risk. The capital risk factors are applied on an additive basis (i.e. 3.97/1000 on first $1 billion of business, plus 1.80/1000 on the next $4 billion of business, etc.).

D23.3 A 50% reduction is applied to adjustable products and accidental death products. Adjustable products are defined as any insurance contracts in which the insurer has the ability to make a material adjustment to the premiums / cost of insurance charges / dividends, based on recent experience.

Insurance Risk – Mortality Capital Charge

D23.4 The insurance risk - mortality charge calculation can be summarised by the following formula:

$$C_{LTmort} = [\sum_i \alpha 1_i \times NAAR1_i] + [\sum_i \alpha 2_i \times NAAR2_i],$$ where

$\alpha 1_i$ = capital charge factor for adjustable mortality long-term business;

$NAAR1_i$ = the net amount at risk of all adjustable mortality long-term business;

$\alpha 2_i$ = capital charge factor for non-adjustable mortality long-term business; and

$NAAR2_i$ = the net amount at risk of all non-adjustable mortality long-term business.

Items

Column Item		Description
1	Net Amount At Risk	Column item 1: Net amount at risk for adjustable products/treaties, as reported on Schedule VII EBS, column (9), line 1; and Net amount at risk for non-adjustable products/treaties, as reported on Schedule VII, column (10), line 1.
2	Capital Factor	Column item 2: Supplied by the BMA; capital charge factors applied to individual net amount at risk for (a) adjustable products/treaties; and (b) non-adjustable products/treaties.
3	Required Capital	Column item 3: Calculated using [column item 1 x column item 2] for both (a) and (b) and summed up.

D24. INSURANCE RISK – STOP LOSS ($BSCR_{Corr}$)

Background

D24.1 A capital factor is applied to the respective net annual earned premiums of stop loss covers provided.

Insurance Risk – Stop Loss Capital Charge

D24.2 The insurance risk – stop loss charge calculation can be summarised by the following formula:

C_{LTsl} = 50% x net annual premium for stop loss covers.

Items

Column Item		Description
1	Net Annual Premium	Column item 1: Net annual premium for stop loss covers, as reported on Schedule VII EBS, column (11), line 14.
2	Capital Factor	Column item 2: Supplied by the BMA; capital charge factors applied on net annual premiums for stop loss covers.
3	Required Capital	Column item 3: Calculated using [column item 1 x column item 2].

D25. INSURANCE RISK – RIDERS ($BSCR_{Corr}$)

Background

D25.1 For any other product riders not included in the following insurance risk charges: i) mortality; ii) morbidity and disability; iii) longevity; and iv) stop loss, a capital factor is applied to the respective net annual earned premiums.

Insurance Risk – Riders Capital Charge

D25.2 The insurance risk – riders charge calculation can be summarised by the following formula:

$C_{LTr} =$ 25% x net annual premium for insurance product riders not included elsewhere.

Items

Column Item		Description
1	Net Annual Premium	Column item 1: Net annual premium for other product riders, as reported on Schedule VII EBS, column (11), line 15.
2	Capital Factor	Column item 2: Supplied by the BMA; capital charge factors applied on net annual premiums for other products riders.
3	Required Capital	Column item 3: Calculated using [column item 1 x column item 2].

D26. INSURANCE RISK – MORBIDITY AND DISABILITY ($BSCR_{Corr}$)

Background

D26.1 Morbidity and disability risks are separated by critical illness insurance products and health insurance products.

D26.2 For critical illness insurance products, including accelerated critical illness insurance products, a prescribed capital factor is applied to the net amount at risk, on an additive basis. A 50% reduction in the capital risk factors is applied to adjustable products.

D26.3 Health insurance products include disability income products, long-term care insurance products, waiver of premium benefits, and other accidental and sickness products.

Insurance Risk – Morbidity and Disability Capital Charge

D26.4 The insurance risk – morbidity and disability charge calculation can be summarised by the following formula:

$C_{LTmorb} =$ (a) + (b) + (c) + (d) + (e) where:

a) = 7% x BSCR-adjusted reserves for disability income claims in payment on waiver of premium and long-term care;

b) = 10% x BSCR-adjusted reserves for disability income claims in payment on other accident and sickness products;

c) $= \left[\sum_i \alpha_i \times NAP_i \right]$ Where –

α_i = individual NAP_i capital charge factor;

NAP_i = the Net Annual Premium for disability income business – active lives;

d) = 12% x net annual premiums for disability income - active lives for other accident and sickness; and

e) $= \left[\sum_i \alpha 1_i \times NAAR1_i \right] + \left[\sum_i \alpha 2_i \times NAAR2_i \right]$ Where –

$\alpha 1_i$ = capital charge factor for adjustable critical illness insurance business;

$NAAR1_i$ = the Net Amount at Risk of all adjustable critical illness insurance business in force;

$\alpha 2_i$ = capital charge factor for non-adjustable critical illness insurance business; and

$NAAR2_i$ = the Net Amount at Risk of all non-adjustable critical illness insurance business in force.

Items

a) <u>Subtotal Charge for Critical Illness</u>

	Column Item	Description
1	Net Amount At Risk	Column item 1: Net amount at risk for adjustable products/treaties, as reported on Schedule VII EBS, column (9), line 2; and Net amount at risk for non-adjustable products/treaties, as reported on Schedule VII , column (10), line 2.
2	Capital Factor	Column item 2: Supplied by the BMA; capital charge factors applied to individual net amount at risk for (a) adjustable products/treaties; and (b) non-adjustable products/treaties.
3	Required Capital	Column item 3: Calculated using [column item 1 x column item 2] for both (a) and (b) and summed up.

b) Subtotal Charge for Disability Income (Active Lives with Premium Guarantee)

	Column Item	Description
1	Net Annual Premium	Column item 1: Net annual premium with benefit period of less than or equal to two years listed according to length of premium guarantee, as reported on Schedule VII EBS, column (9) - (i) Premium guarantee of less than one year – line 7(a), (ii) Premium guarantee of more than one year but less than five years – line 7(b), and (iii) Premium guarantee of over five years – line 7(c); and Net annual premium with benefit period of greater than two years listed according to length of premium guarantee, as reported on Schedule VII EBS, column (10) — (i) Premium guarantee of less than one year – line 7(a), (ii) Premium guarantee of more than one year but less than five years – line 7(b), and (iii) Premium guarantee of over five years – line 7(c).
2	Capital Factor	Column item 2: Supplied by the BMA; capital charge factors applied to individual a) Net annual premiums with benefit period of less than or equal to two years according to the length of premium guarantee – (i) Less than one year, (ii) More than a year but less than five years, and (iii) Over five years; and b) On net annual premiums with benefit period of greater than two years according to the length of premium guarantee – (i) Less than one year, (ii) More than a year but less than five years, and (iii) Over five years.
3	Required Capital	Column item 3: Calculated using [column item 1 x column item 2] for both (a) and (b) for each length of premium guarantee provided – (i), (ii) and (iii) – and summed up.

c) Subtotal Charge for Disability Income (Claims in Payment)

Column Item		Description
1	BSCR Adjusted Reserve	Column item 1: (a) Disability income: claims in payment relating to waiver of premium and long-term care, as reported on Schedule VII EBS, column (7), line 9; and Disability income: claims in payment relating to other accident and sickness, as reported on Schedule VII EBS, column (7), line 10.
2	Capital Factor	Column item 2: Supplied by the BMA; capital charge factors applied to individual BSCR-adjusted reserves with respect to disability income – claims in payment relating to (a) waiver of premium and long-term care, and (b) other accident and sickness.
3	Required Capital	Column item 3: Calculated using [column item 1 x column item 2] for both (a) and (b) and summed up.

d) Subtotal Charge for Disability Income (Active Lives for other accident and sickness products):

Column Item		Description
1	Net Annual Premium	Column item 1: Net annual premium for disability income (active lives), including other accident and sickness; as reported on Schedule VII EBS, column (11), line 8.
2	Capital Factor	column item 2: Supplied by the BMA; capital charge factor applied on the net annual premium for disability income – active lives.
3	Required Capital	Column item 3: Calculated using [column item 1 x column item 2].

e) Total Charge – Calculated using lines [(a) + (b) + (c) + (d)] above; the resulting figure is carried to the Summary section.

D27. INSURANCE RISK – LONGEVITY ($BSCR_{Corr}$)

Background

D27.1 Products that are considered to be exposed to longevity risks include, but are not limited to, payout annuities and contingent annuities.

Insurance Risk – Longevity Capital Charge

D27.2 The insurance risk – longevity charge calculation can be summarised by the following formula:

$$\boxed{C_{LTlong} = \sum_i \alpha_i \times BAR_i}$$

Where –

α_i = individual BAR_i capital charge factor; and

BAR_i = the BSCR-adjusted reserves for long-term products with longevity risk.

Items

Column Item		Description
1	BSCR Adjusted Reserves	Column item 1: BSCR adjusted reserves for long-term products with longevity risk as follows: a) Immediate pay-out annuities, contingent annuities, pension pay-outs according to the attained age of annuitant, as reported on Schedule VII EBS, column (7): (i) 0-55 – line 3(a) (ii) 56-65 – line 3(b) (iii) 66-70 – line 3(c) (iv) 71-80 – line 3(d) and (v) 81+ – line 3(e); and b) Deferred pay-out annuities, future contingent annuities, future pension pay-outs according to the age at which the annuity benefits commence, as reported on Schedule VII EBS, column (7): (i) 0-55 – line 4(a) (ii) 56-60 – line 4(b) (iii) 61-65 – line 4(c) (iv) 66-70 – line 4(d) (v) 71-75 – line 4(e) and (vi) 76+ – line 4(f)
2	Capital Factor	Column item 2: Supplied by the BMA; capital charge factor applied to individual BSCR-adjusted reserves for longevity risk for both (a) immediate pay-out annuities, contingent annuities, pension pay-outs – (i) to (v); and (b) deferred pay-out annuities, future contingent annuities, future pension pay-outs – (i) to (vi).
3	Required Capital	Column item 3: Calculated using [column item 1 x column item 2] for both (a) and (b) for each attained age of annuitant and for each age at which the annuity benefits commence, respectively, and summed up.

Instructions Affecting Longevity Risk

a) For joint and survivor annuities, the youngest age should be used.

D28. OTHER INSURANCE RISK ($BSCR_{Corr}$)

Background

D28.1 The other insurance risk captures other risks related to policyholder behaviour, expenses and guarantees.

Other Insurance Risk Capital Charge

D28.2 The other insurance risk charge calculation can be summarised by the following formula:

$$\boxed{C_{LToth} = \sum_i \alpha_i \times BAR_i}$$ Where:

α_i = individual BAR_i capital charge factor; and
BAR_i = the BSCR-adjusted reserves for other insurance risk.

Items

Line Item		Description
1	BSCR Adjusted Reserves	Column item 1: Current year BSCR adjusted reserves by the fifteen predefined lines, as reported on Schedule VII EBS, column (1), lines 1 to 15.
2	Capital Factor	Column item 2 Supplied by the BMA; capital charge factors applied to individual BSCR adjusted reserves for other insurance risk.
3	Required Capital	Column item 3: Calculated using [column item 1 x column item 2] for each line item.

D29. LAPSE RISK ($\boldsymbol{BSCR_{Corr}}$)

Background

D29.1 The Lapse Risk submodule specifies the BSCR capital requirements for lapse risk. Lapse risk means the risk of loss, or of adverse change in the value of liabilities (and assets, where applicable), resulting from changes in the level or volatility of lapse rates, including but not limited to rates of policy lapse, termination, renewal and surrender.

D29.2 For the calculation of the Lapse Risk capital charge, $C_{LTlapse}$, please refer to paragraph 44A of the Group Rules[8]. These Instructions should be read together with the Rules.

Instructions

General – Scope

D29.3 The lapse stresses apply to all long-term business with potential lapse risk exposure (i.e., where any relevant policyholder options exist), regardless of the reporting line under Form 4EBS, including without limitation 'separate account' business, 'segregated account' business and entities that are members of the insurer that are registered to operate segregated accounts in accordance with the Segregated Accounts Companies Act 2000.

General – Valuation under stress (Post-stress value of assets and liabilities)

D29.4 For the avoidance of doubt, the lapse stresses would generally not be expected to impact asset side. That is, the lapse stresses do not normally affect the t=0 value of actual assets on the balance sheet; instead, any impacts would come through increase or decrease in liability values (BEL), as the lapse stresses change the projected cash flows and therefore the expected present values of those cash flows. The t=0 market value of balance sheet assets would only be expected to change to the extent that lapse-sensitive assets were held, e.g. financial derivatives whose value is tied to, or impacted by, lapses.

General – Homogeneous risk groups (Lapse risk calculation)

D29.5 Determining the capital requirement for lapse risk involves recalculation of the BEL under the specified stresses. As a starting point, companies are expected to use the same groupings (if any) in the cash flow projections under the shocks as they are using for the normal BEL calculation. However, the use of groupings must continue to meet the requirements of paragraph 35(2) of Schedule XXV (Economic Balance Sheet valuation principles) also under the lapse stresses (like under any other stresses/shocks in the BSCR). It is possible that in some cases this could require further refining the groupings, to avoid

[8] Insurance (Prudential Standards) (Insurance Group Solvency Requirement) Rules 2011, as amended.

grouping policies with different lapse risk exposures.[9] Note that if the BEL calculation is done policy by policy, then the above is not applicable.

D29.6 When no offset is allowed, the application of the lapse shocks requires identifying those policies (or homogeneous groups of policies) for which lapse leads to a loss on the EBS basis ('lapse-sensitive' policies) and those policies for which lapse leads to a gain on the EBS basis ('lapse-supported' policies). Under the no-offset basis, the lapse stresses where lapses increase (i.e., lapse up and mass lapse) should only be applied to those policies where lapsing is adverse for the company; and the lapse stress where lapses decrease (i.e., lapse down) should only be applied to those policies where lapsing would be beneficial for the company. The homogeneous risk groups used in the calculation could correspond to the groupings ordinarily used by the company in its internal reporting of technical provisions and in the management of its business, provided that there is no material offsetting caused by such groupings: policies with directionally different sensitivities to lapse risk should not be included within the same homogeneous risk group. Where this may not otherwise be the case, the groupings used in the calculation should be appropriately refined. In practice this means that the separation of lapse-sensitive and lapse-supported policies should be ensured for the purposes of the calculation. Companies may apply proportionality and materiality considerations where appropriate, however this should not lead to material error or misrepresentation of lapse risk.

D29.7 In general, the homogeneous risk groups would be expected to be established, at a minimum, by product and (where applicable) by counterparty. However, to ensure no material offsetting of lapse risk, more granularity may be required depending on the case. To give just one example, if within a given product there are policies issued at different times with different guaranteed rates, then those policies with low and high guaranteed rates might exhibit different lapse sensitivity (e.g., lapsing of the former might lead to a loss and lapsing of the latter to a gain); in such a case, the homogeneous risk groups might need to be established by guaranteed rate in addition to by product (and counterparty).

Paragraph 44A.(a) – Modified discounting under the scenario-based approach

D29.8 The valuation of assets and liabilities is performed on an EBS valuation basis. Upon application, insurers that use the scenario-based approach may elect to use a modification to keep the scenario-based approach discounting unchanged under mass lapse stress, subject to prior written approval from the Authority.

D29.9 Insurers may choose to apply for one of two modifications for discounting under the mass lapse stress:

A) Use the implied SBA yield.
B) Use the implied book yield of the assets required to back the SBA BEL (determined on market value basis).

[9] E.g., where model points may be used, the construction of the model points should not lead to inherent offsetting with respect to lapse risk. That is, policies with different directions of lapse sensitivity (lapse-supported and lapse-sensitive policies) should not be included within the same model point.

D29.10 The selected approach must be applied consistently to all business for which the SBA is used. Switching between approaches is not permitted (unless specifically approved by the Authority).

Alternative option A

D29.11 Under this modification, the implied SBA yield is determined as the yield that equates the expected present value of the worst scenario liability cash flows to the market value of the SBA initial asset requirement in the worst scenario (i.e., the SBA BEL). The post-stress BEL under the mass lapse stress is then determined by calculating the expected present value of the stressed liability cashflows, using the implied SBA yield for discounting. Note that this approach is similar to how the mass lapse capital requirement is calculated under the Standard Approach, but uses the implied SBA yield instead of the Standard Approach discount curve.

D29.12 Alternatively, insurers may choose to use the base scenario instead of the worst scenario for the purposes of paragraph D35.11 above.

Alternative option B

D29.13 Under this modification, the calculation is done as follows:

1. Determine the set of assets required to cover liabilities in the worst scenario (this is done on a market value basis as per usual SBA calculation).

2. Determine the book value, as of the valuation date, of the set of assets identified in point 1.

3. Solve for the discount rate that equates the expected present value of liability cash flows to the book value in point 2; where the liability cash flows are based on the worst scenario (to the extent that those cash flows depend on interest rates).

4. For the purposes of the mass lapse capital charge calculation, the pre-stress BEL and post-stress BEL are determined as the expected present value of pre-stress liability cash flows and stressed liability cash-flows, respectively; where the constant discount rate determined in point 3 is used for discounting in both cases.

D29.14 Alternatively, insurers may choose to use the base scenario instead of the worst scenario for the purposes of paragraph D35.13 above.

Requirements

D29.15 The approval is subject to the following requirements:

(i) Insurers shall provide details on the calculation of the applicable discount rate/yield, and include these details as an attachment to the annual filings.

(ii) Insurers shall provide the results of the unmodified mass lapse stress i.e., the results when applying the mass lapse stress from first principles within the SBA, including modelling of any required asset sales within the projections and the impact of those sales. Insurers are to provide the results annually, or at such another frequency as approved by the Authority as part of the application.

(iii) Insurers shall provide a memo demonstrating how they could avoid the outright sale of the SBA assets in case a mass lapse event equal to the BSCR stresses occurred (e.g., by utilizing lines of credit, etc.), and the impacts, costs and implications of such actions.

D29.16 Additional requirements for option B:

(iv) Insurers shall provide details regarding the turnover of assets in the SBA portfolio (or in each of the SBA portfolios). Starting from the first annual renewal of the application, this should include percentage of assets sold in the portfolio during the last year (as a percentage of total portfolio); and should build to include this figure for the last three years.

Paragraph 44A.(c)(i) – Lapse stresses for Europe and the UK

D29.17 The lapse stresses to be applied to determine the lapse risk charges for all European and UK business are those specified in the applicable local laws, rules and regulations in force as of the valuation date (local lapse stresses).[10]

D29.18 The local lapse stresses shall be exactly as prescribed in the relevant local rules, including but not limited to in terms of:

a) Specification, form and scope;
b) Stress magnitudes; and
c) Implementation details.

D29.19 The last point covers all aspects related to the implementation and application of the shocks, including but not limited to allowance or disallowance of offsets, and the nature of the stress (e.g., instantaneous shock or otherwise).

[10] I.e., as prescribed in the Commission Delegated Regulation (EU) 2015/35 of 10 October 2014 supplementing Directive 2009/138/EC of the European Parliament and of the Council on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II), as amended. For the purposes of this paragraph, any reference to any laws, rules and regulations shall also include successors to and functionally equivalent replacements of such laws, rules and regulations.

D29.20 While the stresses themselves are to be applied as prescribed by the applicable local laws, rules and regulations, the valuation of assets and liabilities is to be done on the EBS basis, in both the base case and under the stresses.

Paragraph 44A.(c)(ii) – Implementation and application details for regions excluding Europe & UK

Paragraph 44A.(c)(ii)(A) – Lapse Up stress (regions exclude Europe and the UK)

D29.21 The lapse up stress is specified as a relative percentage increase applied to all applicable best estimate lapse rates used to determine the BEL – refer to the principal Rules for the required details. This is an instantaneous permanent shock. No offsets can be assumed in the calculation. The liability values (and asset values, where applicable) are to be recalculated under the lapse stress by re-projecting cashflows using the shocked lapse rates.

- For the sake of a simple example, assume the lapse up stress is +40% and the best estimate (full) surrender rate and partial surrender rate for a given (lapse-sensitive) policy are 5.0% p.a. and 2.0% p.a., respectively. Then the stressed full and partial surrender rates to be used to determine the post-stress BEL (together with any other potential stressed lapse rate assumptions) are (1 + 40%) x 5.0% = 7.0% and 1.4 x 2.0% = 2.8% p.a., respectively.

D29.22 Where dynamic lapse functionality is used, the relative lapse stresses are to be applied to the ‘base’ lapse rates i.e., to the lapse rates before the application of the dynamic functionality. The stressed base lapse rates are then passed through the dynamic lapse function/formulas to arrive at the actual stressed lapse rates to use.

D29.23 SBA users have the option to apply the lapse up stress under the SBA base scenario. This choice should be appropriately documented and disclosed in the filings.

Paragraph 44A.(c)(ii)(B) – Lapse Down stress (regions exclude Europe and the UK)

D29.24 The lapse down stress is specified as a relative percentage decrease applied to all applicable best estimate lapse rates used to determine the BEL – refer to the principal Rules for the required details. This is an instantaneous permanent shock. No offsets can be assumed in the calculation. The liability values (and asset values, where applicable) are to be recalculated under the lapse stress by re-projecting cash flows using the shocked lapse rates.

- For the sake of a simple example, assume the lapse down stress is -40% and the best estimate (full) surrender rate and partial surrender rate for a given (lapse-supported) policy are 5.0% p.a. and 2.0% p.a., respectively. Then the stressed full and partial surrender rates to be used to determine the post-stress BEL (together with any other applicable stressed lapse rate assumptions) are (1 - 40%) x 5.0^% = 3.0% and 0.6 x 2.0% = 1.2% p.a., respectively.

D29.25 Where dynamic lapse functionality is used, the relative lapse stresses are to be applied to the 'base' lapse rates i.e., to the lapse rates before the application of the dynamic functionality. The stressed base lapse rates are then passed through the dynamic lapse function/formulas to arrive at the actual stressed lapse rates to use.

D29.26 SBA users have the option to apply the lapse down stress under the SBA base scenario. This choice should be appropriately documented and disclosed in the filings.

Paragraph 44A.(c)(ii)(C) – Mass Lapse stress (regions exclude Europe and the UK)

D29.27 The mass lapse stress is specified as an immediate discontinuance of policies during the first projection year.

D29.28 The annual mass lapse stress magnitude, for each policy, is the higher of:

a. Three times (3x) the applicable base lapse rate assumption for that policy; and
b. The absolute floor for the specific product type as detailed in the principal Rules.
The mass lapse stress is absolute, not additive.

D29.29 The base lapse rates used for the purposes of deriving the mass-lapse shock magnitudes refer to the base lapse assumptions used to determine the BEL (before any adjustments for dynamic lapses).

- For example, if the annual base surrender rate was 15%, then the immediate mass lapse stress to be applied would involve a surrender of 3x15% = 45% of the policies over the first 12 months. If the base surrender rate was 10%, the immediate mass lapse stress would involve a 30% p.a. surrender rate (in both cases before the application of the floors, if applicable).

D29.30 The stressed mass lapse rate shall apply for the first 12 months within the projections used to determine the BEL.

- For example, assume that the annual base surrender rate applicable to a given policy was 10% and the resulting rate under the mass lapse stress was 30%. Applying the mass lapse stress would involve replacing the best estimate surrender rate for the policy with the absolute mass lapse surrender rate (i.e., 30% annual surrender rate) for the first year within the projections.
    - Regardless of the time step used (e.g., whether monthly, or annual), the proportion of the policy in force at the end of the first year should be 70% (if only accounting for surrenders i.e., when ignoring any other decrements).

D29.31 After the first 12 months, the impact of the mass lapse stress ceases and the lapse rates revert to their non-stressed (best estimate) values for the remainder of the projection.

D29.32 The mass lapse charge shall be calculated both without offset (NoOffset) and with full offset (FullOffset), and the average of the two calculations will determine the final mass lapse capital requirement, as detailed in the principal Rules.

D29.33 SBA users have the option to apply the mass lapse stress under the SBA base scenario.

Paragraph 44A.(c)(ii)(C) – Mass Lapse (regions excluding Europe and the UK): Product categories

D29.34 All products under categories B.NR, D.NR, and C.R require the Authority's approval.

D29.35 Insurers, upon written approval from the Authority, can apply higher shocks and choose not to breakdown products into the four defined categories for each of 'retail' and 'non-retail' business. However, once approved, they cannot switch back to the defined approach without the Authority's written approval.

D29.36 The "+" in *"Accumulation FIA and FA with guaranteed crediting rate or option budget greater than 10-yr Treasury Rate + 200bps + with at least 3 years of surrender charge period remaining + material GWLB;"* should be interpreted as an 'and' i.e., all conditions have to be met to qualify.

D29.37 Applications for approval of proposed shocks as required under the Rules shall include:

D29.i. A quantitative and qualitative assessment of the materiality of the mitigating features.

D29.ii. A demonstration of how the requested charge compares with historical lapse experience.

D29.iii. An assessment of the extent to which the mass lapse products classification could change due to passage of time and changing market conditions and the impact on the mass lapse capital requirement thereof. A summary of the insurer's liquidity stress testing results.

D29.38 Tax penalties and market value adjustments (MVA) do not qualify as risk mitigating for purposes of the mass lapse stress. The impact of any MVAs upon withdrawal shall still be included in the cash flows.

Further Instructions – Variable Annuities and Lapse Risk

D29.39 The full extent of lapse risk must be reflected for Variable Annuities, including both for VA guarantees and for VA base policies; and regardless of whether the standard capital factors or the Internal Capital Model approach for Variable Annuity Guarantee Risk is used in BSCR.

Standard capital factor approach for Variable Annuity Guarantee Risk

D29.40 The calibration of the standard factors for VA guarantee risk does not include lapse risk (or expense risk). Where the standard factors are used, the subject business must be separately included in the BSCR lapse risk calculation (as well as the BSCR expense risk calculation). The lapse risk (and expense risk) for the base policies must also be reflected in full by including the base policies in the lapse risk (and expense risk) calculation, where applicable.

Internal Capital Model approach for Variable Annuity Guarantee Risk

D29.41 Where the Internal Capital Model approach for the VA guarantee risk is used, the internal model must i) include explicit stresses for lapse (and expense) risk; and ii) the stresses must be comparable to the applicable BSCR stresses (being no lower overall).

D29.42 Where either of the above is not the case, the subject business must be separately included in the BSCR lapse risk calculation (as well as the BSCR expense risk calculation).

D29.43 In all cases, it must be ensured that the full extent of lapse risk (and expense risk) is captured for all VA guarantees as well as for all base policies, as applicable.

D29.44 For the avoidance of doubt, modelling dynamic lapses that depend on interest rates is not considered sufficient to capture the lapse risk for BSCR; the requirement is that the base lapse rates themselves must be shocked within the calculation (before passing through the dynamic lapse formulas).

Further Instructions – Management Actions

D29.45 Insurers may reflect management actions (i.e., the Loss-Absorbing Capacity of Technical Provisions) within the lapse risk calculation, in line with the other shock-based BSCR risk modules. However, the management actions must comply with all the requirements set out in Section B6, and are restricted to management actions directly affecting the value of Future Discretionary Benefits (FDB).

Further Instructions – Risk Margin calculation under LT Insurance Risk (Lapse and Expense Risk) transitional

D29.46 When projecting future Long-Term Insurance Risk charges for the purposes of the Risk Margin calculation only, insurers may choose to keep the transitional factor related to lapse and expense risks – LT_Transitional Factor, as defined in paragraph 25 of the Group Rules – fixed at its actual value as of the applicable valuation date i.e., without reflecting further run-off of the transitional within the Risk Margin projection.

D29.47 For example, at 2024YE, the 10% weight for the new basis LT Insurance Risk charge may be kept fixed at 10% for all future projection years, for the purposes of the Risk Margin calculation at that date. For the avoidance of doubt, for valuation done at 2025YE, the new basis weight would have increased to 20%, and then this should be applied to all future projection years, etc. Further, it should be noted that the run-off of the previous transitional (from 'YE2018' BSCR basis to 'YE2019' BSCR basis) should be reflected in the risk margin calculation regardless.

D29.48 Given the two transitions between three BSCR bases going on until 2028, the below table illustrates the effective weights applicable to each basis at each point in time. Note that, starting from the given point in time and the weights associated with that point, the run-off of the old transitional (from '2018YE' basis to '2019YE' basis still needs to be reflected even if the option to keep the new transitional weights 'frozen' is adopted; this is not shown in the table where the time dimension is valuation year ends, not projection years (but see the paragraphs further below for illustration).

Transitional weights, LT Insurance Risk: effective weights applying to each 'BSCR basis' under LT Insurance Risk as of given valuation date

Year End	'2018YE' / old BSCR basis **(old LT charges)**	'2019YE' / current BSCR basis **(old LT charges)**	'2024YE' / current BSCR basis **(new LT charges)**
2024	40%	54% (60%x90%)	6% (60%x10%)
2025	30%	56% (70% x 80%)	14% (70% x 20%)
2026	20%	56% (80% x 70%)	24% (80% x 30%)
2027	10%	54% (90% x 60%)	36% (90% x 40%)
2028	0%	50% (100% x 50%)	50% (100% x 50%)
2029	0%	40% (100% X 40%)	60% (100% x 60%)
2030	0%	30% (100% X 30%)	70% (100% x 70%)
2031	0%	20% (100% X 20%)	80% (100% x 80%)
2032	0%	10% (100% X 10%)	90% (100% x 90%)
2033	0%	0%	100%
2034	0%	0%	100%

Further detail on applying the transitionals within the Risk Margin calculation

D29.49 When projecting forward the total LT Insurance Risk charge on the 'new BSCR basis' for the purposes of the Risk Margin calculation, the transitional weights applied within the total LT Insurance Risk charge may be kept fixed at the actual level prevailing as of the valuation date, as already described above. For the avoidance of doubt, it is noted that the transitional weights will evolve normally through time in the 'real-world'; the future running-off of the transitionals is just not reflected within the risk margin calculation at any given valuation date.

D29.50 It is also noted that, for the Risk Margin calculation, it is the weights of the new transition that may be kept constant while the 'old' transition will keep going. For year-ends 2024-2027 i.e., as long as the existing 'old' transition is still running in parallel, the weights referred to in the table above are to be taken as the starting point, and then the running off of the old transition is to be reflected. The table below shows an example of this for the YE2025 valuation, starting from the weights applying at the year-end 2025 valuation date as per the table above.

Example: RM calc at Year End 2025 **Projection year**	'2018YE' / **old LT charges**	'2019YE' **/ old LT charges**	'2024YE' **/ new LT charges**
0	30%	56% (70% x **80%**)	14% (70% x **20%**)
1	20%	64% (80% x **80%**)	16% (80% x **20%**)
2	10%	72% (90% x **80%**)	18% (90% x **20%**)
3	0%	80% (100% x **80%**)	20% (100% x **20%**)
4	0%	80% (100% X **80%**)	20% (100% x **20%**)
5	0%	80% (100% X **80%**)	20% (100% x **20%**)
6	0%	80% (100% X **80%**)	20% (100% x **20%**)
7	0%	80% (100% X **80%**)	20% (100% x **20%**)
8	0%	80%	20%
9+	0%	80%	20%

D30. EXPENSE RISK ($BSCR_{Corr}$)

Background

D30.1 The Expense Risk submodule specifies the BSCR capital requirements for expense risk. Expense risk means the risk of loss, or of adverse change in the value of liabilities (and assets, where applicable) resulting from changes in the level, trend or volatility of the expenses incurred in servicing contracts of insurance.

D30.2 For the calculation of the Lapse Risk capital charge, $C_{LTexpense}$, please refer to paragraph 44B of the Group Rules[11]. These Instructions should be read together with the principal Rules.

Instructions

<u>General – Scope</u>

D30.3 The expense stresses apply to all long-term business, regardless of the reporting line under Form 4EBS, including without limitation 'separate account' business, 'segregated account' business and entities that are members of the insurer that are registered to operate segregated accounts in accordance with the Segregated Accounts Companies Act 2000.

<u>General – Valuation under stress (Post-stress value of assets and liabilities)</u>

D30.4 For the avoidance of doubt, the expense stresses would generally not be expected to impact asset side. That is, the expense stresses do not normally affect the t=0 value of actual assets on the balance sheet; instead, any impacts would come through increase or decrease in liability values (BEL), as the expense stress changes the projected cash flows and therefore the expected present value of those cash flows. The t=0 market value of balance sheet assets would only be expected to change to the extent that expense-sensitive assets were held, e.g., financial derivatives whose value is tied to, or impacted by, the level or change in expenses.

<u>General – Contractually fixed expenses, perimeter of the calculation, and use of service companies</u>

D30.5 Where expenses are contractually set, any clauses or options in the contract allowing expense increases (including on contract extension or renegotiation) shall be taken into account and assumed to be utilised, up to an increase in overall expenses that is equal in magnitude to the applicable expense stress. That is, where the contract(s) make it possible for expenses to increase, such increase shall be assumed to take place, at the earliest date(s) possible, up to the level of the applicable expense stress.

---

[11] Insurance (Prudential Standards) (Insurance Group Solvency Requirement) Rules 2011, as amended.

D30.6 Where expenses, variability related to expenses, or expense risk, are being transferred outside of a regulated insurance entity by way of any contractual arrangement, such arrangements shall be disclosed to the Authority.

D30.7 The above-mentioned arrangements may be subject to review to determine their appropriateness and the extent of true and effective economic risk transfer on a case-by-case basis. The Authority does not expect companies to enter into arrangements with the intention of circumventing expense risk or inappropriately lowering reserves or capital held for expenses/expense risk.

D30.8 Regarding all of the above, the approaches taken should have gone through internal governance with the appropriate senior management signoffs, as well as the review and sign-off of the Approved Actuary where applicable, and should be documented.

General – Valuation under stress (Post-stress value of assets and liabilities)

D30.9 Where an insurer may not have operational capability to apply the inflation stresses that vary by projection year, the insurer may as a simplification choose to apply the highest of the specified inflation stress numbers throughout the whole projection (or otherwise, enhance its operational capabilities to allow the full application of the specified stresses).

Further Instructions – Variable Annuities and Expense Risk

Standard capital factor approach for Variable Annuity Guarantee Risk

D30.10 The calibration of the standard factors for VA guarantee risk does not include expense risk (or lapse risk). Where the standard factors are used, the subject business must be separately included in the BSCR expense risk calculation (as well as the BSCR lapse risk calculation). The expense risk (and lapse risk) for the base policies must also be reflected in full by including the base policies in the expense risk (and lapse risk) calculation, where applicable.

Internal Capital Model approach for Variable Annuity Guarantee Risk

D30.11 Where the Internal Capital Model approach for the VA guarantee risk is used, the internal model must i) include explicit stresses for expense (and lapse) risk; and ii) the stresses must be comparable to the applicable BSCR stresses (being no lower overall).

D30.12 Where either of the above is not the case, the subject business must be separately included in the BSCR expense risk calculation (as well as the BSCR lapse risk calculation).

D30.13 In all cases, it must be ensured that the full extent of expense risk (and lapse risk) is captured for all VA guarantees as well as for all base policies, as applicable.

Further Instructions – Management Actions

D30.14 Insurers may reflect management actions (i.e., the Loss-Absorbing Capacity of Technical Provisions) within the expense risk calculation, in line with the other shock-based BSCR risk modules. However, the management actions must comply with all the requirements set out in Section B6 and are restricted to management actions directly affecting the value of Future Discretionary Benefits (FDB).

D31. VARIABLE ANNUITY GUARANTEE RISK ($BSCR_{Corr}$)

Background

D31.1 Variable annuity benefits are partitioned into five categories:

a) Guaranteed Minimum Accumulation Benefit (GMAB);
b) Guaranteed Minimum Death Benefit (GMDB),
c) Guaranteed Minimum Income Benefit (GMIB),
d) Guaranteed Minimum Withdrawal Benefit (GMWB), and
e) Guaranteed Enhanced Earnings Benefit (GEEB). Variable annuities contain various minimum guarantees that expose insurers to risks of a particularly volatile nature.

D31.2 The capital risk factors differentiate by volatility levels and are applied to the Net Amount at Risk (NAR). Volatility is defined as the annual historic volatility of the fund. In the case where there is no, or limited, history of the fund, use the volatility of the benchmark. Where the Guarantee Value (GV) is less than the Account Value (AV), the minimum floor factors are applied to the account values. The proportion used for the AV under reinsurance is the proportion used for net amount at risk.

D31.3 Net amount at risk (net of reinsurance) is defined as follows:

a) GMAB – total claim payable if all contracts mature immediately;
b) GMDB – total claim amount payable upon immediate death of all policyholders;
c) GMIB – total claim payable upon full and immediate annuitisation of all policies using an 80% factor applied to the GV (the 80% represents the ratio between current market annuitisation factors and the guaranteed annuitisation factors);
d) GMWB – total claim payable if 100% of the guaranteed withdrawal benefit base in excess of the current AV is withdrawn immediately; and
e) GEEB – total guaranteed enhanced payments upon immediate death of all policyholders.

Variable Annuity Guarantee Capital Charge

D31.4 The variable annuity guarantee risk charge calculation can be summarised by the following formula:

C_{LTVA} = either $\left(\sum_i TotalBSReq_i - TotalBAR - TotalGMB_{adj}\right)$ or $(IMCReq_{LTVA})$

wherein —

$TotalBSReq_i$ = higher of (a) $(\alpha 1_i \times GV1_i + \alpha 2_i \times GV2_i + \alpha 3_i \times GV3_i)$ and (b) $(\alpha 4_i \times NAR1_i + \alpha 5_i \times NAR2_i + \alpha 6_i \times NAR3_i)$;

a) $TotalBAR$ = the total BSCR adjusted reserves for variable annuity guarantee risk;

b) $TotalGMDB_{adj}$ = capital requirement charged on Guaranteed Minimum Death Benefit (GMDB) policies multiplied by the percentage of GMDB with multiple guarantees;

c) $IMC\mathrm{Re}q_{LTVA}$ = the capital requirement for variable annuity guarantee risk determined in accordance with an insurer's internal capital model, if applicable;

d) $GV1_i$, $GV2_i$, $GV3_i$, $NAR1_i$, $NAR2_i$, and $NAR3_i$ are the guaranteed value and net amount at risk under each range of volatility for each specified variable annuity product risk; and

e) $\alpha 1_i$, $\alpha 2_i$, $\alpha 3_i$, $\alpha 4_i$, $\alpha 5_i$ and $\alpha 6_i$ are the capital factors applied to the guaranteed value and net amount at risk under each range of volatility for each specified variable annuity product risk.

Items

a) Factor-Based Capital Requirement

Column Item		Description
1	Guaranteed Values: Volatility 0%-10%	Column (1): Guaranteed values for each type of variable annuity risk with volatility that is less than or equal to 10% according to policy position (i.e., in/out-of-the-money); as reported on Schedule VIII EBS, column (2).
2	Capital Factor	Column (2): Capital factors supplied by the BMA for each type of variable annuity risk with volatility that is less than or equal to 10% according to policy position.
3	Guaranteed Values: Volatility 10%-15%	Column (3): Guaranteed values for each type of variable annuity risk with volatility that is more than 10% but less than 15% according to policy position; as reported on Schedule VIII EBS, column (3).
4	Capital Factor	Column (4): Capital factors supplied by the BMA for each type of variable annuity risk with volatility that is more than 10% but less than 15% according to policy position.
5	Guaranteed Values: Volatility >15%	Column (5): Guaranteed values for each type of variable annuity risk with volatility that is more than 15% according to policy position; as reported on Schedule VIII EBS, column (4).
6	Capital Factor	Column (6): Capital factors supplied by the BMA for each type of variable annuity risk with volatility that is more than 15% according to policy position.
7	Net Amount at Risk: Volatility 0%-10%	Column (7): Net amount at risk for each type of variable annuity risk with volatility that is less than or equal to 10% for in-the-money positions only; as reported on Schedule VIII EBS, column (5).

Column Item		Description
8	Capital Factor	Column (8): Capital factors supplied by the BMA for each type of variable annuity risk with volatility that is less than or equal to 10% for in-the-money positions only.
9	Net Amount at Risk: Volatility 10%-15%	Column (9): Net amount at risk for each type of variable annuity risk with volatility that is more than 10% but less than 15% for in-the-money positions only; as reported on Schedule VIII EBS, column (6).
10	Capital Factor	Column (10): Capital factors supplied by the BMA for each type of variable annuity risk with volatility that is more than 10% but less than 15% for in-the-money positions only.
11	Net Amount at Risk: Volatility >15%	Column (11): Net amount at risk for each type of variable annuity risk with volatility that is more than 15% for in-the-money positions only; as reported on Schedule VIIII EBS, column (7).
12	Capital Factor	Column (12): Capital factors supplied by the BMA for each type of variable annuity risk with volatility that is more than 15% for in-the-money positions only.
13	Capital Requirements	Column (13): Calculated using the maximum of [{column (1) x column (2) + column (3) x column (4) + column (5) x column (6)} or {column (7) x column (8) + column (9) x column (10) + column (11) x column (12)}]; less percentage of guaranteed minimum death benefit with multiple guarantees, as reported on Schedule VIII EBS, column (4), line 32, applied to GMDB; less total BSCR adjusted reserves for variable annuities.

b) Internal Model-Based Capital Requirement

Column Item		Description
1	Without Hedging	Column (1): The total capital requirement for variable annuity risk based on internal model results without taking into account hedging; as reported on Schedule VIIIA EBS, column (6), line 1.
2	With Hedging	Column (2): The total capital requirement for variable annuity risk based on internal model results taking into account hedging; as reported on Schedule VIIIA EBS, column (7), line 1.

D32. CAPITAL ADJUSTMENT ($BSCR_{Corr}$)

Background

D32.1 The capital adjustment represents the adjustment for the following:

a) the capital requirements for regulated non-insurance financial operating entities and shall comprise the capital adjustment;
b) adjustment for loss absorbing capacity of technical provisions; and
c) adjustment for absorbing capital of deferred taxes

which is added to the BSCR (after correlation adjustment) to arrive at the BSCR. The BSCR will be used to determine an insurer's ECR for the relevant year, as reported in the Summary section of the BSCR model.

Regulatory capital requirement adjustment

D32.2 The capital adjustment calculation can be summarised by the following formula:

C_{adj} = Regulatory capital requirement for regulated non-insurance financial operating entities.

Items

D32.3 Regulatory capital requirement for regulated non-insurance financial operating entities – this capital adjustment charge shall be determined in accordance with Schedule XVI, where this amount shall be equal to the sum of the insurer's proportionate share of each registered entity's regulatory capital in accordance with the applicable solvency rules of the jurisdiction where the entity was licensed or registered.

Capital Adjustment – Management Actions

D32.4 The adjustment for loss absorbing capacity of technical provisions due to management actions can be summarised by the following formula:

$$\boxed{Adj_{TP} = -\max(\min(Basic\ BSCR - Basic\ nBSCR, FDB), 0)}$$

Where—

$$\text{Basic BSCR} = \sqrt{\sum_{i,j} CorrBBSCR_{i,j} \times C_i \times C_j}$$

$$\text{Basic nBSCR} = \sqrt{\sum_{i,j} CorrBBSCR_{i,j} \times nC_i \times nC_j}$$

$CorrBBSCR_{i,j}$ = the correlation factors of the Basic BSCR correlation matrix as determined by Table A in section D16;

C_i = risk module *i* charge which are replaced by the following: C_{Market}, C_{LT}, C_{Credit};

C_{Market} = market risk module charge as determined by section D16.4;

C_{LT} = Long-Term risk module charge as determined by section D16.5; and

C_{Credit}

= credit risk module charge as determined by section D22.

nC_i = risk module i net charge which are calculated in the same way as C_i but by allowing the future discretionary benefits to change due to managements actions in accordance with the criteria prescribed in section B5, and which are replaced by the following:

nC_{Market}, nC_{LT}, nC_{Credit};

FDB = initial best-estimate liabilities for future discretionary benefits.

Capital adjustment – Deferred Taxes

D32.5 The capital adjustment charge calculation for loss absorbing capacity of deferred taxes can be summarised by the following formula:

$$C_{otheradj} = Min\left(\left((\text{Basic BSCR} + C_{operational} + C_{regulatoryadj} + C_{AdjTP}\right) \times t, Limit, \left(\text{Basic BSCR} + C_{operational} + C_{regulatoryadj} + C_{AdjTP}\right) \times 20\%\right)$$

Where —

Basic BSCR = Basic BSCR risk module charge as determined by section D16;

$C_{operational}$ = operational risk charge as determined by section D16.9;

$C_{regulatoryadj}$ = regulatory capital requirement for regulated non-insurance financial operating entities as determined by section D32.2;

C_{AdjTP} = adjustment for the loss-absorbing capacity of technical provisions as determined by section D32.4;

t = insurer's standard federal tax rate;

$Limit$ = $PastLAC + CurrentLAC + FutureLAC$;

$PastLAC$ = Loss Carryback Provision multiplied by t;

$CurrentLAC$ = Current Deferred Tax Liabilities minus Current Deferred Tax Assets; and

$FutureLAC$ = Risk Margin as reported on Form 4EBS line 27C multiplied by t;

E. SCENARIO-BASED APPROACH

Paragraphs 28-32 of Schedule XXVI for Class D and E insurers and Paragraphs 28-32 of Part XXVI for Class C insurers in the Rules[12] include requirements on the Scenario-Based approach (SBA). The Instructions in this section should be read together with these paragraphs in the Rules.

E1. Discretion BMA to require use of Scenario-Based Approach or Standard Approach

Background

E1.1 Paragraphs 28(2) and 28(3) of Schedule XXVI for Class D and E insurers and Paragraphs 28(2) and 28(3) of Part XXVI for Class C in the Rules include provisions for the Authority to require the use of the SBA or Standard Approach.

E1.2 The exercise of discretion by the Authority to determine whether an insurer must apply either the scenario-based approach or the standard approach to some or all of the Long-Term business written will be approached with careful consideration and responsibility. The Authority understands that such decisions impact both the strategy and operations of the insurer. Any exercise of this discretionary power will be undertaken judiciously, with a thorough evaluation of the specific circumstances and potential implications for the insurer, and industry dynamics.

E1.3 The Authority is committed to fostering open communication to ensure a transparent regulatory process and level playing field. Therefore, such determinations will only be made after due diligence and engagement with relevant stakeholders. The exercise of discretionary powers will be principle-based, is expected to be rare and will be aligned with the overarching goal of protecting policyholders and maintaining a stable insurance market. It should be noted that if the applicable regulatory requirements are being met, there is little need for the Authority to exercise this discretion.

[12] When in this section reference is made to the Rules, it is referred to Insurance (Prudential Standards) (Class C, Class D and Class E Solvency Requirement) Rules 2011, as amended.

E2. Attestations

Background

E2.1 There are several provisions within the Rules that require an attestation or report from key officers, including the approved actuary, chief actuary, chief risk officer, chief investment officer and chief executive officer.

Instructions

E2.2 The Authority retains the right to request additional information based on the attestation, extending to analyses conducted either by the attesting individual or another party enlisted to support the attestation. Moreover, the attestation may be built upon other attestations if there exists a reasonable and verifiable rationale for doing so. In such instances, the individual conducting the attestation may be required to provide additional details on their assessment of analyses or attestations from other sources, specifying checks and controls employed to validate their adequacy and reliability.

E2.3 Where the attestation involves an independent analysis, the attesting party may be required to provide further details on the information underlying the analysis. The person doing the attestation may keep a log of the information used to produce the attestation as well as the checks and controls carried out on the information used. This log should be readily available for submission upon request by the Authority.

E2.4 In situations where an insurer deems an officer other than those specified in the Rules more suitable to provide an attestation, the insurer must seek a written no objection from the Authority.

E2.5 Insurer officers should put careful consideration to the actual work done, systems, controls and resources in place as well as their own role in ensuring compliance with the requirements. The attestation could be of any length. It is important to note that the attestation does not replace the Approved Actuary's own review and challenge including their own opinion on the matters attested to.

E2.6 Below are some key principles to provide guidance in formulating attestations:

E2.6a Ensure that the language used in the attestation is clear, concise and specific with no ambiguity.

E2.6b Effectively demonstrate in the attestation the work and challenge that went into complying with the relevant requirement.

E2.6c Demonstrate the work done is a natural consequence of the internal processes and controls in place as part of the ordinary course of doing business i.e., not specifically undertaken for attestation purposes only.

E2.6d Clearly identify and reference the specific regulatory requirements or articles being addressed in the attestation.

E2.6e Base attestations on concrete evidence of compliance e.g., provide summary of work done by relevant parties and outputs thereof.

E2.6f Clearly outline the roles and responsibilities of insurer officers who are providing the attestation in relation to the areas being testified on.

E2.6g Specify the individuals accountable for ensuring compliance and those responsible for preparing and submitting the attestation.

E2.6h Highlight the role of any third-party assessments carried out in relation to the areas being testified on.

E2.6i Highlight the effectiveness of internal controls and monitoring mechanisms in place to ensure ongoing compliance on the matters being attested on.

E2.6j Avoid duplication of what is already covered in other submissions to the Authority. Where this is the case, the relevant documents (including sections and pages) can be referenced in the attestation.

E2.6k Provide a list of supporting documentation. The supporting documentation should be documentation that arises in the natural course of business and should not be specifically prepared for the Authority. This documentation may be requested by the Authority as part of its reviews.

E2.6l Identify the attesting officer(s) by name, title and the capacity within which they are giving the attestation.

E2.6m The attesting officer(s) should sign the attestation and file it with the Authority as part of the annual filing.

E3. Model Change Policy

Instructions

E3.1 The model change policy should describe a clear universe of changes, outline the models covered and what governance is in place for approving major changes including the making of decisions on those cases where it is unclear whether a change should be classified as major or minor. To enhance clarity, the policy should establish a comprehensive framework outlining the types of changes considered, specifying the tools included, and delineating the governance for approving significant changes.

E3.2 In delineating the materiality criteria that distinguish minor from major changes, the insurer should contemplate both quantitative impacts (e.g., on own funds and solvency ratio) and qualitative indicators like alterations in governance or systems which may or may not create operational risks. Consideration, while not required, may be given to back-testing the metrics against historical changes, where applicable. A log of both potential new changes and historical changes (and how they have been classified) should be maintained as it could prove beneficial for reference and documentation purposes.

E3.3 When formulating the model change policy, as stipulated in paragraph 28(40) of Schedule XXVI for Class D and E insurers and paragraphs 28(40) of Part XXVI for Class C in the Rules, it is advisable for the insurer to engage with the Authority. This should help ensure there is alignment between the Authority's expectations and the insurer's definition of materiality and what is considered major or minor change.

E4. Well-matched portfolios

Instructions

E4.1 Insurers should perform and document a formal assessment of 'well-matched' including the insurer's definition of well-matched. The documentation should include an assessment of why the insurer considers it appropriate to use the SBA for the assets and liabilities (given the level of actual matching), and what the thresholds/tolerances/triggers are that would cause the insurer to consider that it is not well-matched.

E4.2 As part of its ongoing reviews, the Authority will assess whether an insurer's asset/liability portfolios are well-matched. In making its assessment, the Authority will consider the insurer's documented assessment as well as the following:

E4.3

E4.3a The cost of mismatch as implied by the difference in results between the base scenario and the biting scenario.

E4.3b Dispersion in results from the 8 scenario-based approach scenarios.

E4.3c The capital required for each of currency, interest rate risk, lapse, mortality, morbidity and longevity as a percentage of the best estimate liability.

E4.3d The extent to which assets backing the liabilities are denominated in the same currencies, any hedging used (extent, nature, effectiveness) and residual risks.

E4.3e The extent of asset sales to meet shortfalls in asset cashflows. Total asset sales expressed as a percentage of the best estimate liability.

E4.3f Analysis of the extent of and dependence on reinvestment, including but not limited to: a graphical representation of the annual liability cashflows, existing asset cashflows and cashflows from reinvestment assets, and sensitivity tests on the impact of change in reinvestment assumptions on the best estimate liability.

E4.3g The highest accumulated cashflow shortfall across all projection years expressed as a percentage of the best estimate liability.

E4.3h The ALM position versus internal tolerances including at different key rate points.

E4.3i The extent to which assets are fungible or encumbered.

E5. Application Package

Instructions

The SBA application package should cover the items included below:

E5.1 Evidence that the eligibility requirements for using the SBA included in the Insurance Rules are met for each sub-portfolio in the scope of SBA. Fungible sub-portfolios can be assessed as one.

E5.2 Evidence of signoff of the application by the Board or relevant board committee.

E5.3 Completed Lapse, Liquidity and SBA reporting template.

E5.4 Full SBA model calculations, including asset and liability models and/or cashflows used for the purpose of SBA.

E5.5 Assessment of asset/liability portfolios being well-matched.

E5.6 SBA methodology documentation that includes:

E5.6a Detailed description of the SBA methodology, liability/asset valuation methodologies and cashflow projections.

E5.6b Description of the data and how they meet the data quality requirements.

E5.6c Description of key assumptions and expert judgements.

E5.6d Any limitations and weaknesses of the methodology or data.

E5.6e Governance structure as it applies to reserving and use of the SBA.

E5.6f Fungibility assessment in compliance with the Rules.

E5.6g Validation reports of SBA mechanics, liability and asset valuation as well as cashflow projections.

E5.6h Summary and analysis of stress testing results:

i. Combined credit spread and mass lapse stress. Defined as follows:

1. Mass lapse shock shall assume an instantaneous lapse of a proportion of the business equal to the higher of:
    a. 20% (applied across all products); or
    b. The product-specific shocks per the BSCR mass lapse risk charge calculation.
2. Credit spreads widening as per the table below.
    a. All assets, i.e., both those backing the technical provisions as well as the capital, whether rated or unrated, available for sale or held to maturity, must be stress tested. Structured finance products, asset-backed securities, agency and non-agency mortgage-backed securities must be included as well. Unrated assets such as loans must be shocked appropriately. If there is no rating for an asset, assume that the rating is below CCC/C.

b. The spread stresses are to be applied as instantaneous shocks applicable during the first year in the projection. The shocks are assumed to be temporary in nature; accordingly, the spreads are assumed to revert back to their base (non-stressed) levels after the first year in the SBA projection.

Rating	**AAA**	**AA**	**A**	**BBB**	**BB**	**B**	**CCC/C**
Δ bps	277	328	444	498	842	1346	2346

ii. One-notch credit downgrade stress on assets used in the SBA:

1. Apply one notch downgrade to all assets across the board (where one notch means e.g., from BBB to BBB-);
2. Use the post-shock assets to calculate the technical provisions. Spreads, default and downgrade costs should respond accordingly;
3. To the extent that, because of the downgrade stress, there are not enough SBA-eligible assets in order to use the SBA for the whole business, then the Standard Approach will need to be used for the rest of the business but ensuring that there is no splitting of liabilities at policyholder contract level and block-product level. To the extent that the no splitting of liabilities condition cannot be achieved, then the standard approach is used for the whole business;
4. No changes to the spreads themselves, for any rating category, should be assumed in the scenarios. However, as a result of a downgrade the assets would move onto a lower credit curve for pricing purposes, and this should be reflected in the mark-to-market value for each asset – generally leading to a reduction in the market value. (For example, if an asset originally rated BBB- was downgraded to BB+, it would need to be re-priced using the BB(+) spreads instead of the BBB(-) spreads to determine the post-downgrade market value for the asset);
5. Definition of investment-grade assets in the SBA should be in line with the Authority's ratings definition and mapping with the lowest rating being taken for each rated asset. All rated assets are also to be downgraded as part of the stress including those NAIC-rated e.g., commercial mortgage loans; and
6. The portion of liabilities for which the Standard Approach was used should be identified.

iii. No reinvestment into assets acceptable on a limited basis stress

1. Assume the insurer cannot continue to reinvest in assets acceptable on a limited basis (formerly known as 258E assets); and
2. This means the modelled reinvestment strategy is updated such that there is no reinvestment into assets acceptable on a limited basis.

E5.6i Policies:

i. Model Risk Management Policy;
ii. Data Quality Policy (if not already covered under Model Risk Management Policy);
iii. Model Change Policy (if not already covered under Model Risk Management Policy);
iv. Model Validation Policy (if not already covered under Model Risk Management Policy);
v. Asset and Liability Management Policy;
vi. Investment Policy and Guidelines; and

vii. Liquidity Risk Management Policy, liquidity plans and assessment of the liquidity position.

E5.6j Application requirements for use of derivatives, as applicable.

E5.6k Application requirements for use of assets requiring BMA approval, as applicable.

E5.6l Overview and description of systems, infrastructure and people resources relevant to the SBA model. The system infrastructure could be presented graphically.

E5.7 Assessment of external dependencies (e.g., on vendors and consultants) and how this meets outsourcing requirements per the Rules.

E5.8 Logs arising as part of the Model Risk Management Framework.

E5.9 Any other relevant information that the applicant considers may be necessary for the assessment and decision by the Authority.

E5.10 An application for SBA approval may be submitted at any time, but the Authority encourages insurer to engage the Authority in pre-application discussions prior to formal submission. The pre-application engagement is not a mandatory part of the approval process, but it is expected this should help align expectations on the quality of the application.

E5.11 The exact timeframe for approval of the application for SBA is expected to vary from application to application. Where applications are supported by effective pre-application engagement and complete good-quality submission, the Authority expects to reach a decision within four to eight weeks. Applications which do not meet these criteria may require additional review time.

E6. Approval of Assets

Instructions

E6.1 For operational and efficiency purposes, applications for different types of assets (i.e., affiliated assets, assets acceptable on a limited basis, structured assets, other investment-grade assets, and long-term investment credit) can be made as one application including a full listing of all assets i.e., those to be used in the SBA and surplus assets. The listing of assets should be on a BMA-provided template. Within the template the application category under which the assets fall should be clearly identified. Relevant analysis should be provided as applicable to each asset category.

E6.2 Delinquent, non-performing and troubled or challenged assets are not eligible to be used in the SBA. Troubled or challenged assets in this context refers to assets which may not be delinquent or not defaulted but whose future performance is in doubt such that future cashflows can no longer be considered to be highly predictable. Where the status of a particular asset is uncertain i.e., it is unclear whether it is troubled or challenged, the assets should be excluded by default.

E6.3 The applications should separately identify those assets where amendments, extensions or restructurings may have been done and explanations on why these are being proposed to be used in the SBA otherwise these should be excluded from use in the SBA by default.

E6.4 An assessment of those individual investment grade assets whose yields and/or spreads are higher than the caps imposed by the Authority on assets acceptable on a limited basis should be provided. The Authority would generally look to apply the same caps to investment grade assets as applied to assets acceptable on a limited basis.

E6.5 Insurers should be able to demonstrate that assets for which approval is sought are in line with a Board approved risk appetite, investment guidelines and appropriate application of the prudent person principle.

E6.6 The limits imposed by the Authority e.g., on assets acceptable on a limited basis, are not a target but a conservative limit, and the Authority would expect an insurer to leave enough headroom in their utilisation of the 10% limit in order to absorb unexpected deterioration in the investment portfolio including downgrades. The same applies to all other assets e.g., allocation to assets with a BSCR 4 rating which are borderline investment grade. An insurer should demonstrate that the use of such assets and applied limits is appropriate considering the level of diversification in the investment portfolio, nature and value of eligible surplus assets, amount and quality of excess capital available, embeddedness of risk management and the effectiveness of contingency measures to mitigate the adverse impacts of moderate and severe stress scenarios e.g., downgrade in assets used in the scenario-based approach.

E6.7 The Approved Actuary should assess and form an independent opinion on an insurer's application of these instructions in the calculation of the best estimate liability using the scenario-based approach.

E6.8 Assets proposed to be used to back liability cash flows beyond 30 years for purposes of obtaining a long-term investment credit (formerly referred to as 258F) should either have no contractual maturity (i.e., be equity-type), or the contractual maturity should be commensurate with the tenor of the liability cashflows the asset is backing. Assets acceptable on a limited basis would only be allowed for long-term investment credit purposes, provided the aggregate total of all such assets in the SBA is within the 10% limit. Conservative adjustments to the returns/yields should be applied.

E7. Approval of Structured and Other Assets

Background

E7.1 Subparagraph 28(14) of Schedule XXVI for Class D and E insurers and subparagraph28(14) of Part XXVI for Class C in the Rules includes that an insurer shall obtain prior approval to use other investment grade fixed income assets.

E7.2 Applications shall be combined with those required in terms of subparagraph 25 of the scenario-based approach Rules.

E7.3 Requirements relating to approval of structured assets will be communicated separately by the Authority in 2024.

Instructions

Other Investment Grade Assets

E7.4 Applications for other assets submitted in terms of subparagraph 14 of the scenario-based approach Rules shall include but not be limited to the following information:

E7.4a Descriptions of the underlying liabilities

E7.4b Description of the investment and ALM strategy

E7.4c Overall portfolio summary of all investments held

E7.4d Description of the investment manager including their experience and expertise

E7.4e A quantitative and qualitative analysis of the key features and risks for each asset class including but not limited to:

i. Valuation methodologies and valuation uncertainty;
ii. Asset complexity and cashflow predictability;
iii. Asset illiquidity, match to liabilities and liquidity assessments;
iv. Due diligence, ratings and credit assessments carried out;
v. Portfolio diversification – by asset class, geography, collateral, sector, risk factors, correlation, etc.;
vi. Dependence on the investment manager and/or origination platforms including an assessment of the ability of the insurer to continue to generate assumed spreads in the future;
vii. Quantitative and qualitative analysis of the assumed spreads and critical assessment of the supporting thesis; and
viii. Stress testing results including analysis of change in credit profile under stressed conditions.

E7.4f An analysis on how the requirements of subparagraph 26 are met for these assets with respect to estimation of default and downgrade costs.

E7.4g Provide details of the assets – market values, yields, spreads, term etc. The Authority will provide a template for this purpose.

E7.4h Where the assets are affiliated/connected/related an assessment based on the requirements for approval of affiliated/connected/related party assets.

E7.4i Further information as may be requested by the Authority.

E8. Approval of Derivatives

Derivatives used in the SBA need to qualify as being for risk mitigating purposes as outlined in Section B4 of this handbook and comply with the eligibility and modelling criteria there instructed. This includes criteria on frequency of replacement, when such practices are used, for avoidance of doubt, dynamic hedging is not allowed in the SBA, namely daily or intra-day hedging.

Instructions

E8.1 An application to use derivatives in the scenario-based approach should cover the following areas:

E8.1a Summary of the investment strategy

E8.1b Hedging strategy and risk management

E8.1c List and description of the derivatives

E8.1d Modelling and assumptions in the SBA

E8.1e Risks not hedged and residual risks

E8.1f Liquidity and Collateral

E8.1g Stress and Scenario Testing

E8.1h Oversight and Governance

E8.1i Worked example

E8.2 The Authority's review will be proportionate to an insurer's use of derivatives considering the nature, scale and complexity of the business. Pre-engagement with the Authority is recommended especially where the insurer has carried out an assessment of what minimum requirements could be considered proportionate and/or the insurer can demonstrate it has applied conservatism in its use of derivatives in the SBA in a manner that addresses the intended outcomes.

E8.3 Further details on each of the areas are as provided below.

E8.3a Summary of investment strategy:

i. Provide a summary of the investment strategy and why this requires derivatives.

ii. Where derivatives are only required for a subset of the SBA portfolio, these assets should be described in detail (particularly where they are related to a separate SBA-related application e.g., assets acceptable on a limited basis or those for the long-term investment credit).

iii. Note that the description should be on the investments (not the derivatives) and their pertinent features that drive the need for the derivatives (such as the currency, fixity, timing of their cashflows).

E8.3b Hedging Strategy and Risk Management

i. Describe the hedging program(s) – including the rationale and aims, what is being hedged and how, targets, implementation, rebalancing (where applicable), etc.

ii. The strategy should explicitly describe whether derivatives are buy-and-hold, or whether future trading of derivatives is expected.

iii. This should describe the strategy, not considering any modelling assumptions / limitations.

iv. Provide details on the risks being hedged and the cashflows behind each derivative instrument and structure.

v. Provide details of the derivative contracts used and for which purpose. Provide the amounts of notional value/market value per category of derivative contracts held including key information (e.g., for swaps: fixed rate, timing of payments, cost of hedging etc.)

vi. Confirm the derivative instruments and the hedging program qualify as risk mitigating, as defined in this instructions handbook.

vii. Describe collateral and/or margin requirements, including clearing/settlement processes, agreements in place (ISDA, CSA), and eligible types of collateral/margin (e.g. cash only)

viii. Provide details on the effectiveness of the hedging program and how its assessed – metrics, criteria, frequency etc. Data on historical hedge effectiveness should be provided as far back as available.

ix. Describe any basis risk where applicable, and explain how basis risk is measured and managed, including demonstration that basis risk is not material.

x. Include a list of any operational risk incidents arising from, or related to, hedging or derivatives use within the last three years. A description should be provided for each incident, including (root) causes, loss amount, remedial actions taken, and current status of those actions.

E8.3c List and description: An exhaustive list and description of the derivatives to be considered in the application:

i. This should specify both the type and the currency of derivatives.

ii. This should detail the expected cash flows to be paid and received in each type, including whether these are contractually fixed or variable (related to prevailing market rates).

iii. Provide confirmation that the derivatives in question are actually held.

iv. Where approval is given for specific derivatives, this will be currency specific. A new application should be submitted if additional currencies are subsequently utilised.

E8.3d Modelling and Assumptions

i. A description of how the derivatives (and any associated assets) are modelled within the SBA calculation including how, as may be applicable, the market value is determined at each time step for each scenario.

ii. Provide impact analysis on the best estimate liability (BEL) with and without derivatives under base and the eight scenarios, and explain the results.

iii. Detail and justify key assumptions, including hedging costs and future rebalancing assumptions within the SBA projections as applicable.

iv. Describe and demonstrate how the following are incorporated into the SBA projections: hedging effectiveness, basis risk, frictional costs (including transaction costs).

v. A description of any deviations between the modelling of the derivative strategy and the previously described investment and hedging strategies, such as simplifications or limitations of the modelling approach. These should be quantified and validated.

E8.3e Risks not hedged and Residual risks: Identify and discuss risks that are not hedged, residual risks as well as the circumstances under which the hedging would not work. The assessment of residual risks should consider the impact to cash flow matching, or equivalently the impact to the quantum of assets required to decease the liabilities.

i. This is any risk other than the domestic interest rate risk captured in the standard SBA scenarios.

ii. It should include uncertainty in execution of future hedges for strategies which are not exclusively buy-and-hold.

iii. Residual Risks in the portfolio should be quantified to a 1 standard deviation (1SD) confidence level.

iv. Particular attention should be given to risks which are asymmetric (i.e., where the benefit from a 1SD stress in one direction is different to the disbenefit from a 1SD stress in the other direction), either due to asymmetry in the underlying risk driver or asymmetry in the impact.

v. Once they have been quantified, this section should describe how the uncertainty related to these risks is captured by prudence in the calculation of the BEL.

vi. A commonly omitted Residual Risk is the evolution of credit spreads when interest rate swaps (or other derivatives) are used to hedge cash flow mismatches. Uncertain reinvestment / disinvestment yields are not directly a feature of the derivative usage, but without the derivatives the uncertainty associated with them are already captured within the standard SBA scenarios.

E8.3f Liquidity and collateral: this should be a summary document and include any relevant policies and procedures. The approach to managing the liquidity and collateral should be described:

i. A description of the collateral requirements for each type of derivative.

ii. A description of the liquidity and collateral management approach (including examples of relevant monitoring dashboards and metrics).

iii. It should be demonstrated that the SBA portfolio has sufficient liquidity and collateral to meet all expected collateral demands in all SBA scenarios, including those identified in Residual Risks analysis.

iv. Where the management approach assumes that assets are sold to meet liquidity requirements, it should be explained how this is reflected in the SBA modelling approach, or otherwise that the SBA modelling approach is assessed to be prudent.

E8.3g Stress and Scenario Testing

i. Describe the methodology and frequency of stress testing and scenario analysis conducted to assess the potential impact of adverse market conditions on derivative positions. Provide details of such stress testing.

ii. Describe and provide details on liquidity stress testing around derivatives use.

iii. Provide details on risks arising from derivatives held in a volatile interest rates environment, where applicable, including relevant historical experience. Provide results of stress tests performed to assess liquidity shortfalls when rates change and whether the insurer is able to meet margin/collateral calls originating from either bilateral or centrally cleared derivatives.

E8.3h Governance and oversight

i. This should describe the risk framework within which the derivative strategy is executed. Where external managers execute some or all of the derivative strategy, extracts of the relevant investment management agreements should be provided which demonstrate the limits that the manager is expected to operate within. Policies and procedures should also be provided to demonstrate the insurer's monitoring of the manager's execution.

ii. This should also describe and evidence the governance framework for modelling assumptions, where the SBA model mechanics does not perfectly reflect the investment and hedging strategies.

iii. Provide evidence of the internal approvals of the hedging program(s) as well as the second-line reviews performed.

iv. Describe risk exposure monitoring process including regular reporting that is in place.

v. Provide internal management reports (incl. board reports as applicable) on derivative usage.

vi. Where the insurer uses derivatives for purposes other than those backing the SBA liabilities or where multiple SBA portfolios contain derivatives, they should be referenced here along with an overview of any dependence or interaction that those strategies have with the SBA derivatives. This might include fungibility of collateral, netting of trades, or cross-trading approaches. It should make it clear how the derivatives backing the SBA liabilities are separately identified. Pre-engagement with the Authority on such cases is recommended.

E8.3i Worked example: This should be a worked example, preferably in Excel, of how the derivatives are modelled within the SBA calculation. To the extent that there is a difference, this should also demonstrate how the investment strategy is executed. This would typically be a stylised example but should be representative of all use cases of derivatives. Actual implementations can also be considered, supported with walk-throughs.

E9. Risk-free curve used in the SBA

Instructions

E9.1 The risk-free curve used in the SBA calculations shall be either:

E9.1a The risk-free curve published or directed by the BMA; or

E9.1b The relevant risk-free market curve with no adjustments.

E9.2 The relevant risk-free rates referred to in point b above shall correspond either to the government bond rates or the swap rates, depending on the currency and the generally accepted market practices regarding risk-free benchmark rates for each such currency. The market curve shall be kept flat beyond the last traded tenor point[13] i.e., no extrapolation shall be applied.

E9.3 Insurers shall document the choice of the curve as part of their SBA methodology documentation, and shall use the curve consistently over time. Change in use of the curve requires prior approval of the Authority.

E9.4 The spreads used in the SBA shall be consistent with the choice of the risk-free curve. That is, the spreads shall be determined with respect to the risk-free curve used.

E9.5 For the avoidance of doubt, the choice of the risk-free curve for SBA shall not distort the actual initial market values of assets, which shall not be affected. Accordingly, the spread for each asset shall be adjusted, where necessary and not fully addressed by the previous paragraph, by including an (idiosyncratic) spread adjustment. This adjustment is determined so that the expected present value of the projected cash flows of the asset, when priced using the chosen risk-free rates and applicable spreads plus the spread adjustment, equals the actual market value of the asset. The determined spread adjustment for each asset must be used as part of the valuation of that specific asset throughout the SBA projections. In particular, this adjustment would be required where the market benchmark curve underlying the actual market value of an asset differs from the risk-free curve used in the SBA, and the previous paragraph (i.e., determining spreads with respect to the risk-free curve used in the SBA) does not fully address the valuation difference for the asset.

[13] E.g. in the case of the US Treasury curve, all the rates beyond the 30Y point shall be set equal to the observed 30Y rate.

E10. Default and Downgrade Costs

Background

E10.1 Paragraph 28(22) of Schedule XXVI for Class D and E insurers and paragraph 28(22 of Part XXVI for Class C in the Rules includes requirements on default and downgrade costs in the SBA.

Instructions

Application of Default and Downgrade Costs

E10.2 Default and downgrade costs shall be applied by reducing the projected asset cashflows. A simplified spreadsheet example is published on the BMA website (https://www.bma.bm) to illustrate the core mechanics.

E10.3 The annualised default and downgrade costs provided by the Authority are to be converted into cumulative loss rates (and marginal loss rates, where necessary) for application to asset cash flows within the SBA projections. For a given asset category and rating combination, the same loss rate applies to all cashflows within a given period in the SBA projections. The spreadsheet example also demonstrates the above points.

E10.4 Default and downgrade costs shall be applied in a manner that reflects the full cumulative impact of default and downgrade costs in all situations, including when an asset is held to maturity and when it is sold before maturity.

E10.5 For the avoidance of doubt, the application of default and downgrade cost (i.e., the reduction in projected asset cashflows) shall not affect the initial time-0 market value of the assets, nor the projected purchase prices of assets at the point of reinvestment. Only the actual cashflows received within the projections will be impacted (including proceeds from sale where applicable).

E10.6 The marginal loss rate implied by the default and downgrade cost assumptions shall not be negative (equivalently, the cumulative loss rate shall be non-decreasing). Where this may otherwise not be the case, the marginal loss rate shall be floored at zero (i.e., an adjustment shall be applied so that the cumulative loss rate is non-decreasing), and all the subsequent cumulative loss rates shall be adjusted accordingly to reflect the knock-on impact of flooring the said marginal loss rate to zero.

E10.7 In the rare case that the implied spread for an investment turned out negative as a result of the application of default and downgrade costs, the default and downgrade costs for that investment may be adjusted so that the implied spread equals the lower of zero and the actual implied market spread at the valuation date. For the avoidance of doubt, the post-adjustment default and downgrade costs cannot be lower than zero (i.e., at most the adjustment can lead to nil default and downgrade costs being applied to an investment). For the purposes of this paragraph, the implied spread is calculated as the difference between the default and downgrade cost-adjusted yield and the applicable risk-free rate, where the default and downgrade cost-adjusted yield is determined based on i) the actual market value of the investment as of the valuation date; and ii) the default and the downgrade cost-adjusted cashflows used in the SBA for that investment.

Five-year Transition for the Downgrade Cost component for business written prior to 1 January 2024

E10.8 For business that was in force as at 31 Dec 2023, the downgrade cost component of the default and downgrade costs will be phased in gradually over five years. The downgrade costs published by the Authority are the ultimate downgrade costs, whereas the downgrade costs to be applied at each relevant valuation date are determined as follows:

E10.8a For valuation dates during 2024, including 31 December 2024: 20% of the full ultimate downgrade costs will be used.

E10.8b For valuation dates during 2025, including 31 December 2025: 40% of the full ultimate downgrade costs will be used.

E10.8c For valuation dates during 2026, including 31 December 2026: 60% of the full ultimate downgrade costs will be used.

E10.8d For valuation dates during 2027, including 31 December 2027: 80% of the full ultimate downgrade costs will be used.

E10.8e For valuation dates during 2028 and later: 100% of the full ultimate downgrade costs will be used.

E10.9 In each case, the downgrade costs after application of the phase-in factor are to be rounded to the nearest whole basis point, to be done individually for all the applicable asset type/rating/tenor combinations.

E10.10 Insurers may choose to early adopt the full downgrade costs at any point. However, once elected, it is not possible to revert back without prior written approval from the Authority.

E10.11 For the avoidance of doubt, the phasing in does not apply to the default cost (expected loss) component, which will apply in full immediately. For business written after 31 December 2023, there is no phasing in of any costs i.e., the full ultimate downgrade costs apply immediately in addition to the default costs.

Use of Issuer versus Issue ratings

E10.12 The default and downgrade costs have been calibrated based on issuer defaults and issue-level recoveries (LGDs). This also reflects that defaults are generally issuer-level events, while the recoveries are issue-specific i.e., depend on the place of the debt issue in the issuer's capital stack, as well as on the amount and nature of any collateral.

E10.13 The application of the default and downgrade costs should be consistent with the way the costs were derived. Accordingly, issuer ratings should be used in assigning the default and downgrade costs.

E10.14 However, where an insurer can demonstrate that either: i) the use of issue-level ratings leads to outcomes that are no less conservative (i.e., leads to SBA BELs for the relevant blocks of business that are no lower) than those obtained by using issuer-level ratings; or ii) where criterion i) is not met, the differences are demonstrated to be immaterial; then the issue-level ratings may be used.

Use of Simplifications

E10.15 Reasonable simplifications are allowed provided they are prudent and appropriately capture the cumulative impact of default and downgrade costs at all points, including on point of sale.

Default and Downgrade Cost Floors

E10.16 For all assets for which the BMA does not publish default and downgrade costs, the default and downgrade costs applied within SBA shall be no less than the applicable floors. That is, the default and downgrade costs for all such assets shall be determined as the greater of: i) the insurer's own default and downgrade cost assumptions for the asset; and ii) the applicable floors. The applicable floors are defined as the corporate bond (senior unsecured) default and downgrade costs for the corresponding rating, unless otherwise prescribed by the Authority. For structured assets and securitizations, the floors shall apply at the level of the tranches (as opposed to the underlying collateral assets).

Default and Downgrade Costs beyond the Published Tenors

E10.17 For default and downgrade cost assumptions beyond the last tenor/maturity for which the Authority publishes the costs, the insurers may keep the default and downgrade costs constant at the values corresponding to the last published tenor/maturity.[14]

E10.18 Alternatively, other approaches may be used provided it is demonstrated that those lead to assumptions that are no less conservative (i.e., lead to default and downgrade costs and cumulative losses that are no lower) than the approach above. Examples of such alternative approaches include fitting a curve to reflect the trend in the published default and downgrade costs; or utilising rating agency data beyond the last tenor published by the BMA to extrapolate the default and downgrade costs; in each case provided the conservatism criterion above is met.

Treatment of Government Debt

E10.19 In terms of default and downgrade costs, government debt shall be treated the same as unsecured corporate bonds of the same rating, except for the following cases:

[14] For the avoidance of doubt, it is noted that this still implies increasing cumulative losses.

E10.19a For countries rated AA- or better, there will be no default and downgrade costs for government debt issued in the local currency of the country.

E10.19b Otherwise, there will be no default and downgrade costs for government debt where all of the following conditions are met:

i. The debt is denominated in the local currency of the country;
ii. The country is rated A- or better;
iii. The currency of the country has a status as global reserve currency and is fully convertible; and
iv. The country has full and independent control over fiscal and monetary policy.

E11. Transaction Costs

Background

E11.1 Paragraph 28(30)-(32) of Schedule XXVI for Class D and E insurers and paragraphs 28(30)-32 of Part XXVI for Class C in the Rules include requirements on transaction costs in the SBA.

Instructions

E11.2 For all assets, the full expected price impact of selling or buying the asset shall be reflected within the scenario-based approach projections. In addition to the price impacts of trading, any applicable fees, commissions and expenses required to purchase or sell assets—whether implicit or explicit—should be included within the transaction cost assumptions. As per subparagraph 28(30)(c), where no sufficient data for a specific asset type is available, or uncertainty around the level of assumptions exists, prudent assumptions shall be applied by insurers in modelling the transaction costs and related costs.

Application of Bid-Ask spreads

E11.3 If current observed bid-ask spreads are lower than long-term average bid-ask spreads, a grading-in from current market to long-term average bid-ask spreads should be applied; the same shall apply if current bid-ask spreads are wider than long-term average bid-ask spreads, except that the grade-in period shall be set to be more prudent. This applies to both existing assets and potential reinvestments. Alternatively, long-term average bid-ask spread assumptions can be used where these are demonstrated to be more prudent than current bid-ask spreads.

E11.4 The bid-ask spreads should be the effective bid-ask spreads that consider the size of the insurer's positions and the volumes traded within the SBA projections in relation to the liquidity and depth of the market for the relevant asset. Marginal bid-ask spreads (e.g., the bid-ask spread involved in buying/selling an incremental unit of quantity at the market) should not be used. In case an insurer considers that the effective bid-ask spreads do not provide an appropriate reflection of economic reality, then the insurer may use more realistic bid-ask spreads that explicitly vary based on the quantities sold/bought. The derivation of such bid-ask spreads should be based on observed market data and consider all the principles noted within this section and in the principal Rules (including application of appropriate conservatism where uncertainty exists).

Treatment of liquid publicly traded assets

E11.5 For liquid publicly traded assets, the minimum requirement is to reflect bid-ask spreads, in the manner described in the principal Rules and these Instructions, where it can be demonstrated that this adequately captures (and does not understate) the full expected price impact of selling and buying.

Treatment of all other assets

E11.6 For assets other than liquid publicly traded assets, the market bid-ask spreads may not provide a full reflection of the price impact of selling/purchasing, and this shall be reflected in the assumptions used. The impact is expected to vary by degree of (il)liquidity and between asset classes. For less liquid assets, the magnitude of the impact is expected to be higher than the bid-ask spreads based on advertised or displayed prices/quotes (including broker quotes or other non-binding prices).

E11.7 In addition to the requirements set out in the Rules, the transaction cost assumptions should also satisfy the following:

E11.7a The transaction cost assumptions incorporating full price impacts should not be lower, for any asset type, than the implied bid-ask spreads or discounts/premiums observed based on past actual trades for that asset type.

E11.7b The price impacts and bid-ask spreads for illiquid or less liquid assets should be no less than those for similar liquid publicly quoted assets of equivalent credit quality/rating.

F. APPENDIX A - GLOSSARY

Act – means the Insurance Act 1978.

Accident and Health Insurance – means an insurance that pays a benefit or benefits in the event of the insured incurring an insured injury, illness or infirmity.

Annuity or Annuities – means an insurance that provides savings or income benefits during the lifetime of the insured or some limited period thereafter.

Approved Internal Capital Model – means a model approved under paragraph 5 of the Rules.

Available Statutory Capital and Surplus – Available Statutory Capital and Surplus is defined as Total Statutory Capital and Surplus including subsequent Capital Contribution including 'Deductions'. All capital contributions are to be approved by the BMA, and all adjustments are determined at the discretion of the BMA.

Bermuda Monetary Authority (BMA or Authority) – the BMA is the integrated regulator of the financial services sector in Bermuda. Established under the Bermuda Monetary Authority Act 1969, the Authority supervises, regulates and inspects financial institutions operating in or from within the jurisdiction. It also issues Bermuda's national currency; manages exchange control transactions; assists other authorities in Bermuda with the detection and prevention of financial crime; and advises the Government and public bodies on banking and other financial and monetary matters. The Authority develops risk-based financial regulation that it applies to the supervision of Bermuda's banks, trust companies, investment businesses, investment funds, fund administrators, money service businesses, corporate service providers, insurance companies, digital asset business and digital asset issuance. It also regulates the Bermuda Stock Exchange.

Bermuda Solvency Capital Requirement (BSCR) – establishes a measure of solvency capital that is used by the BMA to monitor the capital adequacy of Class C, D and E insurers domiciled in Bermuda. The BSCR is determined by combining the calculated capital for each risk category (excluding operational risk) and applying a covariance adjustment with the square root rule, which is further adjusted to include insurer-specific operational risk and capital add-on.

BSCR Ratio – the BSCR Ratio is the ratio of the Available Statutory Economic Capital and Surplus to the BSCR (after covariance adjustment).

Capital and Solvency Return – means such return relating to the insurer's risk management practices and to the information used by the insurer to calculate its ECR as may be prescribed by or under Rules made under section 6A.

Class E (Re)insurers – a body corporate is registrable as a Class E (re)insurer if at the time of its application for registration it intends to carry on Long-Term insurance business with total assets of more than $500,000,000 and is not registrable as a Class A or Class B (re)insurer.

Class D (Re)insurers – a body corporate is registrable as a Class D (re)insurer if at the time of its application for registration it intends to carry on Long-Term insurance business with total assets of $250,000,000 or more, but less than $500,000,000 and is not registrable as a Class A, Class B or Class C (re)insurer.

Class C (Re)insurers – a body corporate is registrable as a Class C (re)insurer if at the time of its application for registration it intends to carry on Long-Term insurance business with total assets of less than $250,000,000 and is not registrable as a Class A or Class B (re)insurer.

Concentration Risk – means the risk of exposure to losses associated with inadequate diversification of portfolios of assets or liabilities.

Credit Risk – includes the risk of loss arising from an insurer's inability to collect funds from debtors.

Critical Illness Insurance – means a form of accident and health insurance that pays a benefit if the insured incurs a predefined major illness or injury.

Deferred Annuity – means an insurance that provides benefits at a future date which may be fixed deferred annuities where specified amounts are payable or variable annuities where the benefits are dependent on the performance of an investment fund or funds.

Disability Income Insurance – means an accident and health insurance that pays a benefit for a fixed period of time during disability.

Enhanced Capital Requirement (ECR) – establishes a measure of solvency capital that is used by the BMA to monitor the capital adequacy of Class C, D and E insurers domiciled in Bermuda. It is equal to the higher of an insurer's approved internal capital model/BSCR or MSM.

ECR Ratio – the ECR Ratio is the ratio of Available Statutory Economic Capital and Surplus to the ECR.

Form 1SFS – Statutory balance sheet as defined by the BMA.

Form 2SFS – Statutory statement of income as defined by the BMA.

Form 8SFS – Statutory statement of capital and surplus as defined by the BMA.

Form 4EBS – Economic balance sheet as defined by the BMA.

Group Life, Health and Disability Insurance – means insurance that is issued to insureds through a group arrangement such as through an employer or association.

Insurance (Prudential Standards) (Class E, D & C Solvency Requirement) Rules 2011 (the Prudential Standard Rules) – under section 6A of the Act, the BMA may make Rules prescribing prudential standards in relation to (a) ECR, (b) capital and solvency returns, (c) Insurance reserves, and (d) Eligible capital that must be complied with by Class E, D and C insurers.

Insurance Risk – means the risk of fluctuations or deterioration in the experience factors affecting the cost of benefits payable to policyholders or impacting upon the amounts held to provide for policyholder obligations, including Long-Term business risks.

Legal Risk – means the risk arising from an insurer's (a) failure to comply with statutory or regulatory obligations; or (b) failure to comply with its bye-laws; or (c) failure to comply with any contractual agreement.

Life Insurance – including term insurance, whole-life insurance and universal-life insurance; means insurance of risks on the mortality (risk of death) of the life insured.

Liquidity Risk – means (a) the risk arising from an insurer's inability to meet its obligations as they fall due or (b) an insurer's inability to meet such obligations except at excessive costs.

Longevity Risk – means the risk of fluctuations or improvements in mortality that causes benefits or payout annuities to be paid for longer than expected.

Market Risk – means the risk arising from fluctuations in values of, or income from, assets or in interest rates or exchange rates.

Morbidity Risk – means the risk of fluctuations or deteriorations of morbidity experience causing increased claims on accident and health insurance coverage.

Mortality Risk **–** means the risk of fluctuations or deteriorations of mortality experience causing increased claims on life insurance coverage.

Non-Proportional Insurance – means coverage of risk that is not shared at a given layer or that attach above an insured layer.

Non-Rated Bonds – Bonds that have not been rated by AM Best, Standard & Poor's, Moody's, Fitch or equivalent agencies.

Operational Risk – means the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events including legal risk.

Quoted – Assets that are carried at fair value quoted on an exchange or a determinable market.

Rated Bonds – Bonds rated with respect to the latest available AM Best, Standard & Poor's, Moody's, Fitch or equivalent agencies.

Regulatory Action Level – defined by BMA's regulatory action guidelines.

Relevant Year – in relation to an insurer, this means its financial year.

Reputational Risk – includes risk of adverse publicity regarding an insurer's business practices and associations.

Required Capital and Surplus – see Enhanced Capital Requirement.

Retrocessional Contracts – Reinsurance contract whereby one reinsurer transfers all or part of the reinsurance risk that it has assumed or will assume to another reinsurer.

Scenario-based Approach (SBA) - the alternative approach to calculating the best estimate liability

Schedule II – Schedule of Fixed Income and Equity Investments By BSCR Rating as defined by the BMA.

Schedule IIA – Schedule of Funds Held by Ceding Reinsurers In Segregated Accounts/Trusts by BSCR Rating as defined by the BMA.

Schedule IV(B) – Schedule of Long-Term Business Premiums as defined by the BMA.

Schedule V **–** Schedule of Risk Management as defined by the BMA.

Schedule VI – Schedule of Fixed Income Securities as defined by the BMA.

Schedule VII – Schedule of Long-Term Insurance Data as defined by the BMA.

Schedule VIII – Schedule of Long-Term Variable Annuity as defined by the BMA.

Schedule VIIIA – Schedule of Long-Term Variable Annuity – Internal Capital Model as defined by the BMA.

Schedule IX – Schedule of Commercial Insurer's Solvency Self-Assessment as defined by the BMA.

Schedule XII – Schedule of Eligible Capital as defined by the BMA.

Square Root Rule – the square root rule is an approximation of the covariance effect of the risk categories.

Strategic Risk – means the risk of an insurer's inability to implement appropriate business plans and strategies, make decisions, allocate resources, or adapt to changes in the business environment.

Stop Loss Insurance Risk – is a form of non-proportional risk that provides benefits if total claims experience exceed a predefined level.