INTERNATIONAL ASSOCIATION OF INSURANCE SUPERVISORS

Public

Instructions for the April 2019 Quantitative Data Collection Exercise of the Field Testing Project

("the Technical Specifications")

This is an IAIS working document used for 2019 Field Testing purposes. It does not purport to represent or prejudge the final proposals of the IAIS on ICS.

The Technical Specifications must be read in conjunction with the associated 2019 Field Testing Template, Questionnaire and yield curve documentation to provide an accurate and up-to-date understanding of the Field Testing exercise.

Notes:

1. The default reporting date used by Field Testing Volunteer Internationally Active Insurance Groups ("Volunteer Groups") was end-December 2018. Subject to previous discussion with the relevant group-wide supervisor, different valuation dates could be used for the purposes of this exercise, as long as the necessary efforts are made to ensure the internal consistency of the results. For example, with respect to key assumptions such as the reference date to determine currency exchange rates or yield curves.

2. Balance sheet items were valued in accordance with the specifications set out in the relevant sections.

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1 Reporting Date and Context

1. The reporting date (or balance date) to be used by all Volunteer Groups should be end December 2018. Subject to previous discussion with the relevant group-wide supervisor, different valuation dates can be used for the purposes of this exercise (eg 31 March 2019 for Volunteer Groups based in Japan), as long as the necessary efforts are made to ensure the internal consistency of the results. For example, with respect to key assumptions such as the reference date to determine currency exchange rates or yield curves.

2. Balance sheet items should be valued in accordance with the specifications set out in the relevant sections.

3. This exercise plays an important role in the IAIS' process of developing the Risk Based Global Insurance Capital Standard (ICS). The ICS will be one component of ComFrame, a comprehensive framework addressing qualitative as well as quantitative requirements for IAIGs. This framework may evolve and be refined over time. This exercise also fulfils the purposes of confidential reporting of the Basic Capital Requirements (BCR) and Higher Loss Absorbency (HLA) for Global Systemically Important Insurers (G-SIIs). To facilitate ongoing monitoring of the BCR and HLA, these calculations are requested of all Volunteer Groups.

2 Process and Timetable

4. The following table summarises the process and timetable to be followed:

Action	**Timeline**
Issuance of Technical Specifications, Template and Questionnaire for quantitative Field Testing	30 April 2019
Q&A process: - Refer to Q&A documents on https://fieldtesting.iaisweb.org	From 30 April 2019 to 12 July 2019
Deadline for the submission of the Field Testing Template and Questionnaire by the group-wide supervisors (GWS).	31 July 2019 in the eBIS system by the GWS
Analysis by the Field Testing Analysis Team & discussions of summary results by the IAIS.	August 2019 to November 2019
Adoption of ICS Version 2.0 for the monitoring period	November 2019

3 General Guiding Principles

3.1 Substance over Form

5. The economic substance of transactions and events should be recorded in the balance sheet rather than just their legal form in order to present a true and fair view of the risk profile of the entity. This may require the use of judgment when preparing the balance sheet and any material assumptions should be disclosed in the Questionnaire.

6. The ICS balance sheet differs from publicly reported GAAP financial statements, as it reflects a different objective (prudential supervision as opposed to investor information). For example, certain assets in a GAAP balance sheet do not qualify as assets for the ICS.

3.2 Proportionality / Best Effort

7. Calculations and valuation should be subject to the proportionality principle. When the Volunteer Group can demonstrate that taking into account a specific factor / rule in their calculation or valuation would lead to a significant increase in complexity, without material improvement to the quality of the figure produced, or to the assessment of risk linked to this figure, then this factor or rule can be ignored or simplified.

8. The materiality of the impact of using a simplification should be assessed with regard to:

a) The volume of the item valued

b) The overall volume of the group's business and capital resources

c) The assessment of risk

9. Moreover, even though the use of a simplification would lead to a figure possibly significantly different from the full fair value, it might nevertheless be used subject to appropriate adjustment, provided that no other applicable methodology would lead to a better proxy.

Example for best effort for MAV basis

Consider a portfolio of inflation indexed annuities. In theory, a full stochastic modelling of future inflation may be needed. However, considering:

- The complexity of such a modelling (and justification of the associated parameters)
- That inflation and mortality are assumed to not be correlated

Volunteer Groups can use a flat future level of inflation for deriving future annuity payments in the calculation of insurance liabilities.

Example

Consider a Volunteer Group with capital resources of 10 and insurance liabilities (savings contracts) of 100. The calculation of those insurance liabilities can be achieved either on a policy by policy basis, or by grouping all policies and using an average actuarial age and average lapse rates. The latter leads to a difference of 1% in the amount of insurance liabilities. Although such a difference can be considered as non-material with regard to the insurance liabilities, the relative impact on the capital resources is 10% (assuming the asset side is unchanged). This should be considered a material difference, and the simplification should be rejected. PLEASE NOTE THIS EXAMPLE IS IN NO WAY INTENDED TO MEAN THAT THE MATERIALITY THRESHOLD IS 10% OF CAPITAL RESOURCES.

3.3 Look-through

10. In order to properly assess the risk inherent in collective investment funds and other indirect exposures, their economic substance needs to be taken into account. This should be achieved, to the extent possible, by applying a look-through approach in order to assess the risks of the assets underlying the investment vehicle. The application of a look-through approach should be done consistently with Section 12.2.1.

3.4 Use of Current Estimates

11. It is proposed, under the MAV approach as well as the GAAP Plus approach, that the use of current estimates will replace existing methodologies for calculation of insurance liabilities. See Section 6 in relation to the MAV approach and Section 7 in relation to the GAAP Plus approach. The term 'best estimate' is the same concept.

12. Any risk or prudence margins currently embedded in the valuation of insurance liabilities should therefore be re-attributed directly to capital resources under the revalued balance sheet as Insurance Liability / Reinsurance Adjustment Offset.

13. The IAIS is considering different types of consistent and comparable margin over current estimate (CC-MOCE).

14. The main objective of the use of current estimates is to increase the comparability of insurance liabilities' valuation, for the purpose of the work on the BCR and ICS. This is because the degrees of safety embedded in risk and/or prudence margins vary widely across jurisdictions, constituting a significant source of lack of comparability.

3.5 Segmentation

15. The allocation of insurance liabilities to the segments used in 2019 Field Testing should follow the principle of substance over form. This means insurance liabilities should be allocated to the segment that best reflects the nature of the underlying risks rather than the legal form of the contract. The Questionnaire should be used to identify important assumptions made in the allocations to the segments in 2019 Field Testing.

3.6 ICS Rating Categories

16. Volunteer Groups can use the agency ratings listed in the table below (and from AM Best for reinsurance exposures, see the Credit risk section on reinsurance exposures). Modifiers such as + or – do not affect the ICS Rating Category (ICS RC). Where two ratings are listed in a cell, the first rating represents a long-term rating, and the second rating represents the short-term rating mapped to the same ICS RC. The short-term rating can only be used for instruments with a remaining maturity of one year or less.

Table 1. Mapping to ICS RC (for instruments not in default)

ICS RC	S&P	Moody's	Fitch	JCR	R&I	DBRS
1	AAA	Aaa	AAA	AAA	AAA	AAA
2	AA / A-1	Aa / P-1	AA / F1	AA / J-1	AA / a-1	AA / R-1
3	A / A-2	A / P-2	A / F2	A / J-2	A / a-2	A / R-2
4	BBB / A-3	Baa / P-3	BBB / F3	BBB / J-3	BBB / a-3	BBB / R-3
5	BB	Ba	BB	BB	BB	BB
6	B / B	B / NP	B / B	B / NJ	B / b	B / R-4
7	CCC / C and lower	Caa and lower	CCC / C and lower	CCC and lower	CCC / c and lower	CCC / R-5 and lower

17. Additionally, Volunteer Groups may use any ratings by a rating agency that the banking regulator in its jurisdiction (or for a subsidiary, in the subsidiary's jurisdiction) has recognised as an External Credit Assessment Institution (ECAI) under the Basel II framework. The ICS RC corresponding to a rating produced by such an agency is the Basel II rating category to which the supervisor has mapped the rating (the combined rating class AAA/AA corresponds to ICS RC 2). For the purposes of 2019 Field Testing, ICS RCs 1 to 4 in the table above are considered as investment grade.

18. Further guidance on the use of ratings by a rating agency can be found in Section 12.5 on *Credit risk*.

4 Baseline Current Regulatory Reporting

Relevant Worksheets in Template:	*FT19.Baseline*	*Due 31 July 2019*

19. Volunteer Groups are asked to report their existing group capital requirements and group capital resources, under the supervisory regime currently in force in their jurisdiction. This baseline information will be used to assess the impact of the BCR, HLA, and ICS (both in terms of capital requirements and capital resources) against existing or prospective group statutory requirements.

20. The worksheet *Baseline* is designed to obtain information about existing insurance-based group-wide capital requirements, as well as other sectoral capital requirements.

21. In addition, Volunteer Groups should report their existing local capital requirements for each insurance legal entity (subsidiary) in the group in the worksheet *FT19.Baseline.Jurisdictional*. This is covered in a separate section.

4.1 Insurance-related Baseline

22. The Insurance-related capital requirement is the existing group capital requirements and group capital resources, under the group-wide supervisory regime currently in force in the home jurisdiction of the Volunteer Group. However, the following exception applies to Volunteer Groups based in the United States who should provide a proxy baseline requirement as follows:

a) The analysis should start by identifying the top tier of regulated (insurance) entities. These top-tier entities should then be grouped by regulatory jurisdiction. The capital requirements and available regulatory capital should then be determined for those top-tiered entities based on each jurisdiction's existing capital rules. In doing so, consideration should be given to whether stacking is appropriately reflected. For instance, Risk-Based Capital (RBC) as used in the state-based insurance regulatory regime in the United States is structure-neutral for US entities, and assumes that the capital held for foreign subsidiaries is reasonable.

b) Several separate figures are to be aggregated as part of this process. The first is the firm's minimum regulatory capital requirement as described in the next paragraph. The second is the firm's available regulatory capital. In addition, for US life insurers, the Asset Valuation Reserve (AVR) and Interest Maintenance Reserve (IMR), which are to be separately reported as memo accounts in the worksheet *Baseline* of the Template, should be aggregated and reported.

c) For each of the top-tier US insurance entities in an insurance group, the RBC Company Action Level of each insurer should be re-calibrated to the point at which regulatory action can be taken in any state based on RBC alone, ie, the point at which the trend test begins which is one and a half times Company Action Level. The re-calibrated amounts for each top-tier US

insurance entity should then be added together to approximate a combined re-calibrated RBC. This provides a combined company view of the level at which regulatory action is triggered under the US approach to insurance regulation for the subject insurance legal entities domiciled in the United States. Thus, this aggregation approach is to be used rather than a fully detailed RBC calculation on the combined entities' annual statement data. This resulting aggregated level of required capital, in turn, would be combined with that of other jurisdictions as described above in paragraph a), pursuant to their respective existing capital requirements (as per the table below). For non-regulated entities, such as a US-based holding company, there is no minimum regulatory capital requirement.

d) In addition to capital requirements, firms should aggregate available regulatory capital. For US-domiciled insurers, this will be the statutory capital and surplus of each legal entity top-tier insurer per its year-end 2018 annual statement balance sheet. For insurers domiciled in other non-US jurisdictions, and for other regulated financial sectors, this will be pursuant to each jurisdiction's/sector's respective rules. Additional guidance for the major non-US jurisdictions is provided by the IAIS in the table below. For non-regulated entities, such as a US-based holding company, available capital will be based on capital resources held within that entity, excluding the book value of its investment in insurance subsidiaries.

e) The total aggregated AVR and the total aggregated IMR should be reported with respect to all US life insurance legal entities in the group.

23. Other examples of Group PCRs or entity PCRs for the purposes of an aggregated group PCR are provided in the table below. If a specific jurisdiction is not listed within this table, and you are uncertain as to what is expected, please consult with your Supervisory Authority.

Table 2. Examples of jurisdictional group PCRs

Jurisdiction	Information provided
Australia	APRA's "Prudential Capital Requirement", as set out in prudential standards is the legal entity "MCR" under the ICPs. Groups also have to hold the "Prudential Capital Requirement" as set out in the prudential standards, again an MCR. The PCR is target capital as set by the insurer/group in accordance with APRA requirements. Effectively, this would be "Target capital under ICAAP". PCR is not a set multiple of MCR.
Bermuda	The Legal Entity PCR in Bermuda for medium and large commercial insurers is called "Enhanced Capital Requirement" (ECR) and is calibrated to Tail-VaR at 99% confidence level over a one year time horizon.
Canada	The PCR for Life Groups is 100% of the LICAT Solvency Buffer. The PCR for P&C Groups is the MCT capital requirement at target level.
China	The PCR is 100% of the C-ROSS total capital.

European Union	The Group PCR is the Solvency 2 group SCR, calibrated at a VaR 99.5% level over a one-year time horizon.
Hong Kong	For Hong Kong, under the current rule-based capital regime, if applied similar to the concept of PCR of the IAIS Field Testing exercise, the regime's PCR would be 150% of MCR for life insurers and 200% of MCR for non-life insurers.
Japan	200% of solvency margin ratio is deemed as PCR.
Korea	100% of risk-based solvency margin ratio is deemed as PCR.
Singapore	Regarding Early Warning CAR (Equivalent of PCR) for Singapore under the current regime, the regime's PCR would be 120% of total risk requirement (ie capital requirement) for all licensed insurers. In practice, insurers are expected to have capital management plans in place and hold a target CAR of more than 120%.
South Africa	The PCR is 100% of the SAM group SCR.
Switzerland	The Group PCR under the "Swiss Solvency Test" (SST) is 100% of the target capital, which is calibrated to Tail-VaR at 99% confidence level over a one-year time horizon.
Chinese Taipei	The Chinese Taipei FSC does not impose a group PCR, and the capital requirement system for insurers (incl. Life, P&C, and Reinsurer) in Chinese Taipei is named "Risk-based Capital (RBC) System". The PCR level is set at 200% of RBC ratio, where RBC ratio = capital resources / risk-based capital requirement (based on a factor-approach).

24. *Qualifying Capital Resources* is the capital available to meet the capital requirement reported on the worksheet. Therefore, this should be reported on the same basis as the capital requirement.

25. *Equity*: Report the amount of equity that qualifies as capital resources within the jurisdictional capital framework.

26. *Deductions/exclusions from qualifying capital resources* is the amount deducted from capital resources within the jurisdictional capital framework and should be reported as a negative figure.

27. *Liabilities counted towards qualifying capital resources* is the amount of liabilities that qualifies as capital resources within the jurisdictional capital framework.

4.2 Securities-related Baseline

28. The securities-related capital requirement is any capital requirement imposed by a securities regulator on securities business within the group. The securities-related qualifying capital resources is the regulatory capital available to meet the capital requirement reported on the worksheet. Therefore, this should be reported on the same basis as the securities-related capital requirement.

4.3 Banking-related Baseline

29. For capital requirements related to banking activities, a separate table is provided in order to collect the total risk-weighted assets according to the Basel III Framework[1] (using the approach within the Basel III Framework that is used for regulatory reporting by banking entities in the group) and the total exposure measure for the Basel III leverage ratio framework.

30. The method of calculating risk-weighted assets (RWA) for regulated banking activities should be the same as that for reporting to the banking supervisor(s).

31. For unregulated banking business, Volunteer Groups should apply the Basel III leverage ratio framework and the full RWA calculation under the Basel III Framework. The Basel III monitoring workbook is available to calculate these figures at http://www.bis.org/bcbs/qis/index.htm.

4.4 Assets under Management

32. The collection of baseline data on asset management business will serve two purposes. The first is to understand the amount of capital required to be held for that business under existing regulatory regimes. The second is to allow the IAIS to calculate the non-insurance component of the BCR, which mirrors the Basel II standardised approach for determining the Operational risk charge.

33. There are two columns, one for asset management business that is subject to a capital requirement from a banking supervisor and one for asset management business not related to banking (ie where a banking supervisor does not apply a capital requirement in relation to that business). These columns are: *Regulated Banking Business* and *Not Related to Banking*.

34. For both types of asset management business, the last three years of positive gross annual income must be reported. This income should relate only to third-party asset management, not the management of the Volunteer Group's own assets. Gross annual income is defined in paragraph 650 of the Basel II Comprehensive version[2].

35. For asset management business not related to banking, if any capital requirement is imposed by another supervisor (including an insurance supervisor[3]) this should be reported so as to facilitate a comparison to the calculation according to the Basel II standardised approach.

36. For asset management business subject to a capital requirement from a banking supervisor, the actual Operational risk charge reported to the banking supervisor(s) must be reported. If the banking supervisor(s) requires or allows the use of the standardised approach under Basel II, then this figure should be the same as that calculated from the input of the last three years of positive gross annual income from asset management business.

[1] http://www.bis.org/bcbs/basel3.htm
[2] http://www.bis.org/publ/bcbs128.pdf
[3] Only relevant where the asset management business is conducted off-balance sheet and not included in the capital requirement reported on the Current Regulatory Baseline.

5 ICS Balance Sheet

Relevant Worksheets in Template:	*FT19.ICS.Balance Sheet*	*Due 31 July 2019*

37. Balance sheet data is reported in worksheet *FT19.ICS.Balance Sheet*. To avoid duplication of the data collected, this single worksheet is used to collect all GAAP, GAAP with Adjustments (GAAP Plus) and Market Adjusted Valuation (MAV) balance sheet data. The specifications below pertain to the section of the worksheet labelled *A) Information on the balance sheets.*

5.1 Balance Sheets – Scope and General Considerations

38. The starting point should be the consolidated GAAP balance sheet of the insurance holding company of an insurance group or financial holding company of a financial conglomerate subject to the adjustments set out below. Generally, the starting point for most firms will be the public company GAAP financial statements issued by the holding company. For entities that do not have consolidated GAAP financials (US SAP companies), see Section 5.1.1.1.1 below.

39. The GAAP accounting requirements determine whether or not an entity should be consolidated and the accounting treatment when an entity is not consolidated. The reporting based on these requirements should not be amended, with one exception. The exception to following GAAP rules is when the group has significant influence over another insurer (eg insurance joint venture, investment over 20%) but does not meet the consolidation threshold. In this case, proportional consolidation should be used unless the data needed to perform a proportional consolidation is not available. If the data is not available, then the equity method of accounting should be followed.

40. Non-insurance financial entities are included in the consolidation. Capital requirements for non-insurance financial entities subject to specific sectoral supervision should be calculated separately according to the sectoral requirements as defined in the section on *Baseline Current Regulatory Reporting* (Section 4).

41. For some firms, the holding company structure may have non-financial entities not owned within the insurance group. In this case, the non-financial entities may be excluded from the consolidation if they are completely separate from the insurance businesses in the group. This would mean no linkage to the insurance group in terms of guarantees or other financial linkages, application of credit rating methodologies, shared treasury operations or shared resources such as IT platforms and buildings. The Volunteer Group must be able to establish that financial stress or bankruptcy of the non-financial business would have no financial or reputational effect on the insurance group.

42. The value of equity and debt owned by the Volunteer Group in entities that are excluded from the scope of consolidation should not be included in the capital resources of the group for solvency purposes.

43. To ensure comparability of results, when reporting balance sheet information under both valuation methods (MAV and GAAP Plus – see respective sections of this document), Volunteer Groups should apply the calculations to the same group of entities. This may require adjustments to one or both of the valuation approaches to ensure a consistent consolidated approach.

44. Where the consolidation approach used for the purpose of Field Testing differs from that set out above, it should be disclosed in the Questionnaire and, where material, an estimate of the quantitative impacts of the differences should be provided.

5.1.1 GAAP Balance Sheet

45. Column *GAAP - Amounts per audited, consolidated financial statements* (or aggregated statutory financial statements) is the starting point for the balance sheet. Totals should be equal to audited GAAP financial statements (ie Assets, Liabilities, Equity). Other significant balances, to the extent possible, should also be equal to reported financial statements without any adjustment (eg total investments, insurance liabilities, retained earnings, accumulated other comprehensive income (AOCI), etc). There are several reclassifications that should be made to the GAAP audited financial statements. Any significant differences should be explained in the Questionnaire.

46. Volunteer Groups should report structured settlement agreements with third parties net on the balance sheet (removed from reserves and reinsurance recoverables) when the underlying claim is settled and the risk to the non-life company is contingent upon the life insurer (and the guarantee fund, if applicable) having the ability to pay. The exposure to the life insurer should be included in the Credit risk calculation. Where the underlying claim can be re-opened, the claim should be reported as an insurance liability and the recoverable as a reinsurance asset.

47. For those Volunteer Groups that do not prepare consolidated or group level financial statements and must generate aggregated statutory financial statements for 2019 Field Testing, starting balances should be reported as specified in the Section 5.1.1.1 below.

48. Column *GAAP – Related to Insurance Activities* is the next step. Amounts related to insurance activities should be separated from Column 1 and reported here. For the purpose of 2019 Field Testing, insurance activities are defined as activities of licensed insurers and regulated and unregulated entities that support the insurance activities (for example subsidiaries that provide claims management or asset management acting mainly for the insurance entities). See also Annex 3.

49. Column *Other than Related to Insurance Activities* will then be automatically populated.

5.1.1.1 Instructions for Generating GAAP Group Financial Statements

50. For Volunteer Groups that do not prepare consolidated or group level financial statements it will be necessary to generate financial statements on an aggregated basis to reflect group level starting balances. This is primarily applicable for mutual insurers that do not prepare consolidated GAAP financial statements.

5.1.1.1.1 US SAP - Group Level Financials

51. The following specifications provide instructions for US mutual Volunteer Groups. Any other Volunteer Group that may need to generate group level financial statements may use these specifications as an example and apply similar steps as applicable. Volunteer Groups should consult with their supervisor for any specific questions not addressed in the specifications below.

52. US Volunteer Groups that do not report on a consolidated group basis will need to prepare a group-level balance sheet that includes domestic insurance companies (whose financial statements are prepared in accordance with US SAP), foreign insurance company subsidiaries, and non-insurance subsidiaries and affiliates (whose financial statements are typically prepared in accordance with US GAAP in the case of subsidiaries and affiliates of a US-based insurer or group). All legal entities under the ultimate parent insurance company should be included. In situations where there are two or more top tier insurance companies that form the group, all legal entities under the top tier insurance companies should be included.

53. A group level, consolidated balance sheet should be prepared as follows:

a) Aggregate all US audited statutory financial statements for domestic insurance companies.

b) For all non-US insurance companies that file audited financial statements on a non-US statutory basis of reporting, aggregate all balances after performing foreign currency translation into the reporting currency of the US Holding Company or Head of Group entity as specified under FASB ASC Topic 830. Foreign currency translation adjustments should be recorded in the balance sheet equity account AOCI.

c) Identify other non-insurance domestic subsidiaries, affiliates and other entities where ownership is greater than 50% or where management controls an entity through the ability to make decisions that can significantly impact returns of the entity. For these entities, eliminate the equity investment in each subsidiary and for each balance sheet line item add the corresponding value of reported gross assets and liabilities of those subsidiaries to the parent statutory balances[4]. Include any minority interest amounts if applicable. Apply the same approach for foreign entities with the addition of performing foreign currency translation as specified in b) above.

d) Make appropriate intercompany eliminations as specified under FASB ASC Topic 810 Consolidation.

54. The following additional adjustments should be made to approximate a US GAAP balance sheet:

a) Long-term and short-term investments reported under SAP that meet the US GAAP definition of available-for-sale or trading should be adjusted to fair value. This mainly applies to debt securities, equities and derivatives.

[4] This may be a mix of statutory, US GAAP and modified GAAP balances.

b) Replication (synthetic) assets should be bifurcated, reclassified as debt securities and derivatives.

c) Real estate owned should be reported on a gross basis. Amounts should be revalued on the same measurement basis as would be required under US GAAP based on whether the real estate is an investment, held for sale or considered as property for own use.

d) Any life insurance deferred premium assets that exist for SAP when the mean reserve method is used for calculating reserves should be written off.

e) Non-admitted assets, including any non-admitted deferred tax asset should be reported in the balance sheet using valuation methods that are consistent with US GAAP.

f) The asset valuation reserve and interest maintenance reserve should be reclassified to Reserves – Unrestricted as specified in Section 9.3.3.

g) Any reinsurance recoverables that are netted against insurance liabilities for US SAP should be reclassified as assets.

h) Pension liabilities: firms that have elected to defer surplus impacts of the US SAP rule change to reflect the full pension benefit obligation should record a liability for the unamortised portion.

55. This will result in a quasi-consolidated group level balance sheet. These balances should be recorded in worksheet *FT19.ICS.Balance Sheet*, the column labelled *GAAP – Amounts per Audited Consolidated Financial Statements*.

5.1.1.2 GAAP Balance Sheet Equity

56. Volunteer Groups should provide a breakdown of the components of equity as set out in the balance sheet. Definitions for many of the equity line items can be found in Section 9.3 *Qualifying Capital Resources*. In particular, please note that share premium and contributed surplus should be reported separately, and that contributed surplus should include the value of equity-settled employee stock options.

57. Ordinary shares should be reported on a gross basis with treasury shares reported as a deduction at cost on the separate line that has been added to the Template.

58. The value reported as a subset of minority/non-controlling interests (NCI) in the balance sheet is limited to NCI that represents a third party ownership interest not in the form of a financial instrument. This form of NCI must also meet the full description in Section 9.3.1. It may be necessary to reclassify a portion of the valuation adjustment offset amounts related to GAAP Plus or MAV to NCI. This reclassification amount can be reported in the *Adjustment* section row *(-) adjustments already included in other equity items* with the other side of the entry to the NCI line item.

59. Where the breakdown and/or total GAAP equity reported in the Template does not correspond to amounts per audited consolidated financial statements[5](where available), Volunteer Groups are requested to explain any discrepancies in the Questionnaire and to provide a reconciliation of reported amounts to the equity items in the consolidated GAAP balance sheet.

60. Any prudential or legally restricted reserves that appear in a Volunteer Group's reported starting GAAP balance sheet should be reclassified into unrestricted reserves for purposes of 2019 Field Testing. Generally, restricted and legal reserves exist only under prudential reporting and would not be reflected in the starting GAAP balance sheet under the ICS. [6] A holistic analysis of capital fungibility, including restricted reserves, will be performed during the five-year Monitoring Period.

61. Any segregated surplus on par business or demutualised "closed" block including policyholder dividend obligations should be reported under the Equity section in the Participating Policyholders' equity or account row. These items will also be considered during the analysis of fungibility.

5.1.2 ICS Balance Sheets

5.1.2.1 GAAP Plus Balance Sheet (GAAP Plus)

62. Column *GAAP Plus - Reclassification from GAAP* should be used to report any reclassification of amounts that are a result of differences in presentation between audited GAAP[7] and GAAP Plus (Section 7.5). Volunteer Groups should record in this column only those amounts representing the transfer from one balance sheet row to another in order to conform to the format of the GAAP Plus balance sheet. For example, some line items may be presented on a net basis on audited financial statements but would be required to be reported on a gross basis for purposes of the ICS (ie policy loans, reinsurance recoverables). All reclassification entries should sum to zero. These reclassification amounts should not include any valuation adjustments as outlined in the specifications under each GAAP Plus jurisdictional approach, such as valuation changes to assets or insurance liabilities or the elimination of deferred acquisition expenses. Volunteer Groups should provide narrative explanations for reclassification entries in the Questionnaire.

63. Column *GAAP Plus – Related to insurance activities* should include balances on the basis of the GAAP Plus approach. The balances should reflect any reclassification amounts as reported in the column *Reclassification from GAAP* and adjustments as specified in the applicable jurisdictional GAAP Plus approach (Section 7.5).

64. Offsetting entries for valuation adjustments are automatically calculated fields recorded under the equity section of the balance sheet.

[5] Eg because of differences in reporting currency or the scope of the group.
[6] The starting point for the ICS is the consolidated balance sheet as reported in a Volunteer Group's general-purpose, audited financial statements, which for most Volunteer Groups is either on the basis of IFRS or their local jurisdictional GAAP.
[7] In the case of US Mutuals, this would be the generated group level financial statement balances specified in Section 5.1.1.1.1.

65. For 2019 Field Testing, the US GAAP Plus balances should also reflect (on a best efforts basis) the impact of adopting the new accounting rules for measuring insurance contracts and credit impairment under IFRS and US GAAP as described in the GAAP Plus specifications (Section 7.5).

66. The worksheet *FT19.ICS.Balance Sheet* also includes additional requests for information related to GAAP Plus including the calculation of an AOCI Adjustment to capital resources that is being collected from Volunteer Groups applying the US GAAP, US SAP and Japan GAAP examples of GAAP Plus. Detailed instructions can be found in Section 9.3.2.

67. In addition, there are a series of questions included in the Questionnaire related to GAAP Plus and questions requesting support for amounts reported in insurance liability reconciliations. Supplemental narratives to further describe methodologies employed, assumptions used, etc., are invited through the Questionnaire.

5.1.2.2 Market Adjusted Valuation Balance Sheet (MAV)

68. *MAV - Reclassification from GAAP* should be used to reflect any entries to reclassify amounts from the audited, consolidated jurisdictional GAAP balances as reported in *GAAP – Related to Insurance Activities* to the MAV balance sheet. Such reclassification differences may result from consolidation rules, offsetting/netting rules, or variance in other accounting definitions (eg separate accounts). All reclassification entries should sum to zero. Volunteer Groups should provide narrative explanations for reclassification entries in the Questionnaire.

69. *MAV – Related to Insurance Activities* balances should reflect the changes in valuation of invested assets or liabilities as specified under the MAV approach. The specifications of each of the approaches to be tested in 2019 Field Testing are detailed in the MAV section (Section 6.4).

70. Offsetting entries for valuation adjustments to assets and liabilities are automatically calculated in the equity section of the balance sheet.

5.1.2.3 Additional Balance Sheets

71. 2019 Field Testing includes columns under both GAAP Plus and MAV to report balances restated using certain additional discounting methods. For both GAAP Plus and MAV, an additional balance sheet will be collected based on a risk-free rate to discount insurance/reinsurance liabilities and reinsurance assets.

72. Instructions on completing the additional balance sheets can be found in Section 6.4 for MAV and Section 7.6 for GAAP Plus.

5.2 Other Balance Sheet Information

73. This section provides specifications for the tables that appear below the *Balance Sheet* table in worksheet *FT19. ICS.Balance Sheet*.

74. *Difference between consolidated and insurance assets* - A table to provide a breakdown by business activity type of the difference between consolidated assets included in table - Balance Sheet column 1 and insurance assets in column 3.

75. *Information on assets subject to deduction from capital resources* – This table collects information used in the calculation of ICS capital resources under the GAAP Plus and MAV valuation approaches. See Section 9.4 for detailed instructions.

76. *GAAP Plus AOCI Adjustment to capital resources* – This table is a reconciliation from AOCI on Available for Sale (AFS) debt securities reported under the GAAP Valuation balance sheet to the AOCI Adjustment amount as specified in Section 9.3.2.

77. *Allocation of Assets held in separate accounts* – Table to provide additional information on separate account assets for GAAP, GAAP Plus and MAV.

78. *Detailed information on the insurance liabilities* – The value of insurance liabilities and investment contracts under GAAP, GAAP Plus and MAV valuation approaches should be reported in this table as follows:

a) Balances entered in the detailed table populate the insurance liability balance sheet line item.

b) Balances reported in the columns labelled *GAAP – Gross liabilities* and *GAAP – Reinsurance recoverables* should be reported as per the audited, consolidated financial statements. For Volunteer Groups that must generate group level financial statements (as may be the case for some US mutual insurers), instructions can be found in Section 5.1.1.1.

c) Insurance liability and investment contract adjustments to balances reported in the columns labelled GAAP Plus and MAV approaches should follow the respective specifications.

d) Volunteer Groups should report insurance liabilities gross, ie reinsurance recoverables and policy loans should be reported as assets rather than being netted against insurance liabilities. This facilitates analysis and is necessary for the calculation of the capital requirement.

79. The instructions for completing the reconciliation tables can be found in Section 8.

6 Market Adjusted Valuation (MAV) Approach

Relevant Worksheets in Template:	*FT19. ICS Balance Sheet* *FT19.Valuation Assets* *FT19.Insurance Portfolios* *FT19.Model Portfolio*	*Due 31 July 2019*

80. Under the MAV approach, the Volunteer Group starts with the amounts as reported on its audited, consolidated, general-purpose balance sheet, whether that is on an IFRS or GAAP basis, and performs adjustments to get to a consolidated MAV balance sheet following these Technical Specifications.

6.1 Valuation Principles

81. Volunteer Groups are not required to revalue every balance sheet item to a market-based methodology. The valuation of assets and liabilities other than insurance liabilities and financial instruments should generally be based on IFRS or GAAP valuations, as applicable for consolidated audited general-purpose financial statements (or statutory amounts in the case of US mutuals). Section 6.2 provides guidance for various balance sheet items.

82. The Volunteer Group should make adjustments to the following items:

a) Insurance liabilities and reinsurance balances should be adjusted to comply with the sections on current estimate and MOCE. Existing provisions, such as unearned premium provisions or provisions for unexpired risk, should be replaced by the current estimate calculation. Separate account/unit-linked liabilities, where the policyholder bears the investment risks, may be valued according to Section 6.8 (*Obligations Replicable by a Portfolio of Assets*), where appropriate.

b) Financial instruments, both assets and liabilities, including derivatives and mortgages/ loans, should be adjusted to fair value using the fair value specification determined under the Volunteer Group's applicable IFRS or GAAP standards for reporting and public disclosure purposes.

c) Notwithstanding paragraph b) above, non-insurance liabilities (including debt instruments issued by the Volunteer Group) should be adjusted to a value that does not take into account changes in the credit standing of the Volunteer Group.

Example

Subordinated debt issued by the Volunteer Group should not be revalued to market prices. However, the present value of the liability should be updated to reflect changes in the time value of money (update of yield curves).

6.2 Guidance for Specific Balance Sheet Items

83. Volunteer Groups should apply the following adjustments to these specific balance sheet items:

a) Goodwill and other intangibles: the valuation of goodwill and other intangibles should be based on the Volunteer Group's reported IFRS or GAAP valuations, as applicable for consolidated audited general-purpose financial statements in each Volunteer Group's respective home jurisdiction. However, goodwill and other intangibles are subject to adjustments in deriving the value of capital resources.

b) Property for own use: for consistency with the treatment of investment property, the valuation of these items should be adjusted to fair value as determined under the Volunteer Group's IFRS or GAAP valuations.

c) Mortgages and loans: See paragraph 82.b) above on financial instruments.

d) Reinsurance recoverables: these items should be reported on a basis consistent with the determination of insurance liabilities (refer to Section 6.3). Recoverables on paid and unpaid balances should be reported net of allowances for estimated uncollectable amounts.

e) Pension assets/liabilities: Pension assets/liabilities should be based on the Volunteer Group's reported IFRS or GAAP valuations. However, pension assets are subject to adjustment in deriving the value of capital resources.

f) Deferred taxes (assets/liabilities) should be treated according to the Section 13 *ICS Tax Treatment*.

g) Deferred acquisition costs, other deferred expenses (including value of business acquired), and future acquisition costs (within contract boundaries): deferred acquisition costs and other deferred expenses that are on the balance sheet at the reporting date should be adjusted to zero. Future acquisition costs related to future premiums (within contract boundaries – see Section 6.3.5) should be reflected in the value of insurance liabilities.

h) Premium receivables falling due after the valuation date and related to contracts that are included in the current estimate calculation should be adjusted to zero, as the respective cash flows should be reflected in the valuation of insurance liabilities (as negative cash flows). Premium receivables for which the due date is prior to the valuation date, should not be part

of the current estimate calculation and should remain as assets on the balance sheet (irrespective of whether or not they are past-due after a certain number of days).

i) Loans to policyholders should be reported in the appropriate row under *Investments*, rather than being netted against insurance liabilities.

j) Other assets (including other reinsurance and other insurance-related assets): the valuation of these items should be based on the Volunteer Group's reported IFRS or GAAP valuation.

k) Provisions other than insurance liabilities: the valuation of these items should be based on the Volunteer Group's reported IFRS or GAAP valuation.

l) Financial liabilities: upon initial recognition the valuation of these items should be based on the Volunteer Groups' reported IFRS or GAAP valuations, but there should be no subsequent adjustment to take account of changes to the Volunteer Group's own credit standing. See paragraph 82.c).[8]

m) Contingent liabilities: the valuation of contingent liabilities should be based on the Volunteer Group's reported IFRS or GAAP valuation. Many contingent liabilities are disclosed in the notes to financial statements because estimates are not reliable and/or the IFRS/GAAP definition of a liability to be reported on the balance sheet is not met.

n) Other non-financial liabilities: the valuation of other non-financial liabilities should be based on the Volunteer Group's reported IFRS or GAAP valuation.

6.3 Methodology for Calculation of Current Estimate

6.3.1 Basis for Calculation

84. The current estimate should correspond to the probability-weighted average of the present values of the future cash flows associated with insurance liabilities using IAIS specified yield curves[9].

85. This entire section applies equally to the calculation of reinsurance recoverables. Reinsurance recoverables should be calculated so that they are consistent with the current estimates of insurance liabilities. Therefore the same assumptions and inputs should be used.

86. The calculation of the current estimate should be based upon up-to-date and credible information and realistic assumptions. Implicit or explicit margins are not part of the current estimate. The determination of the current estimate has to be objective, comprehensive, and use observable input data where possible.

[8] ICP Standard 14.6: "The value of insurance liabilities and other liabilities does not reflect the insurer's own credit standing."
[9] IAIS specified yield curves include the 35 specified yield curves in the Template and other yield curves derived using the methodology in Section 6.3.15.1.

87. Uncertainty in future cash flows should be captured in the current estimate. Uncertainty in cash flows can arise from a number of sources, namely: (1) the timing, frequency and severity of claim events; (2) claim amounts, including uncertainty in claim inflation, and the period needed to settle claims; (3) the amount of expenses; (4) the value of an index/market values used to determine claim amounts; (5) policyholder behaviour; and (6) path dependency. The calculation should consider the variability of cash flows in order to ensure that the current estimate represents the mean of the distribution of cash flow values.

88. By definition, the current estimate is the average of the outcomes of all possible scenarios, weighted according to their respective probabilities. However, it may not be necessary or even possible to explicitly incorporate all possible scenarios in the valuation of insurance liabilities, or to develop explicit probability distributions in all cases. This depends mainly on the type of risks affecting the scenarios and the expected materiality of their financial impact in the overall calculation.

89. When valuing insurance liabilities, no adjustment should be made to take into account the own credit standing of the Volunteer Group.

6.3.2 Cash Flow Projections

90. Cash flow projections should reflect expected realistic future demographic, legal, medical, technological, social or economic developments. Appropriate inflation assumptions should also be incorporated in the cash flow projections, recognising the different types of inflation to which the entity can be exposed (eg consumer price index, medical inflation and salary inflation). Premium adjustment clauses, where relevant, may also need to be considered.

91. The current estimate should be calculated gross of reinsurance and special purpose vehicles. Recoverables from reinsurance or special purpose vehicles should be separately calculated and recognised as an asset.

92. The projected cash flows to be included in the calculation of current estimate should include at a minimum, the following items within the contract boundaries:

a) Benefit and claim payments.

b) Direct and indirect expenses incurred (a non-exhaustive list of examples includes: administrative expenses, investment management expenses, claim management expenses, acquisition expenses and overhead expenses).

c) Premiums received, provided they are included within the contract boundaries.

d) Subrogation payments and recoveries other than from reinsurance and special purpose vehicles.

e) Other payments made necessary in order to settle the claims.

93. All expenses related to existing and future business contracts, within the contract boundaries, should be included in future cash flows for calculating the current estimate. The expense assumptions should be fully allocated to policies included in the balance sheet and estimated on a going concern assumption. In particular:

a) Volunteer Groups should allocate expenses according to the segmentation of their obligations used in the calculation of the current estimate of insurance liabilities. Changes in the approach to the split of overhead expenses should be limited to cases where a new approach better reflects the current situation. Otherwise, Volunteer Groups should always allocate overhead expenses to existing and future business on a consistent basis over time.

b) The timing of expense cash flows should be consistent with the timing of other cash flows required to settle the insurance and reinsurance obligations. Volunteer Groups should ensure that assumptions with respect to the evolution of expenses over time are appropriate and consider the nature of the expenses involved. Inflation projections should be consistent with all economic assumptions made.

Example

Future expenses of the firm should be allocated to inforce contracts and future contracts within the contract boundaries. The premium liability should not include the premium, expenses and claims for contracts out of the contract boundaries. The expense assumptions should be on a going concern basis and, assuming all else equal, consistent with the prior years.

Expenses should be consistent with past expenses, therefore if a contract is underwritten on 31.12.N, the amount on the balance sheet should not reflect in premium liability the paid expenses to settle the policy (eg costs associated with pricing the product and selling the product etc.), but should reflect future related expenses (eg overhead, claims management expenses etc.).

Calculation Example (Non-life)

Allocate the overhead expenses to premiums/claims by determining a per policy/claim on a going concern basis and multiply by the policies/claims. The result is that overhead expenses are recognised consistently with premiums/claims.

6.3.3 Non-life Premium Liabilities

94. The current estimate of premium liabilities should reflect the following cash flows:

- Cash flows from future premiums falling within the contract boundary.
- Cash flows resulting from future claim events (taking into account the potential for claims that have high severity, low probability of occurrence).
- Cash flows arising from all expenses stemming from premiums of existing and future business falling within the contract boundary (a non-exhaustive list of examples includes: administrative expenses, investment management expenses, claim management expenses, acquisition expenses and overhead expenses). Acquisition costs should be included in the premium liabilities valuation and not reflected as an asset on the balance sheet.
- Cash flows arising from ongoing administration of in-force policies, including any commission payments, any premium collection costs and investment related expenses.

6.3.3.1 Non-life Premium Liabilities Data Collection

95. In 2019 Field Testing, Volunteer Groups are asked to provide more detailed reporting of the components of their non-life premium liabilities. To increase the understanding of how expenses are allocated and projected for the purpose of the non-life premium liabilities' calculation, the IAIS is collecting data using a supporting table *Non-life premium liabilities under MAV data collection* with more granular quantitative information

96. The table is a breakdown of the components of the present value of future cash inflows and cash outflows underlying the reported non-life premium liabilities: premiums within the contract boundaries, losses including loss adjustment expenses, and expenses excluding loss adjustment expenses. These components should be split between inforce contracts, ie contracts whose coverage has already started, and future contracts within contract boundaries, ie underwritten contracts whose coverage has not yet started. Cash flows should be reported, both gross and net of reinsurance.

97. Some of the terms may be interpreted differently by Volunteer Groups. As such, input on such differences is sought in the Questionnaire.

6.3.3.2 Proxies for Non-life Premium Liabilities

98. Similar to previous field testing exercises, two proxies are included in 2019 Field Testing for the purpose of calculating non-life premium liabilities.

99. The first proxy attempts to approximate the concept of a current estimate, through the application of a formula composed of several elements:

PL = (CR – AER) * UPR + (CR – 1) * PVFP

Where,

PL – Premium liability

CR – Combined ratio (including all expenses)

AER – Acquisition expense ratio

UPR – Unearned premium reserves (difference between written premiums and earned premiums)

PVFP – Present value of future premiums (within contract boundaries)

100. A second proxy may be used if, for materiality or other reasons, the Volunteer Group needs to further simplify the calculation, in the case where the combined ratio is smaller than 1:

PL = UPR = Premiums Written less Premiums Earned

6.3.4 Recognition / Derecognition of Insurance Liabilities

101. Without prejudice to the specifications set in the section on contract boundaries, a liability should be recognised and valued as soon as the Volunteer Group becomes party to a contract, without any possibility to amend or cancel it, even though the insurance coverage has not yet started.

102. A contract should be derecognised when all possible claims linked to this contract have been completely settled, and all future cash flows are nil.

Example

Consider a contract providing health coverage starting on 1 March N+1. The contract has been underwritten on 20 December N, with no possibility to change the terms of the contracts before the coverage starts. On 31 December N, this contract should be recognised in the balance sheet.

6.3.5 Contract Boundaries

103. Only contracts existing at the valuation date, and recognised according to the section on *Recognition / Derecognition of Insurance Liabilities*, should be taken into account. This provision implies that no future business should be taken into account for the calculation of insurance liabilities.

104. Any obligations, including future premiums, relating to the contract shall belong to the contract. However, future premiums (and associated claims and expenses) relating to an existing and recognised contract beyond the following dates should not be considered in insurance liabilities, unless the Volunteer Group can demonstrate that they are able and willing to compel the policyholder to pay the premiums:

a) The future date where the Volunteer Group has a unilateral right to terminate the contract or reject the premiums payable under the contract; or

b) The future date where the Volunteer Group has a unilateral right to amend the premiums or the benefits payable under the contract in such a way that the premiums fully reflect the risks.

105. For group policies, similar rules apply. If premiums can be amended unilaterally for the entire portfolio in a way that fully reflects the risks of the portfolio, the second condition above will be fulfilled for group policies.

Example

Consider an annually renewable life protection policy sold on a group basis. The Volunteer Group does not manage this portfolio on a contract-by-contract basis, but can freely adjust the premiums for the entire portfolio at the policy anniversary date, to fully reflect the risks stemming from that portfolio. In this case, the conditions defined in paragraph 104 are deemed to have been met. The calculation of current estimates should not include any premiums beyond the next future anniversary date where such adjustment is possible, along with the related claims and expenses.

Example

Consider a whole life policy, with a level premium. According to the terms of the insurance contract, the Volunteer Group cannot reject any premium, and the premium is constant throughout the life of the contract. Therefore, all (probability-weighted) future premiums of this contract should be taken into account in the insurance liabilities, along with the related claims and expenses.

Example

Consider a health policy (medical expenses), starting on 1 July N, with a premium paid monthly. Premium indexation is possible at each anniversary date, and the Volunteer Group has no right to cancel the policy during the first 12 months. On 31 December N, insurance liabilities should include 6 months of future premiums (January – June N+1), along with the related claims and expenses.

6.3.6 Time Horizon

106. The projection horizon used in the calculation of the current estimate should cover the full lifetime of all the cash in- and out-flows required to settle the obligations (within contract boundaries) related to existing insurance and reinsurance contracts on the date of the valuation.

6.3.7 Data Quality and Setting of Assumptions

107. When selecting data for the calculation of the current estimate, Volunteer Groups should consider:

a) The quality of data, for different data sets, based on the criteria of accuracy, completeness and appropriateness.

b) The use and setting of assumptions made in the collection, processing and application of data.

c) The frequency of regular updates and the circumstances that trigger additional updates.

108. In some cases, only limited or unreliable data may be available from the Volunteer Group's own experience of a particular type of contract or claim from which to base an assumption for that contract or claim. Historical data about the Volunteer Group's own experience should be supplemented when necessary with data from other sources. Adjustments should be made to these alternative sources so that they are more consistent with the risk characteristics of the portfolio considering in particular whether:

a) The characteristics of the portfolio differ (or will differ, for example because of adverse selection) from those of the population that has been used as a basis for the historical data.

b) There is evidence that historical trends will not continue, that new trends will emerge or that economic, demographic and other changes may affect the cash flows that arise from the existing insurance contracts.

c) There have been changes in items such as underwriting procedures and claims management procedures that may affect the relevance of historical data to the portfolio of insurance contracts.

d) The assumptions used to calculate the current estimate should reflect current expectations based on all information currently available. Rather than simply relying on recent historical or current experience, an assessment of expected future conditions should be made.

e) In particular, when calculating the current estimate, consideration should be given to events not captured by the data that can impact the current estimate.

f) Consistency across assumptions is important to consider, eg the relationship between inflation and interest rates.

6.3.8 Possible Methodologies

109. The calculation of insurance liabilities is typically based on valuation models. Where this is the case, these models should be comprehensive, transparent, based on current and reliable data, and use appropriate actuarial and statistical methods. Valuation models and their parameters should be calibrated as much as possible on the basis of objective, observable data.

110. Volunteer Groups should use actuarial and statistical techniques for the calculation of the current estimate that appropriately reflect the risks that affect the cash flows. These may include simulation methods, deterministic techniques and analytical techniques. In the case of more complex

cash flow projections (eg future discretionary benefits relating to participating contracts or embedded options and guarantees), simulation techniques may lead to more robust valuation results. In other cases, deterministic and analytical techniques may be more appropriate.

6.3.9 Insurance Liabilities Expressed in Different Currencies

111. The discounting of insurance liabilities should be performed with the IAIS specified yield curves relevant to the particular currency. Please refer to the section on *Discounting* (Section 6.3.15).

112. The conversion to the reporting currency, from other currencies, should be carried out according to the jurisdictional GAAP for consolidated group reporting. This will usually result in conversion at the currency conversion spot rate at the balance date.

6.3.10 Valuation of Options and Guarantees

113. Insurance contracts often include embedded options and guarantees, such as guarantees of minimum investment returns (including as part of death benefits), maximum charges for mortality, surrender options, or options for the policyholder to reduce or extend coverage. Expected cash flows for these options and guarantees should be included in the cash flows to determine the current estimate. Expected cash flows related to these contracts should reflect expected policyholder behaviour (Section 6.3.11). For the calculation of the time value of options and guarantees all payments connected to the risks insured have to be considered, especially profit participations.

114. Variable annuities may contain guaranteed living benefits (eg minimum maturity or withdrawal benefits) tied to the performance of specific assets. All these guarantees should be valued using techniques (such as risk neutral valuation) that do not allow for the possibility of arbitrage. The parameters used for the valuation of variable annuities should be consistent with the prices of options and other financial instruments observed in the market (for example, volatility assumptions should be based on implied volatilities).

115. Options and guarantees should be valued using stochastic approaches. However, for the purposes of 2019 Field Testing and subject to a materiality assessment, simplified deterministic approaches can be used. Where a yield curve is needed as input to assume future financial market parameters and the future returns of the assets, Volunteer Groups should use the relevant IAIS yield curves with specified adjustments.

6.3.11 Policyholder Behaviour

116. Expected cash flows should reflect expected policyholder behaviour, particularly where the options or guarantees allow policyholders to take actions to change the amount, timing or nature of the benefits they will receive. In the case of long-term contracts, options available to policyholders can include the termination of a contract, guaranteed living benefits, guaranteed income benefits or any other contractual options.

117. The likelihood that policyholders will exercise contractual options should be taken into account, considering in particular:

a) Past behaviour of policyholders

b) How beneficial the exercise of options would be to policyholders under specific circumstances

c) Economic conditions

d) Past management actions

118. The likelihood that policyholders will exercise contractual options, including lapses and surrenders, should be based on a prospective view of expected policyholder behaviour that makes appropriate and justified assumptions about the elements mentioned above.

119. To the extent that it is deemed representative of the future expected behaviour, the assumptions on policyholder behaviour should be based on appropriate statistical and empirical evidence.

120. Realistic current expectations typically incorporate at least some policyholder action or inaction consistent with observed policyholder behaviour and not only with expected economic best interest.

121. The assumptions concerning policyholder behaviour should be consistent with the assumptions for investment returns and should not, in general, be assumed to be independent of financial markets (it is expected that assumptions for investment returns are consistent with the IAIS specified yield curves with the adjustments referred to in the section on *Discounting*). For instance policyholder behaviour may be linked to the interest rate scenario and associated assumptions.

122. The quantification of the impact on the current estimate of optionality or other non-symmetric cash flows may be done using a stochastic method considering the entire range of scenarios.

6.3.12 Valuation of Future Benefits

123. All future benefits that are non-discretionary should be included within the projection of cash flows according to the contractual obligation of the Volunteer Group and the economic or loss scenarios applicable for the current estimate.

124. For discretionary amounts[10] such as bonuses or crediting rates, the current estimate should recognise the amounts expected to be paid consistent with expected future developments, the economic scenarios on which the liability valuation is based and policyholders' reasonable

[10] In the context of 2019 Field Testing, discretionary amounts (Future Discretionary Benefits – FDB) should include all non-guaranteed amounts, including those bonuses linked to a legal or contractual obligation to distribute a portion of the financial / underwriting profits to policyholders.

expectations. For example, if a reference group of assets are expected to earn a greater amount than the contractual crediting rate and additional discretionary credit rates can be declared, the expected discretionary crediting rate should be taken into account.

125. This projection should be consistent with the yield curve applicable to the contract, with the adjustments referred to in the section on *Discounting* (Section 6.3.15).

126. Discretionary benefits and the exercise of policyholder options are usually connected in the projection of cash flows. Discretionary benefits often drive policyholder behaviour and so must be considered along with options and guarantees embedded within policies. The current estimate will include the value of cash flows as a result of the exercise of discretionary benefits consistent with expected policyholder behaviour.

Example

For participating products that have benefits paid linked to the investment returns of the insurer's asset portfolio, currently held assets should be reflected in the projection of participating cash flows. As new investments occur in the projection, these new investments should be assumed to earn a yield consistent with the prescribed discount curve. As a result, the asset portfolio rate will begin at the company's current assumed book portfolio rate used in the calculation of participating cash flows and converge with the prescribed yield curve as inforce assets mature and new investments are made.

Similarly, where stresses require valuations assuming a different yield curve, liability cash flows should be re-projected to reflect convergence of the returns of the asset portfolio to the prescribed stressed yield curve and participating cash flows should reflect the expected amount of pass through that would occur under the stress given the resulting portfolio investment returns.

Consider a simplified example: assume a participating product passes through company investment experience without a spread or guaranteed minimum crediting rate. Assume the portfolio yield on a book basis of assets held at the valuation date is 5% and the prescribed yield curve is consistent with a flat 2% for all years. 20% of the initial assets mature each year until all starting assets have matured by the end of year 5. Application may look as follows:

Year	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Asset Book Portfolio Rate	5.0%	4.4%	3.9%	3.4%	2.9%	2.0%	2.0%	2.0%
Projected Liability Crediting Rate	5.0%	4.4%	3.9%	3.4%	2.9%	2.0%	2.0%	2.0%
Prescribed Market Rate/Discount Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%

*Note that based upon the rate of asset turn-over, the degree of cash flow matching and the type of assets held, the pattern may evolve differently.

The initial asset portfolio rate turns over to the prescribed yield curve and the yield of assets held at the valuation date is explicitly included.

6.3.13 Management Actions

127. Management actions should be objective, realistic and verifiable. They cannot be contrary to the Volunteer Group's obligations to policyholders or to legal provisions applicable to the Volunteer Group. Assumed future management actions should be consistent with the Volunteer Group's current business practice and business strategy unless there is sufficient evidence that the Volunteer Group will change its practices or strategy.

128. When calculating the current estimate, a Volunteer Group's future management actions could be taken into account if they can reasonably be expected to be carried out under the specific circumstances to which they apply.

129. Assumed future management actions should be consistent. The assumptions about future management actions should take into account the time needed to implement the actions and any resulting incremental expenses.

6.3.14 Simplifications / Approximations and Appropriate Adjustments

130. Where an existing approach (GAAP or economic valuation) provides a reasonably close approximation to the valuation principles outlined for the MAV approach, it is acceptable to use these valuation frameworks as starting points and apply adjustments.

131. Possible adjustments could include approximating the MAV value by using sensitivities of economic values to using different yield curves for discounting.

132. For insurance business not including embedded options and guarantees (in particular insurance liabilities related to non-life insurance), there may be no need to perform stochastic valuations. In that case, the adjustment of GAAP values based on management's best estimates for determining MAV values could be limited to applying discounting to the insurance liabilities which were determined according to GAAP.

133. Specific proxies are proposed for the calculation of non-life premium liabilities, under Section 6.3.3.

6.3.15 Discounting

134. Current estimates of insurance liabilities (and related reinsurance recoverables) should be calculated using the approach specified in the following sections.

6.3.15.1 Determination of Yield Curves for Current Estimate Discounting

135. The IAIS has developed a methodology, which aims to address all the components relevant for the determination of the base yield curve, to ensure consistency among the 35 curves provided.

136. Volunteer Groups should discount their insurance liabilities using an adjusted curve. The curve is based on:

a) Risk adjusted liquid interest rate swaps or government bonds; and

b) An adjustment (as explained below).

137. In 2019 Field Testing, the IAIS is testing the aforementioned adjustment under different market conditions to assess their effectiveness in the mitigation of excessive volatility of capital resources. The adjustment is predominantly applied to the first segment of the yield curve (see Figure 1 below) until the start of extrapolation, though in some instances its application can be extended beyond the Last Observed Term (LOT). There is then an extrapolation to the Long-Term Forward Rate (LTFR) for each currency. For 2019 Field Testing, a spread above the LTFR of 15 basis points is also included within the central scenario. Additional LTFR spread values are included in 2019 Field Testing (5bps and 25 bps) for potential further discussion for ICS Version 2.0 for the monitoring period.

138. For the assumed return on assets, the same basis as the discounting approach should be used. That is, cash flows related to asset returns should be consistent with the differences in discounting spreads.

6.3.15.2 Methodology for the Determination of the Risk-free Yield Curve

139. For the determination of the risk-free yield curve, the methodology used is based on a three-segment approach:

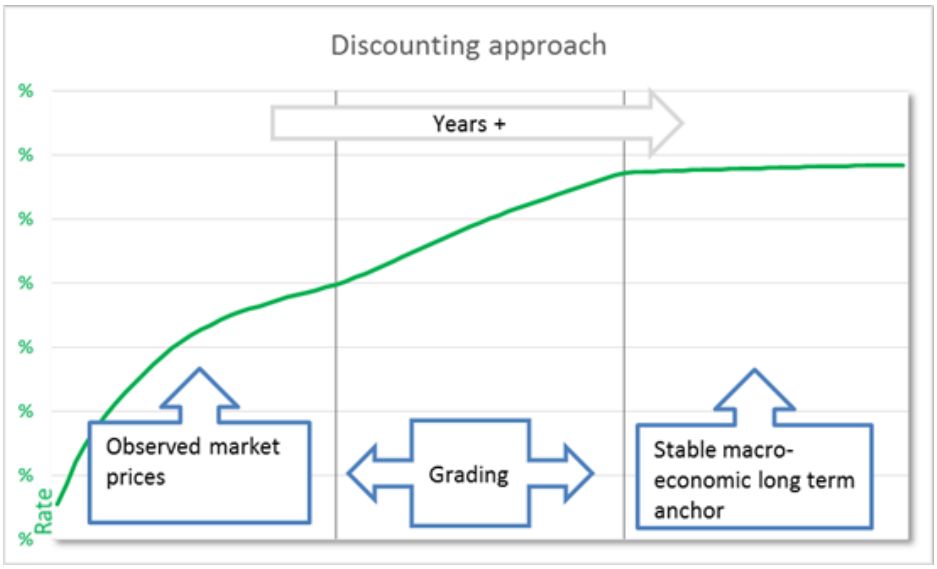
a) Segment 1: based on market information from government bonds or swaps (applying an appropriate adjustment where swaps are used to remove the Credit risk included in the pricing of these instruments).

b) Segment 2: extrapolation using the Smith-Wilson method.

c) Segment 3: based on a stable LTFR.

140. For each currency, the transition from the first to the second segment will occur at the last maturity for which market information can be observed in deep, liquid and transparent financial markets (the LOT).

Figure 1 Discounting approach



141. For all currencies, the start of the third segment is 30 years after the LOT, but never before a maturity of 60 years (at the maximum of the two). At this maturity, the forward rates implicit in each currency's spot curve should have largely converged to a LTFR.

142. The LTFR is currency-specific and has been determined following a macroeconomic approach using OECD, IMF and UN information. For 2019 Field Testing, the components have been slightly modified compared to 2018 Field Testing, with the inclusion of an intermediate classification for the historical real interest rate. The impact of this change will be assessed within 2019 Field Testing.

143. The LTFR is the sum of:

a) Historical real interest rate. In light of the difficulties in obtaining currency-specific information for all 35 currencies in the IAIS sample, this figure is set at 1.8% for developed markets, 2.4% for other developed markets and 3% for emerging markets. This split is based on the IMF classification (Major advanced economies – Other advanced economies – developing economies) described each year in the statistical appendix of the World Economic Outlook report. This information is crosschecked with data (Developed economies – Developing economies) presented within the statistical annex of the United Nations World Economic Situation and Prospects report and then complemented with supervisory judgement.

b) Inflation target set by the relevant Central Bank (or an approximation to this figure based on historical information, where such target does not officially exist).

Table 3. Long-term forward rates

Currency		Observed Instrument	Cut-off for extrapolation (in years)	Long-term Forward Rate
AUD	Australian Dollar	Government Bonds	30	3.8%
BRL	Brazilian Real	Government Bonds	10	7.0%
CAD	Canadian Dollar	Government Bonds	30	3.8%
CHF	Swiss Franc	Swaps	20	2.8%
CLP	Chilean Peso	Swaps	10	5.0%
CNY	Yuan Renminbi	Government Bonds	10	6.0%
COP	Colombian Peso	Swaps	10	6.0%
CZK	Czech Koruna	Swaps	15	3.8%
DKK	Danish Krone	Swaps	20	3.8%
EUR	Euro	Swaps	20	3.8%
GBP	Pound Sterling	Swaps	50	3.8%
HKD	Hong Kong Dollar	Swaps	15	4.4%
HUF	Forint	Government Bonds	15	6.0%
IDR	Rupiah	Swaps	10	8.0%
ILS	New Israeli Sheqel	Swaps	20	4.4%
INR	Indian Rupee	Swaps	10	7.0%
JPY	Yen	Government Bonds	30	3.8%
KRW	Won	Government Bonds	20	4.4%
MXN	Mexican Peso	Government Bonds	20	5.0%
MYR	Malaysian Ringgit	Government Bonds	15	5.0%
NOK	Norwegian Krone	Swaps	10	5.0%
NZD	New Zealand Dollar	Swaps	20	4.8%
PEN	Sol	Swaps	10	6.0%
PHP	Philippine Peso	Swaps	10	7.0%
PLN	Zloty	Government Bonds	10	5.0%
RON	Romanian Leu	Government Bonds	10	5.0%
RUB	Russian Ruble	Swaps	10	7.0%
SAR	Saudi Riyal	Swaps	15	6.0%
SEK	Swedish Krona	Swaps	10	3.8%
SGD	Singapore Dollar	Government Bonds	20	3.8%
THB	Baht	Government Bonds	10	5.0%
TRY	Turkish Lira	Government Bonds	10	7.0%
TWD	New Taiwan Dollar	Government Bonds	10	4.4%

USD	US Dollar	Government Bonds	30	3.8%
ZAR	Rand	Government Bonds	30	7.0%

6.3.15.3 Methodology for the Determination of the Adjustment to the Risk-free Yield Curve

144. The IAIS yield curves include an adjustment to the basis risk-free curves meant to deal with the volatility of capital resources in periods where the widening of spreads affects the value of spread-sensitive assets.

a) 2019 Field Testing focuses on the Three-Bucket Approach, with three scenarios to test: a central scenario and two additional scenarios.

b) An additional balance sheet based on the risk-free yield curve is requested in order to support the further assessment and refinement of the Three-Bucket Approach.

c) Moreover, additional information will be collected with the aim to support potential future refinements of the Middle Bucket of the Three-Bucket Approach for ICS Version 2.0 for the monitoring period.

145. The Three-Bucket Approach is based on an average spread corrected for credit risk and any other risks. The spread is defined as the difference between the interest rate that could be earned from assets included in a representative portfolio and the corresponding risk-free interest rate.

146. The Three-Bucket Approach aims to further refine and improve the risk-sensitivity of the adjustment, to reflect the different perspectives on how this issue should be handled as well as the diversity in the nature of insurance liabilities across the world.

147. To assess the effectiveness and behaviour of the Three-Bucket Approach tested under different market conditions, calculations should be performed under both the following scenarios:

a) Current market conditions as at the balance date; and

b) Stressed economic conditions that are specified by the IAIS for the different currencies, in a consistent manner. The stresses are constructed with the aim to define an adverse scenario that allows testing of the effectiveness of the adjustment.

148. The following table summarises the three scenarios to test for the Three-Bucket Approach. Those scenarios would permit an assessment of the impact of some of the major modifications made since 2018 Field Testing and to test different assumptions for the spread over the LTFR.

Table 4. Scenarios to test for the Three-Bucket Approach

	Central Scenario	Additional 1	Additional 2
Middle Bucket criterion c – carry forward ratio	LOT/200 if LOT < 20; 10% otherwise	10%	LOT/200 if LOT < 20; 10% otherwise
Middle Bucket criterion c – widening of matching bands	5 years	3 years	5 years
Middle Bucket – spread by duration	Yes	No	Yes
More granular real rate for LTFR	Yes	No	Yes
LTFR spread add-on	15 bps	5 bps	25 bps

149. The information provided by the IAIS and the calculations that Volunteer Groups are required to perform in order to derive the adjusted yield curves applicable in each scenario are summarised in Table 5 below.

Table 5. Summary of information provided by IAIS and calculations by Volunteer Groups

	Provided by IAIS	Calculations by Volunteer Group to derive adjusted yield curve
Risk-free	Risk-free yield curves	None
General Bucket	Risk-free yield curves Adjustment by currency/jurisdiction based on representative portfolio	None
Middle Bucket	Risk-free yield curves Set of adjustments based on currency/jurisdiction, asset type and rating Risk corrections by asset type and rating	Calculation of the average risk-corrected spread on the basis of the firm-specific weighted average of representative portfolios
Top Bucket	Risk-free yield curves	Calculation of the own risk-corrected spread on the basis of the Volunteer Group's own asset earning rate – risk correction based on IAIS specification for Weighted Average of Multiple Portfolios (WAMP – see paragraph 170)

6.4 Specifications for 2019 Field Testing

6.4.1 Three-Bucket Approach

150. Under the Three-Bucket Approach, Volunteer Groups should split liabilities into three buckets (the General Bucket, the Middle Bucket and the Top Bucket) to which different methodologies are applied. This granularity aims to deliver a more balanced approach that is more appropriately tailored for different types of insurance liabilities.

151. The three buckets are identified as follows:

a) Top Bucket: only liabilities that meet the specified criteria can be allocated to the Top Bucket.

b) Middle Bucket: only liabilities that meet the specified criteria can be allocated to the Middle Bucket. The criteria for the Middle Bucket resemble that of the Top Bucket, but several adjustments have been introduced on key elements to allow for broader applicability.

c) General Bucket: all other insurance liabilities.

152. To be eligible for the Top Bucket insurance liabilities should meet the following criteria:

a) Life insurance liabilities and disability annuities in payment with no cash benefits on withdrawal are eligible, taking into account e), below.

b) The portfolio of assets to cover Top Bucket insurance liabilities should be identified and, together with the corresponding liabilities, it should be managed separately, without being used to cover losses arising from other business of the Volunteer Group. [11]

c) The expected cash flows of the identified portfolio of assets replicate the expected cash flows of the portfolio of insurance liabilities in the same currency, up to the LOT of the risk-free yield curve for the relevant currency. Any mismatch, which should be addressed through the carry forward of cash generated from excess of asset cash flows at previous maturities, does not give rise to material risks. Carry forward of cash should be limited to 10% of the total undiscounted liability cash flows up to the LOT.

d) The contracts underlying the insurance liabilities do not include future premiums.

e) The portfolio of insurance liabilities include no surrender option for the policyholder or only a surrender option where the surrender value does not exceed the value of the assets covering

[11] For both the Top and Middle Buckets, the separate management of assets does not refer to a legal ring fencing but to a portfolio segmentation of clearly identified assets that would support an identified group of insurance liabilities over their lifetime. Should a portfolio be restructured within the entity, this being exceptional, the assets contained therein can only be transferred to another portfolio when done in conjunction with their corresponding liabilities. This does not preclude changes in investments within a portfolio in the normal course of business.

the insurance liabilities at the time the surrender option is exercised. Therefore, assets should at all time exceed the surrender value, that is to say at the valuation date and at all future points in time.

f) Insurance liabilities are not split into different parts when assessing eligibility for the Top Bucket - no unbundling is allowed[12].

153. To be eligible for the Middle Bucket insurance liabilities should meet the following criteria:

a) [not applicable]

b) The portfolio of assets to cover Middle Bucket insurance liabilities should be identified and, together with the corresponding liabilities, it should be managed separately, without being used to cover losses arising from other business of the Volunteer Group.[11]

c) The expected cash flows of the identified portfolio of assets and qualifying future premiums (see point d) below) replicate the expected cash flows of the portfolio of insurance liabilities within defined maturity bands in the same currency or using cash flows of hedged foreign assets, up to the LOT of the risk-free yield curve for the relevant currency. Any mismatch between maturity bands, which should be addressed through the carry forward of cash generated from excess of asset cash flows at previous maturities, does not give rise to material risks.

For 2019 Field Testing purposes, carry forward of cash is limited to a limit expressed as a percentage of the total undiscounted liability cash flows up to the LOT. This carry forward limit (CFL) is calculated according to the following formula, where the LOT has an influence:

$$CFL = \begin{cases} LOT/200 \; if \; LOT < 20 \\ 10\% \; otherwise \end{cases}$$

d) The contracts underlying the insurance liabilities do not include future premiums or include only future premiums that are contractually fixed.

e) The portfolio of insurance liabilities include no surrender option for the policyholder or only a surrender option where the surrender value does not exceed the value of the assets covering the insurance liabilities at the valuation date. Moreover, the ICS Lapse risk charge should not represent more than 5% of the current estimate of the liabilities of the portfolio in the situation where cash flows would be discounted using the base yield curve.

[12] Unbundling can generally be defined as the separation of the insurance liabilities of an insurance contract into different parts, in order for one of them to have a portion that would virtually meet the requirements of the Top or Middle Bucket. Unbundling is, in general, not allowed. However, unbundling of Unit Linked contracts into two parts as described can be accepted, provided that one part of the unbundled contract is then valued using the replication approach specified in Section 6.8 of the Technical Specifications.

f) Insurance liabilities are not split into different parts when assessing eligibility for the Middle Bucket - no unbundling is allowed.

Example of the use of criterion c

If the LOT =10, CFL = 5%

If the LOT=15, CFL= 7.5%

For a theoretical LOT=0, CFL=0%, which is logical.

154. The following paragraphs detail the methodologies to be applied in the calculation of the adjustments for each of the buckets.

6.4.1.1 Top Bucket

155. The adjustment for the Top Bucket should be calculated by each Volunteer Group, based on the average spread above the base yield curve of the eligible own assets held by the Volunteer Group to back the portfolio of liabilities which has been identified as meeting the Top Bucket criteria.

156. The Volunteer Group may identify different portfolios, which will lead to the calculation of portfolio-specific adjustments.

157. The spread is adjusted for credit risk and any other risk, using an approximation based on the Weighted Average of Multiple Portfolios (WAMP) methodology as described in paragraph 170.

158. For the Top Bucket, 100% of the adjusted reference spread on top of the risk-free rates is used to discount insurance liabilities.

$$interest\ rate_{adjusted,t} = risk\ free_t + Adjusted\ Spread$$

159. Only eligible assets, as specified in Table 7 for the Middle Bucket, contribute to the calculation of the adjustment.

160. A cap at the level of the ICS RC 4 spread applies for assets with a lower credit quality. The ICS RC 4 cap should be defined based on the spreads earned by the Volunteer Group for ICS RC 4 rated assets, in the same currency. Where no such assets exist, the spread defined by the IAIS for the calculation of the Middle Bucket should be used.

161. Volunteer Groups should select and use the relevant adjusted yield curves according to the currency of the insurance liability cash outflows.

162. Where the Volunteer Group backs insurance liabilities with assets denominated in foreign currencies, the calculation of the spread adjustment for the currency includes spreads which may be earned by the Volunteer Group in foreign denominated assets, provided that exposures to foreign

currency denominated assets are hedged. An adjustment to the spread recognised in the calculation of the Top Bucket adjustment should be made to reflect the cost of hedging the exposures.

163. The spread adjustment determined according to this methodology is applied as a parallel shift up to the run-off of the liabilities, which may be beyond the defined LOT.

6.4.1.2 Middle Bucket

164. For the Middle Bucket, the IAIS provides spreads differentiating between credit qualities, durations and currencies, which should be used to construct an adjustment that reflects the assets held by the Volunteer Group.

165. The calculation of the weighted average should be performed based on the identified portfolio of assets backing Middle Bucket insurance liabilities.

166. The Middle Bucket spread adjustment is a group-wide adjustment calculated using the WAMP approach based on the eligible assets backing liabilities which fulfil the specified criteria. Contrary to the Top bucket, the Middle bucket adjustment is not portfolio-specific. Therefore, irrespective of the granularity used to report Middle Bucket liabilities, the same spread should be applied to all Middle Bucket portfolios, within the same currency.

167. Where the Volunteer Group backs insurance liabilities with assets denominated in foreign currencies, the weighted average calculation of the spread adjustment for the currency includes spreads which may be earned by the Volunteer Group in foreign denominated assets, provided that exposures to foreign currency denominated assets are hedged. An adjustment to the spread recognised in the calculation of the Middle Bucket adjustment should be made to reflect the cost of hedging the exposures.

168. For the purpose of assessing the matching criterion, duration bands have been defined with a five-year range. A calculation example follows on assessing the matching criterion for Top Bucket eligibility, as well as Middle Bucket eligibility using the duration bands.

Table 6. Example of assessing the matching criterion and duration bands

Example with a LOT of 20 years	Assessing the matching criterion for the **top** bucket eligibility																					
	TOTAL	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17	Y18	Y19	Y20
Liability cashflows	4635	0	10	15	30	20	80	100	60	120	200	350	480	200	0	700	350	400	350	800	320	50
Asset cashflows	5800	800	20	30	75	540	100	95	50	130	550	400	500	220	50	500	30	410	400	500	300	100
Match (In - Out)?		800	10	15	45	520	20	-5	-10	10	350	50	20	20	50	-200	-320	10	50	-300	-20	50
Use Carryforward?		NO	NO	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	YES	YES	NO	NO	YES	YES	NO
Remaining cash		-	810	825	870	1390	1410	1405	1395	1405	1755	1805	1825	1845	1895	1695	1375	1385	1435	1135	1115	1165
Carryforward used	855																					
% Liab	18.4%	FAILED - used Carryforward/total liability cashflows > 10 %																				

	Assessing the matching criterion for the **middle** bucket eligibility				
	TOTAL	[0;5[	[6;10[	[11;15[	[16;20]
Liability CF	4635	155	830	1730	1920
Asset CF	5800	1565	1225	1300	1710
Future Premiums (20 per year)	420	120	100	100	100
Match (In - Out)?		1530	495	-330	-110
Use Carryforward?		NO	NO	YES	YES
Remaining cash		-	2025	1695	1585
Carryforward used	440				
% Liab	9.5%	PASSED - used Carryforward/total liability cashflows < 10 %			

169. For the Middle Bucket, 90% of the adjusted reference spread is used to discount insurance liabilities.

$$interest\ rate_{adjusted,t} = risk\ free_t + 90\%\ x\ Adjusted\ Spread$$

170. The calculation of the spread adjustment is performed according to the following steps; this calculation is referred to as Weighted Average of Multiple Portfolios (WAMP):

a) Identify the assets backing the Middle Bucket liabilities according to the currency of the liabilities and the criteria identified above.

i. Assets backing unit-linked/separate account liabilities should be excluded where such liabilities are deemed replicable by a portfolio of assets and calculated in line with Section 6.8 (this is therefore not on the basis of the general current estimate methodology).

ii. Assets backing insurance liabilities that are denominated in a different currency than the corresponding liabilities shall be included in the determination of the weights of the different representative portfolios. When calculating the WAMP spread, the representative portfolios in the foreign currency shall be included in the weighting, provided that exposures to foreign currency denominated assets are hedged. An adjustment to the spread recognised in the calculation of the Middle Bucket adjustment should be made to reflect the cost of hedging the exposures.

iii. Assets rated below investment grade (ie ICS RC 5 and below) should be assigned to the weight of the ICS RC 4 portfolio, which in practice means that the spread generated by such assets is capped at the level of ICS RC 4 assets.

b) Then, for each currency, remove any cash to determine the total portfolio of assets backing liabilities in that currency.

c) Identify the eligible assets in the portfolio, according to Table 7 below.

d) Determine the weights for each asset category as the total market value of the assets in that category divided by the market value of the total portfolio of assets (which includes the ineligible assets).

e) Within each asset-rating category, determine the weight of each duration band that is the total market value of assets in that duration band divided by the market value of the assets within the asset-rating category considered.

f) Calculate the weighted average adjustment for the currency by applying the weights calculated at steps d) and e) to the given adjustments.

171. The average Adjusted Spread for a given currency should be computed as follows:

$$
\begin{aligned}
&Adjusted\ spread = \\
&w_{gov} \times spread_{gov\ after\ RC} \\
&+w_{ICS\ RC1} \times \left(\sum_{durations} w^{ICS\ RC1}_{duration\ band} \times spread^{ICS\ RC1\ after\ RC}_{duration\ band} \right) \\
&+w_{ICS\ RC2} \times \left(\sum_{durations} w^{ICS\ RC2}_{duration\ band} \times spread^{ICS\ RC2\ after\ RC}_{duration\ band} \right) \\
&+ \cdots \\
&+w_{Non\ eligible} \times 0
\end{aligned}
$$

Where:

- w denotes the weight of the corresponding debt instrument
    - w_{gov} and $w_{ICS\ RCi}$ respectively denote the weights of government bonds and debt instruments belonging to ICS risk category i.
    - w_{gov} and $w^{ICS\ RCi}_{duration\ band}$ respectively denote the weights of government bonds and debt instruments that belong to ICS risk category i within the considered duration band.
- RC denotes the risk correction for credit risk and any other risk. The risk corrections are provided for information in the spreadsheet *FT19 ICS Yield Curves.*
- $Spread$ denotes the spread of the corresponding debt instrument

- $spread_{gov\ after\ RC}$ and $spread^{ICS\ RCi\ after\ RC}_{duration\ band}$ respectively denote the spread after risk correction applied to government bonds and debt instruments that belong to ICS risk category i within the considered duration band.

- When a government bond rate is used for the risk-free yield curve, the applied spread is nil.

- $w_{non-eligible}$ denotes the weight of non-elegible assets in the total portfolio of assets for that currency

172. The spread adjustment determined according to this methodology is to be applied as a parallel shift across the liquid part of the base yield curve (Segment 1 as defined above). For Segments 2 and 3 of the adjusted yield curve, the same extrapolation methodology as used for determining the base yield curve (see above) should be applied. In 2019 Field Testing, a 15 basis point spread adjustment is added to the LTFR for the central scenario.

173. 2019 Field Testing does not include any duration split for sovereign spreads. This is due to both the lack of easily available data and technical elements to further develop. However, the aim is a broad application of the duration split for spreads for ICS Version 2.0 for the monitoring period, including sovereign spreads, should data be available.

174. Investments to be included in the representative portfolio are referenced in Table 7:

Table 7. Investments included in the representative portfolio

Asset Class	Eligible
Cash and other liquid assets not for investment purposes	(Excluded from portfolio)
Investment income receivable / accrued	N
Fixed Interest Government Bonds	Y
Fixed interest Corporate Bonds	Y
Fixed Interest Municipal Bonds	Y
Variable Interest Government Bonds	Y
Variable interest Corporate Bonds	Y
Variable Interest Municipal Bonds	Y
Convertible notes	N
Residential Mortgage Loans	Y
Non-residential Mortgage Loans	Y
Other (non-mortgage) Loans	Y

Loans to policyholders	Y
Residential Mortgage Backed Securities	Y
Commercial Mortgage Backed Securities	Y
Insurance Linked Securities	N
Other structured securities	Y
Equities	N
Hedge Funds	N
Private equity	N
Real estate (for investment purposes)	N
Infrastructure	Y (if debt) N (if equity)
Other investment assets	N

175. Government bonds includes only debt instruments issued or guaranteed by central governments (excluding exposures to municipals and public sector entities).

176. For both the Top and Middle Buckets, in the case where assets include call options, they would be ineligible to back liabilities, unless it can be demonstrated that the exercise of the option does not imply a loss to the insurer and that the matching of the liability cash flows can be maintained (for example, by using the proceeds of the sale to buy a similar asset on the market that enables the matching of cash flows to be maintained).

177. Corporate bonds should be allocated according to their ICS RC. This includes all debt instruments issued by corporates as well as municipals and public sector entities. Specifically:

a) Unrated debt instruments should be allocated to the ICS RC 4 bucket.

b) Sub-investment grade debt instruments should be allocated to the ICS RC 4 bucket.

c) Assets backing unit-linked/separate account insurance liabilities should be included in the representative portfolio only if those insurance liabilities are valued as the sum of a current estimate and a MOCE (Section 6.8 on *Obligations Replicable by a Portfolio of Assets Does not Apply*).

178. The Template specifies which currencies should use the average world spreads as well as those that are peered to other currencies.

179. In the case of currency unions (eg the Euro Area) the sovereign exposure (and the corresponding weight in the WAMP calculation) should be further detailed into the different sovereign countries that contribute to the total exposure as set out in the Template.

6.4.1.3 General Bucket

180. The adjustment for the General Bucket is provided by the IAIS, based on a representative portfolio that reflects the assets typically held by Volunteer Groups in a particular currency. This portfolio includes all types of investments (except cash) assumed to back insurance liabilities (bonds, loans, securitisations, equities, properties).

181. The spread is adjusted for credit risk and any other risk.

182. For corporate bonds, risks other than liquidity risk are captured through the credit spread corresponding to the risk of default. The risk of default is derived from the annualised cumulative default experience for a hypothetical 15-year bond, computed on the basis of transition matrices. A fraction of the credit spread accounting for current market conditions is then added.

183. Where risk-free rates are determined based on swap rates, risks other than liquidity risk are assumed to represent 30% of the 10-year average spread. For currencies where risk-free rates are based on government bond rates, no risk correction is applied.

184. For the General Bucket, 80% of the adjusted reference spread on top of the risk-free rates is used to discount insurance liabilities.

$$interest\ rate_{adjusted,t} = risk\ free_t + 80\%\ x\ Adjusted\ Spread$$

185. Volunteer Groups should use the relevant adjusted yield curves according to the currency of the insurance liability cash outflows.

186. The spread adjustment determined according to this methodology is to be applied as a parallel shift across the liquid part of the base yield curve (Segment 1 as defined above). For Segments 2 and 3 of the adjusted yield curve, the same extrapolation methodology as used for determining the base yield curve should be applied. An adjustment of 15 bps is added to the LTFR within the central scenario.

6.4.1.3.1 Basis Risk Mitigation Mechanisms for the General Bucket

187. To account for specific situations that generate basis risk between individual Volunteer Group portfolios and the representative portfolio used under the General Bucket, two basis risk mitigation mechanisms are proposed: one mechanism for cases where the same currency is shared among different jurisdictions and one mechanism for cases where Volunteer Groups are materially invested in assets denominated in a currency that is different from the liabilities they are backing.

188. The aim of these mechanisms is to limit the basis risk generated in such cases by introducing a modification to the calculation of the base yield curve adjustment.

189. In both cases, the mechanism introduces a modification to the calculation of the currency spread adjustments, by allowing Volunteer Groups to replace the spreads used in the determination of the currency spread adjustment, but not the weights of the different asset categories.

190. In practice, this means that after the triggering of the mechanism, the calculation of the representative portfolio spread is modified from

$$Spread\ Adjustment_{currency} = \sum_{i=1}^{t} Spread_{market,i} * Weight_{market,i}$$

with i=Sovereign, ICS RC 1, 2, 3, 4-7 and non-eligible (with 0 spread)

to become

$$Spread\ Adjustment_{currency\ modified} = \sum_{i=1}^{t} Spread_{jurisdictions,i} * Weight_{market,i}$$

with i=Sovereign, ICS RC 1, 2, 3, 4-7 and non-eligible (with 0 spread)

6.4.1.3.2 Shared Currency Basis Risk Mitigation Mechanism

191. Where the same currency is shared among different jurisdictions, the spread calculated for the currency may not reflect the reality of the spreads observed in the financial markets for one or more of the underlying jurisdictions.

192. To address this, a relief mechanism is introduced that operates as follows:

$$If\ S_{rc_{adjusted}} - S_{rc_{crncy}} \geq 50bps$$

$$S_{rc} = S_{rc_{crncy}} + \max\left[\left(S_{rc_{adjusted}} - \left(S_{rc_{crncy}} + 50bps\right)\right); 0\right] = S_{rc_{adjusted}} - 50bps$$

$with$

S_{rc} = spread after risk correction

$S_{rc_{crncy}}$ = currency spread after risk correction

$S_{rc_{adjusted}}$ = modified currency spread after risk correction using a weighted average of the spreads of the specific jurisdictions (within the shared currency) to which the Volunteer Group is actually exposed (but keeping the asset category weights unchanged compared to the currency portfolio)

6.4.1.3.3 Foreign Asset Basis Risk Mitigation Mechanism

193. Where the Volunteer Group backs insurance liabilities with assets denominated in foreign currencies, the spread calculated for the currency may not reflect the reality of the spreads that may be earned by the Volunteer Group.

194. To promote sound risk management, only exposures to foreign currency assets where currency risk is deemed to be hedged as per the section on *Risk Mitigation* (Section 12.2.2) are considered for the purposes of this relief mechanism.

195. This relief mechanism operates as follows:

If $$\frac{\text{Hedged eligible foreign currency denominated assets}}{\text{Total investments (excl.cash)converted into the currency of the liability}} \geq 5\%$$

$Then$

$$S_{rc} = S_{rc_{crncy}} + 50\% * (S_{rc_{adjusted}} - S_{rc_{crncy}})$$

$with$

S_{rc} = spread after risk correction

$S_{rc_{crncy}}$ = currency spread after risk correction

$S_{rc_{adjusted}}$ = modified spread including the extra spread that can be earned from the hedged assets denominated in foreign currency that exceed the 5% threshold. Where the 5% threshold is exceeded by a combination of exposures in multiple asset categories, the threshold should be proportionally allocated to the different asset categories.

196. Additional information is requested to assess the materiality and impact of the foreign assets basis risk mitigation mechanism.

197. Volunteer Groups that are exposed to currency mismatch are encouraged to provide additional information as requested in the Template, and respond to questions about the topic, which are included in the Questionnaire.

6.4.2 Additional Scenarios for the Three-Bucket Approach

198. Volunteer Groups should produce balance sheets for two additional scenarios of the Three-Bucket Approach. A full ICS calculation is not being collected for these additional scenarios. For both additional scenarios, the IAIS has provided the yield curves that should be used to discount liabilities in the General Bucket.

199. For Additional Scenario 1, Volunteer Groups should follow the specifications for the Three-Bucket Approach, as outlined in Section 6.4.1 *Three-Bucket Approach* with the following changes:

a) For criterion c of the Middle Bucket:

   i. The carry-forward ratio is limited to 10% of the total undiscounted liability cash flows up to the LOT; and

   ii. The duration bands for assessing the matching criterion have a three-year range.

b) The Middle Bucket spread is constant across all durations (ie the spread by duration introduced in the central scenario is not applicable).

c) The increased granularity for the real interest rate component of the LTFR is not recognised; and

d) The spread over the LTFR is 5 basis points.

200. For Additional Scenario 2, Volunteer Groups should follow the specifications for the Three-Bucket Approach, as outlined in Section 6.4.1 *Three-Bucket Approach* with only one change: the spread over the LTFR is 25 basis points.

6.4.3 Risk-free Method

201. Under this additional method, insurance liabilities should be discounted using the risk-free base yield curves provided by the IAIS, without any spread adjustment.

6.5 Stressed Scenario

202. The invested assets, insurance liabilities, reinsurance, related deferred tax balances and the AOCI Adjustment (if applicable) under the MAV and GAAP Plus approaches should be additionally calculated with prescribed stressed elements. For the Three-Bucket Approach, the IAIS-provided stressed yield curves should be used. For the General and Middle Buckets of the Three-Bucket Approach, the IAIS provides the stressed spreads that should be used for the calculation.

203. In 2019 Field Testing, a spread widening is applied along with a downward stress (parallel shift) of the interest rates and a stress of the credit defaults in the asset portfolio.

204. The stressed scenario has been calibrated taking into account the credit spread widening between November 2007 and November 2008. For the particular case of the Euro-zone, the sovereign crisis has been taken into account as a reference period, as this constitutes a more relevant period.

205. Table 8 below shows the parallel downward interest rate shift and the spread widening components of the stressed scenario.

Table 8. Components of the stressed scenarios

Currency		Parallel Downward Interest Rate Shift	Spread Widening
AUD	Australian Dollar	-1.718%	2.128%
BRL	Brazilian Real	-4.672%	0.936%
CAD	Canadian Dollar	-1.066%	2.442%
CHF	Swiss Franc	-0.964%	0.859%
CLP	Chilean Peso	-1.208%	0.895%
CNY	Yuan Renminbi	-0.289%	2.299%
COP	Colombian Peso	-2.851%	0.895%
CZK	Czech Koruna	-1.100%	0.895%
DKK	Danish Krone	-1.260%	0.449%
EUR	Euro	-1.293%	1.525%
GBP	Pound Sterling	-1.076%	2.104%
HKD	Hong Kong Dollar	-1.441%	0.995%
HUF	Forint	-5.082%	0.936%
IDR	Rupiah	-2.913%	0.895%
ILS	New Israeli Sheqel	-1.146%	1.007%
INR	Indian Rupee	-0.399%	1.007%
JPY	Yen	-0.675%	0.329%
KRW	Won	-1.279%	1.177%
MXN	Mexican Peso	-1.168%	1.048%
MYR	Malaysian Ringgit	-0.649%	2.063%
NOK	Norwegian Krone	-1.106%	0.434%
NZD	New Zealand Dollar	-1.406%	0.917%
PEN	Sol	-1.530%	1.007%
PHP	Philippine Peso	-0.328%	1.007%
PLN	Zloty	-2.154%	0.936%
RON	Romanian Leu	-1.956%	0.936%
RUB	Russian Ruble	-1.564%	0.895%
SAR	Saudi Riyal	-1.096%	1.007%
SEK	Swedish Krona	-1.491%	0.328%
SGD	Singapore Dollar	-1.011%	1.653%
THB	Baht	-1.105%	1.048%
TRY	Turkish Lira	-4.677%	0.936%
TWD	New Taiwan Dollar	-0.876%	2.159%
USD	US Dollar	-1.470%	2.983%
ZAR	Rand	-2.348%	0.936%

206. The credit default increase is based on a 50% adjustment of the Credit risk charge factors described in the *Credit risk* Section.

207. The impact related to assets, insurance liabilities, capital resources, deferred taxes and AOCI Adjustment should be reported in worksheet *FT19. ICS.Balance Sheet.* The details of the impact on insurance liabilities should be reported in the same worksheet.

6.6 Additional Information on the Middle Bucket

208. In order to assess the impact of future potential changes to the criteria of the Middle Bucket methodology, an additional table is included in the Template (see Table T24 in the worksheet *FT19.Insurance Portfolios* and Table T29 in the worksheet *FT19.Model Portfolio*). The intention is to collect data on the proportion of liabilities that would qualify for the Middle Bucket if specified changes to the criteria are made. To achieve this, the table collects the value of liabilities, discounted using the risk-free rate, that would belong to the Middle Bucket if the qualifying criteria of paragraph 153 were subject to each of the specified modifications set out below. The additional Middle Bucket criteria to test (described in more detail below) are the following and should be assessed independently:

a) Replacement of the asset-liability matching criterion (criterion c) by two duration matching criteria.

b) Broader allowance of carry forward of cash for asset-liability matching criterion for level premium products (criterion c).

c) Increase of the lapse risk charge threshold from 5% to 10% within the surrender option criterion (criterion e).

209. Please also refer to the Questionnaire, which requests other information (quantitative and qualitative) regarding the Middle Bucket criteria.

6.6.1 Duration Matching Criterion – Criterion c

210. Criterion c of paragraph 153 becomes:

"The market value, Macaulay duration and convexity of the identified portfolio of assets and qualifying future premiums (see point d) of paragraph 153 below) replicate the market value, Macaulay duration and convexity of the portfolio of insurance liabilities in the same currency or using cash flows of hedged foreign assets.

The market value of assets and liabilities in the portfolio meets the following formula: V(L) / V(A) = X, where:

- $X \leqq 1$
- V(L) = Current estimate of insurance liabilities in the portfolio. Risk-free rates should be used.
- V(A) = market value of eligible assets in the portfolio.

The duration of asset and liability portfolios satisfies the following formula: D(L) / D(A) = Y, where:

- $0.9 \leqq Y \leqq 1.1$
- D(L) = duration of liability portfolios expressed in years. Risk-free rates should be used.
- D(A) = duration of asset portfolios expressed in years (duration of non-eligible assets should be deemed as 0). Risk-free rates should be used.

The convexity of asset and liability portfolios satisfies the following formula: C(L) / C(A) = Z, where:

- $0.8 \leqq Z \leqq 1.25$
- C(L) = convexity of liability portfolios. Risk-free rates should be used.
- C(A) = convexity of asset portfolios (convexity of non-eligible assets should be deemed as 0). Risk-free rates should be used.

In addition, the portfolio of assets should be actively monitored and managed for risks arising from any mismatch between asset and liability cash flows at least up to the LOT of the risk-free yield curve."

211. In 2019 Field Testing, different upper and lower bounds are also tested in addition to the previously specified ones: $0.8 \leqq Y \leqq 1.25$ and $0.65 \leqq Z \leqq 1.5$, with Y and Z defined above.

6.6.2 Broader Allowance of Carry Forward of Cash for Level Premium Products – Criterion c

212. Criterion c of paragraph 153 becomes:

"The expected cash flows of the identified portfolio of assets and qualifying future premiums (see point d) of paragraph 153 below) replicate the expected cash flows of the portfolio of insurance liabilities within defined maturity bands in the same currency or using cash flows of hedged foreign assets, up to the LOT of the risk-free yield curve for the relevant currency. Any mismatch between maturity bands, which should be addressed through the carry forward of cash generated from excess of asset cash flows at previous maturities, does not give rise to material risks.

For 2019 Field Testing purposes, carry forward of cash should be limited to a limit expressed as a percentage of the total undiscounted liability cash flows up to the LOT. This carry forward limit (CFL) is calculated according to the following formula, where the last observed term (LOT) has an influence:

$$CFL = \begin{cases} LOT/200 \; if \; LOT < 20 \\ 10\% \; otherwise \end{cases}$$

For level premium products[13], the matching should be performed for the whole life of the insurance products up to the convergence point and the CFL is 20%"

6.6.3 Increase of the Lapse Risk Charge Threshold – Criterion e

213. Criterion e of paragraph 153 becomes:

[13] Level premium products are products for which premium amounts are fixed, constant and present a regular payment pattern during the whole premium-paying period of the insurance contract.

"The portfolio of insurance liabilities include no surrender option for the policyholder or only a surrender option where the surrender value does not exceed the value of the assets covering the insurance liabilities at the valuation date. Moreover, the ICS Lapse risk charge should not represent more than **10%** of the current estimate of the liabilities of the portfolio in the situation where cash flows would be discounted using the base yield curve."

6.7 Curves not Provided by the IAIS

214. The IAIS is unable to provide details to determine adjusted yield curves for all currencies and countries where Volunteer Groups operate. In those cases, the Volunteer Group should derive the curve following the approach set out above by complying with the base yield curve methodology provided by the IAIS and the methodologies set out for deriving adjustments.

215. In order to derive these curves, Volunteer Groups may use a technique other than the Smith Wilson approach, such as the Nelson Siegel or Svensson approaches. In many cases the local central bank provides zero coupon bond curves with maturities up to 30 years.

216. If a curve is provided by the IAIS, it must be used irrespective of the size of the business. Otherwise, if the share of the insurance obligations relative to the overall obligations is smaller than 10 percent of the total business, the Volunteer Group can provide a calculation based on its own estimates.

217. To allow comparison, in both cases, the Volunteer Group should provide information about the curves used. Where the Volunteer Group needs to derive a yield curve, it should describe the approach used and provide a copy of the yield curve used in the Questionnaire.

6.8 Obligations Replicable by a Portfolio of Assets

218. Where future cash flows associated with insurance obligations can be replicated reliably using financial instruments for which a reliable market value is observable, the value of insurance liabilities associated with those future cash flows can be determined on the basis of the market value of those financial instruments.

219. Insurance obligations are replicated reliably when their cash flows are in every circumstance precisely matched by cash flows of corresponding assets.

220. The cash flows associated with insurance obligations cannot be reliably replicated when:

a) Policyholders can exercise contractual options, including lapses and surrenders.

b) Obligations depend on mortality, disability, sickness and morbidity rates.

c) Expenses associated with insurance obligations cannot be reliably replicated.

221. Financial instruments used to value insurance obligations must be traded in deep, liquid and transparent markets.

7 GAAP with Adjustments Valuation Approach (GAAP Plus)

Relevant Worksheets in Template:	*FT19.ICS.Balance Sheet (GAAP Plus sections)*	*Due 31 July 2019*

222. This section provides specifications for Volunteer Groups to report their consolidated financial data in the ICS balance sheet using the GAAP Plus approach to valuation.

7.1 GAAP Plus Updates for 2019 Field Testing

223. GAAP Plus was developed to maximize the use of audited, consolidated financial reporting, systems and processes including generally accepted accounting principles as promulgated by the International Accounting Standards Board (IASB) and other jurisdictional standard setters. As such, recently revised standards by the IASB and the US FASB addressing the valuation of financial instruments and insurance contracts resulted in amendments to the GAAP Plus Specifications for 2019 Field Testing.

224. GAAP Plus for 2019 Field Testing contemplates changes in accounting rules issued by the IASB (IFRS 9 *Financial Instruments* and IFRS 17 *Insurance Contracts*), and by US FASB (Accounting Standards Update 2018-12, Financial Services – Insurance Topic 944: *Targeted Improvements to the Accounting for Long-Duration Contracts)*. Thus, there are significant changes in the specifications for jurisdictions that report under International Financial Reporting Standards (IFRS), or a jurisdictional adaptation, and US GAAP. The IFRS GAAP Plus approach specifies alternate reporting for EU Volunteers where an adjusted Solvency II balance sheet will be reported similar to prior years. A new approach was added in 2019 for the Chinese C-ROSS GAAP Plus approach. There have been no changes to the specifications in 2019 for Volunteer Groups that report under Japanese GAAP.

225. For 2019 Field Testing, GAAP Plus will consist of four main approaches: US GAAP/SAP, Japanese GAAP, IFRS and Chinese C-ROSS. There is a further breakdown of IFRS into EU and non-EU to reflect different requirements for the 2019 data collection.

226. The IASB has proposed to defer the effective date of IFRS 17 to periods beginning on or after 1 January 2022. The IASB has also proposed to extend the exemption for insurers in applying IFRS 9 (set out in IFRS 4) to the same date. As the IASB is currently considering amendments to the new standard which are unlikely to be finalised before the launch of 2019 Field Testing, the Volunteer Groups may not yet be in a position to finalise relevant accounting policies, systems and processes to produce balances based on the new standards. In addition, there may also be future refinements of new IFRS rules by jurisdictions that would need to be contemplated in the specifications for GAAP Plus. The IAIS anticipates that some Volunteer Groups will be able to provide balances based on preliminary estimates that they may be using internally to assess the impact of the new accounting rules. Alternatively, Volunteer Groups may be able to adapt their solvency reporting to approximate

balances based on new IFRS rules. Therefore Volunteer Groups reporting under IFRS should provide a GAAP Plus balance sheet reflecting the application of new rules on a best efforts basis. For European Union (EU) Volunteer Groups who report their audited consolidated financial statements on the basis of IFRS as endorsed and adopted by the EU, alternate specifications have been carried over from prior years such that an adjusted Solvency II balance sheet will be reported under IFRS GAAP Plus (see Section 7.5.5).

227. GAAP Plus Field Testing for US and IFRS GAAP Plus will extend through 2021 to allow additional time for Volunteer Groups to improve on the accuracy of reported GAAP Plus balances. This will be followed by a three-year Monitoring Period from 2022-2024.

228. A new specification defining a GAAP Plus approach for Volunteer Groups applying the Chinese Risk Oriented Solvency System (C-ROSS) has been added. This approach is designed along similar lines to other GAAP Plus approaches where insurance liabilities are adjusted to approximate a current estimate as defined under ICP 14 and most other balances remain unadjusted. Specifications for capital resources and tax are consistent with the MAV approach.

229. 2019 Field Testing continues to include a data request for GAAP Plus balance sheet information under a risk-free rate and under a specified stress to market spreads scenario. See sections on *Risk-Free Rate* (Section 7.6) and *Stressed balance sheet Scenarios* (Section 7.7) for detailed instructions on reporting supplemental balance sheet data.

230. A placeholder approach has been developed to address the inclusion of an implicit margin under the US GAAP Plus approach for Non-Life unearned premium and claims reserves as well as under the IFRS GAAP Plus approach (Non-EU) for the liability for remaining coverage under the Premium Allocation Approach (PAA). The Template includes an adjustment to the liability balance to deduct the Percentile-MOCE, net of the tax impact, which would approximate the implicit margin. Under the IFRS GAAP Plus approach, Volunteer Groups are required to separately report liabilities measured under the PAA for purposes of this calculation in the worksheet *FT19.ICS Summary* of the Template. The adjustment is reflected in capital resources and does not impact the liability balances or exposures used in the risk charge calculations. This approach will be assessed and modification considered for future Field Testing of GAAP Plus.

7.2 GAAP Plus Instructions and Examples

231. GAAP Plus begins with the consolidated balance sheet as reported in a Volunteer Group's general purpose, audited financial statements, which for most Volunteer Groups is either on the basis of IFRS or their local jurisdictional GAAP. The scope of application which may require limited adjustments to the consolidated GAAP balance sheet is described in Section 5. For this section, such general purpose reporting bases are collectively referred to as GAAP. The following GAAP Plus sections provide guidelines and specific examples for adjustments under the various jurisdictional GAAPs applicable to Volunteer Groups so that each can arrive at a consolidated GAAP Plus balance sheet following the application of these Technical Specifications.

232. Volunteer Groups that do not report on a consolidated GAAP basis, eg, US mutual insurers, should follow the specifications provided in Section 5.1.1.1 to arrive at their GAAP starting balance sheet as reported under the balance sheet column: *GAAP – Amounts per Audited Consolidated Financial Statements*

233. Under certain GAAP Plus approaches, there may be instances where beginning insurance liability balances are calculated under more than one set of GAAP rules. This can occur where a Volunteer Group begins with a Statutory GAAP that requires an aggregation of balances to arrive at a starting group balance sheet such as in the case of US mutuals where a consolidated GAAP balance sheet is not prepared for financial reporting or internal purposes. In such cases, where the aggregated balance sheet includes different valuation bases for insurance liabilities, Volunteer Groups need not restate to one single starting GAAP valuation methodology. Rather, a Volunteer Group should use the most appropriate GAAP Plus jurisdictional approach for each component of insurance liabilities in the aggregated balance sheet to arrive at a current estimate liability and report how this has been calculated in a narrative to be included with the Questionnaire responses.

234. Under US GAAP, US SAP and Japanese GAAP Plus approaches there is an adjustment (AOCI Adjustment) that serves to exclude from capital resources any unrealised gains and losses on fixed income securities that meet defined criteria provided in the Section 9.3.2. Where a Volunteer Group's balance sheet is an aggregation that includes liabilities valued under US GAAP, US SAP or Japan GAAP, these instructions should also be followed for that portion of their balance sheet where those jurisdictional GAAP Plus approaches would apply.

235. There are several risk charge calculations that include alternate instructions to be applied under GAAP Plus. These alternate instructions account for the fact that some assets under certain GAAP Plus approaches are reported at amortised cost or adjusted to amortized cost via the AOCI Adjustment, while the general specifications assume that all assets are reported at market value. The risk charge calculations that provide alternate instructions include Credit risk, Interest Rate risk, and Non-Default Spread risk.

236. For 2019 Field Testing, balance sheet data will only be requested for certain jurisdictions. The IAIS Executive Committee has decided that GAAP Plus will be an additional reporting component of the ICS during the monitoring period (2020-2024), at the option of group-wide supervisors.

237. For those Volunteer Groups that will be providing a balance sheet under GAAP Plus in 2019 Field Testing, GAAP Plus valuation data should be reported in the worksheet *FT19. ICS.Balance Sheet*. See Section 5 for detailed specifications on completing the balance sheet columns for balances reported under GAAP and GAAP Plus.

238. The worksheet *FT19.ICS.Balance Sheet* also includes a request for information related specifically to GAAP Plus. There is a table to facilitate the calculation of an AOCI Adjustment to capital resources for Volunteer Groups following the US GAAP, US SAP and Japan GAAP Plus examples. Detailed instructions for completing the AOCI Adjustment can be found in Section 9.3.2.

239. The worksheet *FT19.ICS.Balance Sheet* also includes tables to perform reconciliations of insurance liabilities between GAAP Plus and MAV. Detailed instructions for completing these tables can be found in Section 8.

240. In addition, there are a series of questions included in the Questionnaire in order to collect detailed descriptions of the methods used to calculate any significant adjustments developed directly by Volunteer Groups as well as explanations for amounts reported in the liabilities reconciliations. Supplemental narratives to further describe methodologies employed, assumptions used, etc., are invited through the Questionnaire. There are questions that are targeted specifically to certain GAAP Plus approaches. Volunteer Groups are invited to provide answers to any relevant questions if they so choose. There is the possibility that some Volunteer Groups, for example in Japan, may move to an IFRS basis of accounting in the future and thus may wish to provide input on the IFRS specific questions even if their 2019 Field Testing data is provided on a different basis of accounting.

7.3 GAAP Plus Guidelines

241. These GAAP Plus Guidelines have been developed to create a consistent framework to be applied in the development of the various jurisdictional GAAP Plus approaches. Like the MAV approach, GAAP Plus adjustments address only the most significant or material items on the balance sheet, specifically, insurance-related liabilities and invested assets.

242. To the extent possible, adjustments are based on amounts from the underlying audited GAAP financial reports, or that emanate from processes and/or systems that are subject to independent, external audit. The intent is to derive the necessary adjustments in a manner that is both practicable and with a level of independent assurance given each Volunteer Group's existing GAAP basis, process of reporting, related internal controls as well as its audit function.

243. Invested assets are valued on a basis that is consistent with reported balances in the Volunteer Group's audited GAAP financial statements (subject to the need for an adjustment due to paragraph 248 below).

244. Insurance liabilities (and any reinsurance assets/liabilities) are valued on a basis that is consistent with reported balances in the Volunteer Group's audited GAAP financial statements and adjusted as necessary to approximate the current estimate (as defined under ICP 14 – Valuation). The approximation of a current estimate is carried out using existing jurisdictional GAAP to the extent practicable (see ICP 14.8 for additional detailed information on the current estimate).

245. Insurance assets and liabilities are treated consistently so that non-economic volatility is minimised. To achieve a level of comparability across firms this may require an adjustment to capital resources to align the valuation of certain liabilities and assets for some jurisdictional GAAPs.

246. Capital resources and deductions – Aside from the AOCI Adjustment that is applicable for some jurisdictional GAAPs to address the consistent treatment of assets and liabilities and non-

economic volatility, all adjustments detailed in Section 9.4 apply equally to GAAP Plus as they would for MAV.

247. Tax effects – Deferred taxes should follow the Section 13 *ICS Tax Treatment*.

7.4 GAAP Plus General Considerations

248. The following general considerations are applicable to all Volunteer Groups regardless of the jurisdictional GAAP Plus approach followed:

a) Recognition / Derecognition of insurance liabilities: A liability should be recognised and derecognised in accordance with the Volunteer Group's jurisdictional GAAP.

b) Contract Boundaries: The definition of contract boundaries should be in accordance with the Volunteer Group's jurisdictional GAAP.

c) Discounting: GAAP Plus estimates of insurance liabilities (and related reinsurance recoverables) should be calculated using yield curves or rates as specified under applicable jurisdictional GAAP rules or as outlined in the applicable specific GAAP Plus approach.

d) The calculation of GAAP Plus adjustments should be based on up-to-date information and credible assumptions.

e) Policy Loans: Policy loans should be reported in the appropriate row under Investments, rather than being netted against insurance liabilities.

f) Separate Accounts: For purposes of GAAP Plus, Volunteer Groups should follow the jurisdictional GAAP definition for a separate account.

g) Non insurance liabilities (ie issued debt) should be reported in accordance with jurisdictional GAAP. Balances reported at cost should not be adjusted to fair value.

h) Margin over current estimate (MOCE): Risk margins, conservatism in assumptions and provisions for adverse deviation should be removed from the valuation of insurance liabilities where insurance liabilities are not calculated as a whole.

i) Deferred Taxes (Assets/Liabilities): These items should follow Section 13 *ICS Tax Treatment*.

j) Adjustment offsetting entries: Most adjustments needed to arrive at a GAAP Plus balance sheet require offsetting amounts in the equity section of the balance sheet. These pertain to the elimination of margins, related deferred tax adjustments, and possibly other adjustments made by the Volunteer Group. The Template automatically includes these offsets in the equity portion of the balance sheet based on the corresponding amounts reported by the Volunteer Group as adjustments to the underlying assets and liabilities. There should be no need to manually make adjustments to equity to report offsetting entries for GAAP Plus adjustments

except for certain offsets related to reporting non-controlling interests (NCI). See Section 9 for additional information.

k) Data quality and setting of assumptions: When selecting data for the calculation of insurance liabilities under the GAAP Plus approach, Volunteer Groups should follow similar guidance as provided under the MAV approach including considerations for selecting data for the calculation, working with limited or unreliable data, and supplementing historical data with data from other sources.

7.5 Jurisdictional GAAP Plus Approaches

249. The following section describes the jurisdictional approaches for GAAP Plus based on the GAAP Plus guidelines and considerations outlined in previous sections.

7.5.1 US GAAP Plus Approach

250. The following approach pertains to Volunteer Groups who report their audited, consolidated group financial statements on the basis of US GAAP for the purpose of reporting the GAAP Plus balance sheet in 2019 Field Testing.

251. 2019 Field Testing specifications reflect the application of FASB Accounting Standards Update 2018-12, Financial Services – Insurance (Topic 944): *Targeted Improvements to the Accounting for Long-Duration Contracts* (ASU). The expectation is that most Volunteer Groups will have the capability to prepare a balance sheet reflecting application of the ASU on a best efforts basis. Field testing for US GAAP Plus is extended through 2021 in order to allow time for the integration of the new ASU into accounting policies, systems and processes.

7.5.1.1 US GAAP Plus approach – Invested Assets

252. Investments (including fixed income, equity, mortgages/loans, real estate, and alternative investments) and derivatives should be reported under GAAP Plus as determined under US GAAP standards for reporting. Therefore, no adjustment is required under GAAP Plus.

253. Under US GAAP, the majority of investments are valued at fair value. Investments valued at amortised cost, such as securities designated as held to maturity, loans designated as held for investment and certain other investments, should be reported on that basis net of any related impairment, valuation allowance or loan loss reserve.

254. AOCI Adjustment: Assets backing certain long-duration liabilities are subject to an AOCI Adjustment to restate asset values from fair value to cost. See the GAAP Plus AOCI Adjustment in Section 9.3.2.

7.5.1.2 US GAAP Plus Approach - Insurance Liabilities

255. Volunteer Groups currently filing US GAAP reports should apply the following methods to calculate adjustments for reported insurance liabilities, reinsurance recoverables and reinsurance assumed.

256. Under US GAAP there are several accounting models used to estimate insurance liabilities based on product characteristics and length of contract. The GAAP Plus approach leverages these accounting models and, in certain cases, outlines adjustments to existing reported balances in order to approximate, to the extent possible, a current estimate. See Section 6.3 on current estimate instructions.

257. In order to approximate a current estimate, GAAP Plus insurance liability assumptions and calculations should exclude any implicit or explicit margins in the calculations. In addition, any amounts that take into account a market participant's view (eg own credit standing of the Volunteer Group) should be removed.

258. Reinsurance recoverables and any actuarially determined reinsurance payables should be calculated consistent with the GAAP Plus estimates of insurance liabilities. Therefore the same assumptions and inputs that are used for the subject insurance liabilities should be used for the corresponding reinsurance recoverables.

7.5.1.2.1 US GAAP Plus Approach - Non-life and other Short-term Insurance Liabilities

259. For insurance liability estimates for unpaid claims and other short-term insurance contracts that are measured under US GAAP ASC 944-30-1 to 4, the valuation of these items should be based on the Volunteer Group's reported US GAAP valuation. Generally speaking, this would be on an undiscounted basis, though there could be exceptions (eg tabular discount of certain Workers' Compensation liabilities). Any significant exceptions should be described in the Questionnaire.

260. Deferred acquisition costs related to non-life insurance should be set to zero (expensed) on the balance sheet under US GAAP Plus. The Template will automatically record the offset in *Other Asset Adjustment Offset* in the equity section. Premium liabilities should be reduced by the amount of deferred acquisition costs that are expensed. The Template will record the offset in *Insurance Liability/Reinsurance Adjustment Offset* in the equity adjustments section.

261. A placeholder approach has been developed to address the inclusion of an implicit margin for non-life unearned premium and claims reserves. The Template includes an adjustment to the liability balance to deduct the Percentile-MOCE, net of the tax effect, which would approximate the implicit margin. The adjustment is reflected in capital resources and does not impact the liability balances or exposures used in the risk charge calculations.

7.5.1.2.2 US GAAP Plus Approach - Life Insurance, Investment Contracts and other Long-term Insurance Liabilities

262. For insurance liabilities that are measured under US GAAP as the net present value of cash flows using current or updated assumptions, the valuation of these items should be based on the Volunteer Group's reported US GAAP valuations.

263. For traditional life contracts that will be subject to ASU 2018-12:

a) Begin with the liability as it would be reported under ASU 2018-12, including updated assumptions, elimination of all provisions for adverse deviations and application of a discount rate based on the yields of a representative portfolio of upper medium quality fixed income instruments and make the following adjustments:

   i. Adjust the net premium ratio to a gross premium.

   ii. Add directly attributable overhead expenses[14]. Overhead expenses are defined as those general expenses that would no longer exist in the absence of the business or portfolio of contracts. For example, overhead expenses could include accounting, human resources, IT and building expenses not already included as specifically identified expenses and would likely exclude most training and product development costs. Overhead expenses calculated under the MAV approach may be used as a practical expedient.

b) An adjustment to AOCI may also be required to record the difference between measuring liabilities using a discount rate at inception and the current rate as required under ASU 2018-12. It is understood that simplifying assumptions or a practical expedient may be required to develop an estimate of this amount for 2019 Field Testing. Please respond to the related question in the Questionnaire to explain how this balance was estimated.

264. For participating contracts, non-participating insurance contracts that are measured under a retrospective deposit method approach (eg universal life insurance contracts measured according to ASC 944-30-16, formerly SFAS 97) and investment contracts (eg guaranteed investment contracts, retirement products, annuities):

a) Adjust the liability utilising the Gross Premium Valuation (GPV) approach as defined in loss recognition (premium deficiency) testing under US GAAP ASC Topic 944-60. The GPV is calculated by estimating the present value of future payments for benefits and related settlement and maintenance expenses less the present value of future gross premiums based on actual and anticipated experience. Projections may be based on a single best estimate scenario and may also include the impact of management actions, eg, the current estimate of future premium rate increases (Section 6.3.13 on *Management Actions*).

[14] In order to conform to the definition of a current estimate and to be internally consistent with other GAAP Plus jurisdictional examples, overhead expenses are included under US GAAP Plus for purposes of the ICS.

For non-participating and investment contracts, the discount rate applied should be based on a current portfolio (book) yield and expected reinvestment asset yields and cash flows. Gross rates should be reduced for expected defaults and investment expenses.

For participating contracts the discount rate should be the current dividend fund crediting rate. Investment assumptions used in projected dividend cash flows should be consistent with this discount rate. An example is included in Section under 6.3.12 *Valuation of Future Benefits*.

b) While acknowledging that overhead expenses are not included in most instances under US GAAP rules, they would be included in a current estimate. In order to conform to the definition of a current estimate and to be internally consistent with other GAAP Plus jurisdictional examples, overhead expenses should be included under US GAAP Plus for purposes of the ICS. Although loss recognition testing under US GAAP specifies that overhead expenses are excluded, for purposes of reporting under GAAP Plus, overhead expenses should be included. As a practical expedient, the overhead expenses included in the GAAP Plus liabilities can be the same as those included in the reported MAV current estimates.

7.5.1.2.3 US GAAP Plus Approach - Options and Guarantees

265. Insurance contracts may include options and guarantees, such as guarantees of minimum investment returns (including as part of death benefits), maximum charges for mortality, surrender options, or options for the policyholder to reduce or extend coverage. For 2019 Field Testing, options and guarantees that meet the definition of market risk benefits as defined in ASU 2018-12 should be valued in accordance with the new US GAAP rules. Any amounts made to reflect a market participant's view (eg adjustments to reflect the credit standing of the Volunteer Group and adjustments for market participant risk margin or load) should be excluded from the estimate with an offset as applicable to AOCI and/or retained earnings.

266. For options and guarantees that meet the definition of a derivative but not the definition of a market risk benefit, the applicable measurement guidance would be ASC Topic 815 (formerly SFAS 133) and ASC Topic 820 (formerly SFAS 157). Any amounts made to reflect a market participant's view (eg adjustments to reflect the credit standing of the Volunteer Group and adjustments for market participant risk margin or load) should be excluded from the estimate.

267. For options and guarantees that do not meet the definition of a derivative or a market risk benefit under US GAAP, the applicable guidance would be ASC Subtopic 944-40-30-19a to 29 (formerly SOP 03-1). Any historical, locked-in assumptions used in this calculation should be updated to reflect current information.

7.5.1.3 US GAAP Plus Approach – Other Adjustments

268. Deferred expenses related to insurance such as deferred acquisition costs, value of business acquired, sales inducement assets, etc. should be expensed/reversed. The offsetting entry is automatically generated by the Template.

269. FAS 115 shadow adjustments: Adjustments to reflect the impact of unrealised gains and losses on available for sale securities as if they had been realised should be reversed and should not be reflected in asset/liability balances and AOCI.

270. Assets backing certain long-duration liabilities are subject to the AOCI Adjustment to restate asset values from fair value to cost. See Section 9.3.2 for further specifications.

7.5.2 US Mutual Life Insurers (US SAP) GAAP Plus Approach

271. The following guidance pertains to US mutual insurers that report audited results only on the basis of statutory accounting principles (SAP) as defined by state insurance regulators in the United States.

272. The general US GAAP Plus guidance is applicable to SAP only reporting US mutuals. However, and as described below, there are some balances that must be uniquely addressed by a US mutual Volunteer Group in 2019 Field Testing.

7.5.2.1 US SAP GAAP Plus Approach – Asset-related Adjustments

273. Beginning with the Aggregated SAP balance sheet including adjustments to approximate US GAAP as specified in Section 5 *ICS Balance Sheet*, the majority of investments should be valued at fair value. Investments valued at amortised cost, such as securities designated as held to maturity, loans designated as held for investment and certain other investments, should be reported on that basis net of any related impairment, valuation allowance or loan loss reserve. No further adjustment is required.

274. AOCI Adjustment: Assets backing certain long-duration liabilities are subject to an AOCI Adjustment to restate asset values from fair value to cost. See the GAAP Plus AOCI Adjustment in Section 9.3.2.

7.5.2.2 US SAP GAAP Plus Approach – Liability-related Adjustments

275. Insurance liabilities should begin with the Volunteer Group's reported SAP valuations.

a) For contracts that would fall under ASU 2018-12, FAS 97, or FAS 120 for US GAAP (disability income, long-term care, life insurance, pay-out annuities with life contingencies), adjust to a current estimate based on baseline cash flow testing. Apply the rate or yield curve consistent with the US GAAP Plus approach.

b) For contracts that are measured under the Principles Based Reserving rules:

   i. Where the Net Premium Floor is applied, the baseline cash flow testing approach as outlined in a) above should be used to adjust to a current estimate.

   ii. Where the deterministic approach is applied, Volunteer Groups should report the value calculated under the deterministic approach and adjust to a current estimate by deducting the margin as reported in the Annual Actuarial Report.

iii. Where the stochastic approach is applied, the deterministic approach as outlined above should be used to adjust to a current estimate.

c) For participating contracts, investment assumptions used in projected dividend cash flows should be consistent with the discount rate used to value the liability per the baseline cash flow test. An example is included in Section 6.3.12 *Valuation of Future Benefits*.

d) For fixed and variable deferred annuities not included in AG 43 and non-life contingent pay-outs, Volunteer Groups should use baseline cash flow testing per a) above.

e) For options and guarantee liabilities (variable annuities) that fall under ASU 2018-12, SOP 03-1 and FAS 133/157, adjust to CTE 0 from AG 43 models (with appropriate modifications to eliminate conservative PADs/margins) or hedging models if AG 43 is not applicable. Guarantees that fall under ASU 2018-12 and FAS 133/157 and are valued as derivatives should also use risk neutral in place of real world scenarios to the extent practical. Any amounts made to reflect a market participant's view (eg adjustments to reflect the credit standing of the Volunteer Group and adjustments for market participant risk margin or load) should be excluded from the estimate.

7.5.3 Japanese GAAP (J-GAAP) Plus Approach

276. The following guidance pertains to Japanese Volunteer Groups who report their audited consolidated financial statements on the basis of Japanese GAAP for the purpose of reporting the GAAP Plus balance sheet in 2019 Field Testing.

7.5.3.1 J-GAAP Plus Approach – Invested Assets

277. Japanese Volunteer Groups should report invested assets consistent with the treatment under J-GAAP. Therefore no adjustment is required under GAAP Plus.

278. For investment securities, fair value should be applied to AFS and trading securities, and amortised cost should be applied to Held to Maturity (HTM) and Held for Policy Reserve (HFR) securities. Loans should be valued at amortised cost net of any loan loss reserve and real estate should be valued at cost net of depreciation.

279. AOCI Adjustment – Assets backing certain long-duration liabilities are subject to an AOCI Adjustment to restate asset values from fair value to cost. See the *GAAP Plus AOCI Adjustment* in Section 9.3.2.

7.5.3.2 J-GAAP Plus Approach – Life Insurance Liabilities

280. The following adjustments are made to revalue life insurance liabilities to current estimates under the J-GAAP Plus approach utilising the Japanese GAAP statutory cash flow test pursuant to the Insurance Business Act in Japan.

281. Japanese Volunteer Groups should run the statutory cash flow test under a full time horizon assumption and fully reflect the test result in their GAAP Plus life insurance liabilities. Under the full time horizon cash flow analysis, life insurers are required to assess whether future cash flows generated from current assets cover the future cash flows (net of cash-inflows and cash-outflows) from insurance liabilities. The net amount in shortage or excess of insurance liabilities at the end of in-force business should be discounted and the resulting value should be added to (or deducted from) insurance liabilities. The discount rate should be consistent with cash flows to be generated on the asset side.

282. The actual current experience including mortality, lapse, expense ratio and interest rate should be used in the calculation of the future cash flows for insurance liabilities. New business should not be taken into consideration. Book yield (current portfolio assets yield) should be used to generate the future cash flows from the current asset portfolio. The future cash flow projection should be on a pre-tax basis.

283. The discounting assumption for investment returns from reinvestments and new money should be defined based on an assumption that Volunteer Groups invest in Japanese government bonds with an average duration equal to the average duration of Japanese government bonds in which the Volunteer Group invested in the previous financial year.

284. Group insurance contracts are scoped out from the Japanese GAAP statutory cash flow test. Therefore the following specifications should be used to measure these contracts for GAAP Plus:

a) The GAAP Plus valuation approach for group contracts is the same as Japanese GAAP. Group contracts other than group annuities should be measured as the unearned premium. The contract boundary for these group insurance contracts is one year.

b) Insurance liabilities for group annuity contracts should be calculated as a compound interest calculation of premium, therefore no GAAP Plus adjustment is required.

7.5.3.3 J-GAAP Plus Approach – Non-life Insurance Liabilities

285. In order to adjust non-life insurance liabilities for reporting under J-GAAP Plus, Volunteer Groups should apply a full time horizon cash flow analysis discounted using a market yield curve and use the result as the J-GAAP Plus non-life insurance liability. Under the full time horizon cash flow analysis, non-life insurers should assess whether reported insurance liabilities (GAAP basis premium provision) is adequate to cover all expected future cash flow. Recognised shortage or excess of insurance liabilities should be adjusted into insurance liabilities. The actual experience including claim frequency, lapse, expense ratio and interest rate should be used for the calculation of future cash flows in the insurance liability, but new business should not be taken into consideration.

7.5.3.4 J-GAAP Plus Approach –Liabilities for Options and Guarantees

286. Options and guarantees that are explicitly measured under Japanese GAAP should be adjusted for GAAP Plus using the method described in Section 7.5.3.2 *J-GAAP Plus Approach – Life Insurance*

Liabilities for GAAP Plus. For 2019 Field Testing, as a practical expedient, the time value of options and guarantees (TVOG) under MAV may be used to reflect TVOG for the Japanese GAAP Plus balance sheet.

7.5.4 IFRS GAAP Plus Approach

287. Volunteer Groups, other than EU Volunteer Groups currently filing audited, consolidated group financial statements on the basis of IFRS should apply the following specifications to calculate adjustments for the purpose of reporting their GAAP Plus balance sheet for 2019 Field Testing.

288. The GAAP Plus specifications reflect the application of IFRS 17 *Insurance Contracts* issued by the IASB in May 2017 and IFRS 9 *Financial Instruments* issued in July 2014. The IASB has proposed to defer the effective date of IFRS 17 to periods beginning on or after 1 January 2022. The IASB has also proposed to extend the exemption for insurers in applying IFRS 9 (set out in IFRS 4) to the same date. As the IASB is currently considering amendments to the new standard, which were not finalised before the launch of 2019 Field Testing, Volunteer Groups may not yet be in a position to finalise relevant accounting policies, systems and processes to produce balances based on the new rules. The IAIS requests that Volunteer Groups provide data reflecting the adoption of these standards on a best efforts basis.

289. Volunteer Groups may be able to adapt their solvency reporting to align more closely with IFRS 17 for purposes of reporting insurance liabilities in 2019 Field Testing. This could include simplified adjustments to reflect IFRS 17 compliant discount curves, definitions of contract boundary and recognition points, and cash flow adjustments (such as attributable/non-attributable overheads). Where Volunteer Groups have adapted their solvency reporting to approximate IFRS 17 figures, the nature and impact of the adjustments should be described in the Questionnaire, as well as any sources of material difference between IFRS 17 and their solvency reporting that have not been adjusted. Where the reported figures contain features equivalent to the IFRS 17 *Risk Adjustment and Contractual Service Margin*, these should be treated in accordance with paragraph 248.

290. The availability and quality of data based on the new IFRS rules will take time to improve. IFRS GAAP Plus will continue to be field tested through 2021 in order to account for the fact that accounting policies, systems and processes in support of these new rules are currently under development.

7.5.4.1 IFRS GAAP Plus Approach – Investments

291. Investments (including fixed income, equity, mortgages/loans, real estate, and alternative investments) and derivatives should be reported under GAAP Plus as determined under IFRS for financial reporting. Therefore no adjustment is required under GAAP Plus.

292. Investments should be reported net of any related loss allowance for expected credit losses.

7.5.4.2 IFRS GAAP Plus Approach – Insurance Liabilities and Reinsurance Contracts

293. For 2019 Field Testing, adjustments to reported insurance liability balances are minimized in order to set a baseline that can be used to assess whether there may be a need in future specifications for guardrails, narrowing range of options, etc. IFRS 17 includes three approaches for the measurement of insurance liabilities. Volunteer Groups should follow the appropriate measurement approach under IFRS 17 and apply the following adjustments:

a) General Model Approach (GMA) and the Variable Fee Approach (VFA)

   i. Risk Adjustment shall be reversed. The Template will record the offset in *Insurance Liability/Reinsurance Adjustment Offset* in the equity adjustments section. The risk adjustment will be replaced by the Percentile-MOCE.

   ii. Contractual Service Margin (CSM) should be reversed. The Template will record the offset in *Insurance Liability/Reinsurance Adjustment Offset* in the equity adjustments section. This adjustment makes the residual GAAP Plus liability reflective of a current estimate.

b) Premium Allocation Approach

   i. No adjustment is necessary.

   ii. A placeholder approach has been developed to address the inclusion of an implicit margin under the PAA for the Liability for Remaining Coverage. The Template includes an adjustment to the liability balance to deduct the Percentile-MOCE that would approximate the implicit margin. Volunteer Groups are required to separately report liabilities measured under the PAA for purposes of this calculation in the worksheet *FT19.ICS Summary*. The adjustment is reflected in capital resources and does not impact the liability balances or exposures used in the risk charge calculations.

294. Reinsurance contracts held should be measured in accordance with IFRS 17 and adjusted in the same manner as direct written contracts through reversal of the risk adjustment and CSM.

7.5.4.3 IFRS GAAP Plus Approach – Investment Contract Liabilities and other Distinct Investment Components

295. Investment contracts not within the scope of IFRS 17 and distinct investment components of insurance contacts that would be within the scope of IFRS 9 if they were separate contracts should be measured under IFRS 9 (as set out under IFRS 17).

a) If the liability representing the investment contract or component is measured as a fair value, then any amounts made to reflect a market participant's view (eg adjustments to reflect the credit standing of the Volunteer Group and adjustments for market participant risk margin or load) should be excluded from the estimate with an offset as applicable to AOCI and/or retained earnings.

b) If the liability representing the investment contract or component is measured at amortized cost, it will be necessary to restate the amount to a net present value of future cash flows or fair value excluding any market participant views (eg adjustment for own credit risk or risk margin). Any discounting should follow IFRS fair value accounting rules under IFRS 13 *Fair Value Measurement.*

7.5.4.4 IFRS GAAP Plus Approach – Service Contract Liabilities and other Distinct Service Components

296. Service contracts and promises to transfer distinct goods or non-insurance services to a policyholder within an insurance contract should be separated and measured under IFRS 15, *Revenue from Contracts with Customers* (as set out under IFRS 17). However, for the GAAP Plus balance sheet, these should be adjusted to a net present value of future cash flows or fair value excluding any market participant views (eg adjustment for own credit risk or risk margin). Any discounting should follow IFRS fair value accounting rules IFRS 13 *Fair Value Measurement*.

7.5.4.5 IFRS GAAP Plus Approach – Options, Guarantees and Embedded Derivatives

297. Options, Guarantees and other embedded derivatives should be separated under IFRS 9 and adjusted to reflect a market participant's view (eg adjustments to reflect the credit standing of the Volunteer Group and adjustments for market participant risk margin or load) should be excluded from the estimate with an offset as applicable to AOCI and/or retained earnings.

7.5.5 IFRS GAAP Plus Approach: European Union Volunteer Groups

298. The following guidance pertains to EU Volunteer Groups who report their audited consolidated financial statements on the basis of EU International Financial Reporting Standards (EU-IFRS) for the purpose of reporting the GAAP Plus balance sheet in 2019 Field Testing.

299. The current status of implementation of IFRS 17 across Member States, raise particular challenges regarding the reporting of an IFRS GAAP Plus approach for 2019 Field Testing. In the absence of a GAAP Plus balance sheet reflecting the specifications that presume the adoption of IFRS 17, collection of a balance sheet on the basis of the previous years' specification would be useful in the analysis of the impact of IFRS 17 in a GAAP Plus context. Thus for 2019 Field Testing, a GAAP Plus balance sheet based on a Solvency II regulatory valuation with some specified adjustments will continue to be collected.

300. Volunteer Groups following the EU-IFRS GAAP Plus approach that prepare an aggregated group balance sheet should take note of paragraph 233 above. In addition, EU Volunteer Groups should complete the GAAP Plus risk charge calculations on the basis of this balance sheet.

7.5.5.1 EU GAAP Plus Approach – Invested Assets

301. IAS 39/IFRS 9 (and IAS 40 for investment property) allows for the use of several valuation methodologies, under specific conditions. For the purpose of the GAAP Plus balance sheet, to ensure consistency with the valuation of insurance liabilities, invested assets should be reported at fair value. As a proxy, EU Volunteer Groups can apply the same adjustments as per the MAV basis.

7.5.5.2 EU GAAP GAAP Plus Approach - Insurance Liabilities and Reinsurance Recoverables

302. EU Volunteer Groups should begin with their general purpose GAAP consolidated balance sheet and perform the necessary adjustments to arrive at their Solvency II regulatory valuation (including the specifications below). This will provide the balances for reporting insurance liabilities and investment contracts for GAAP Plus in 2019 Field Testing.

303. The following adjustments should be made to the Solvency II insurance liability balances in order to derive GAAP Plus figures:

a) Risk margins should be removed from the valuation of insurance liabilities where insurance liabilities are not calculated as a whole.

b) The valuation of insurance liabilities should be adjusted to exclude the phasing in measures provided by the regulatory framework.

7.5.6 Bermuda GAAP Plus Approach

304. Section 17A of the Bermuda Insurance Act requires commercial insurers to prepare consolidated GAAP financial statements in accordance with one of the following standards:

a) International Financial Reporting Standards (IFRS);

b) GAAPs that apply in Bermuda, Canada, the United Kingdom or the United States of America; or

c) Such other GAAPs as the Bermuda Monetary Authority may recognise.

305. GAAPs that apply in Bermuda in point b) above are aimed at domestic (non-exempt) companies and means Canadian GAAP (which would be IFRS for purposes of GAAP Plus for 2019 Field Testing).

306. Bermudian Volunteer Groups should use specifications under the GAAP Plus jurisdictional approaches for whichever underlying GAAP rules they are using to prepare their audited, consolidated group financial statements.

7.5.7 China GAAP Plus Approach

307. Volunteer Groups that report audited, consolidated group financial statements in accordance with C-ROSS should perform the following adjustments to report their GAAP Plus balance sheet for 2019 Field Testing.

a) Investments: No adjustment is necessary except for equity investments. Equity investments recorded at cost should be adjusted to the equity method of accounting if a group has significant influence over decisions of the entity.

b) Reinsurance Assets: Reinsurance assets should be adjusted in a similar manner to the underlying insurance liability as specified below.

c) Long duration insurance contracts: Reverse any risk margin from insurance liability balances. Assumptions for insured events should be determined according to a Volunteer Group's actual experience, and should not exceed the upper/lower limits specified by the CBIRC. If the incidence rate of insured events is higher than the upper limit, the upper limit should be applied in the assumption; if lower than the lower limit, the lower limit should be applied in the assumption. The Template will record the offset in *Insurance Liability/Reinsurance Adjustment Offset* in the equity adjustments section. This adjustment ensures that the GAAP Plus liability is reflective of a current estimate.

d) Short duration insurance contracts: For unearned premium reserves, reverse any risk margin and residual reserve. For outstanding loss reserve, reverse any risk margin. The Template will record the offset in *Insurance Liability/Reinsurance Adjustment Offset* in the equity adjustments section. Adjustments ensure that the GAAP Plus liability is reflective of a current estimate.

e) Options and Guarantees: No adjustment is necessary.

f) Investment contracts:

   i. Investment contracts with no insurance risk that are recorded at amortized cost should be restated to a fair value excluding any market participant views (eg adjustment for own credit risk or risk margin) using an approach similar to the policyholder account for unit linked contracts.

   ii. Unit-Linked Investment contracts: The portion of the contract that represents the policyholder account measured as a fair value that excludes any amounts made to reflect a market participant's view would require no adjustment. The portion of the contract that represents the insurer account should be adjusted consistent with long duration insurance contracts.

g) Income Tax Reserve: See Section 13 on deferred taxes for tax related ICS adjustments.

7.6 Supplemental Data Collection: GAAP Plus Insurance Liabilities Restated under a Risk-free Yield Curve

308. For 2019 Field Testing, a GAAP Plus balance sheet will be collected that reflects the application of a risk-free yield curve in place of the discount curve specified under each jurisdictional GAAP Plus approach. This curve would be the same that is applied under the MAV approach. The purpose of this supplemental data collection is to allow for the analysis of jurisdictional GAAP Plus discounting approaches, to evaluate range of practice and to identify non-discounting differences between GAAP Plus and MAV.

309. The risk-free yield curve should be applied to the insurance liability current estimate calculation with respect to cash flow estimates and discounting. For those jurisdictional GAAP Plus approaches where certain non-life liabilities are calculated on an undiscounted basis, on the basis of the proportionality principle, these balances do not need to be restated and discounted using the risk-free yield curve. The AOCI Adjustment is not applicable under the risk-free yield curve scenario.

7.7 Supplemental Data Collection: Stressed Balance Sheet Scenarios

310. The GAAP Plus balance sheet should be additionally calculated with prescribed stressed elements (refer to Section 6.5 *Stressed Scenario*). In 2019 Field Testing, a spread widening is applied along with a downward stress (parallel shift) of the interest rates and a stress of the credit defaults in the asset portfolio. The stressed scenario should be applied to the portion of the balance sheet labelled *Related to Insurance Activities* for any interest sensitive assets, insurance liabilities, reinsurance, deferred taxes and the AOCI Adjustment (if applicable).

311. The MAV prescribed stresses should be applied to determine market value changes in assets. For GAAP Plus approaches that include an AOCI Adjustment for invested assets backing long duration insurance contracts, the impact of the application of stresses on the AOCI Adjustment should be calculated and reported on a separate line in the Template (see worksheet *FT19.ICS Balance Sheet*). As the AOCI Adjustment is essentially restating assets to an amortised cost basis, the change in the AOCI Adjustment serves to offset the impact of the stresses on the assets that are within the scope of the AOCI Adjustment. The AOCI Adjustment does not apply under the GAAP Plus balance sheet using the risk-free yield curve. The impact related to assets (net of the AOCI Adjustment), insurance liabilities, capital resources, deferred taxes and AOCI Adjustment should be reported in the worksheet *FT19.ICS.Balance Sheet.* The details of the impact on insurance liabilities should be reported in the same worksheet.

312. Application of the stresses to GAAP Plus insurance liabilities will depend on the GAAP discounting approach used. For those liabilities measured using a discount rate that represents a book yield blended with a reinvestment assumption, only the reinvestment assumption component of the rate is impacted by the prescribed stressed scenario. For liabilities discounted with a market based rate or curve, the stresses should be applied directly. Volunteer Groups are expected to apply the stresses to rerun the cash flows and to discount those cash flows.

313. A description of how the stressed scenario has been applied to GAAP Plus insurance liabilities should be provided in the Questionnaire.

8 Reconciliations from GAAP Plus to MAV

Relevant Worksheets in Template:	*FT19.ICS.Balance Sheet*	*Due 31 July 2019*

314. A table in the worksheet *FT19.ICS.Balance Sheet* has been provided for Volunteer Groups to reconcile life insurance liability amounts between MAV and GAAP Plus. This data is being collected in order to understand any significant differences between the two ICS valuation methods.

315. An additional table in the worksheet *FT19.ICS.Balance Sheet* has been provided to reconcile non-life insurance liabilities amounts between reported GAAP and GAAP Plus/MAV as well as between GAAP Plus and MAV.

8.1 Reconciliation of Life Insurance Liabilities – GAAP Plus to MAV

316. The reconciliation table is provided for Volunteer Groups to reconcile life insurance liabilities between GAAP Plus and MAV. This table includes certain specified columns as well as two user-defined columns to identify significant reconciling items (other than those specified). The definitions used by a Volunteer Group for each of the user-defined columns and other relevant information necessary to understand the drivers of differences between MAV and GAAP Plus current estimates should be included in the Questionnaire.

317. Reconciliation information should be provided on a best efforts basis. A zero should be entered for any columns that are not applicable or where data is not available at the level of granularity requested. If the level of granularity is not available, Volunteer Groups should make use of the columns labelled *Other* which, if used, should be supplemented with descriptive information in the Questionnaire.

318. Detailed narrative responses in the Questionnaire should also be provided to explain the process that was followed to calculate a current estimate under MAV and GAAP Plus including the purpose, method, significant judgments, key assumptions and any other information that may assist in understanding the nature of any adjustments.

319. Column descriptions for the *Reconciliation of Life Insurance Liabilities - GAAP Plus to MAV*:

a) *GAAP Plus (reflecting new accounting rules)* – Reported GAAP balance adjusted to reflect new accounting rules not yet in effect, but prior to adjustment to a current estimate under GAAP Plus. For 2019 Field Testing, this would apply to US and IFRS GAAP Plus relating to the application of new accounting rules for insurance contracts.

b) *GAAP Plus (GAAP rates)* – Calculated field, from the table *Detailed information on the insurance liabilities* in worksheet *FT19.ICS Balance Sheet*.

c) *Changes due to Contract Boundaries* – Represents the amount of the adjustment related to applying the definition of contract boundaries under MAV versus GAAP Plus.

d) *Changes due to update of Cash Flows* – Represents the impact on cash flow projections due to updating any assumptions from GAAP Plus to MAV consistent assumptions, as well as the application of the discount rate/curve under MAV on cash flow projections. Volunteer Groups should separate cash flows from the discounting impact on a best efforts basis, but if not feasible the result should be combined in the cash flow column.

e) *Changes due to discounting of CF* - Represents the amount related to the impact of applying the MAV yield curve in order to obtain a present value of cash flows.

f) *GAAP+ to MAV (user defined)* –Columns have been included that can be defined by Volunteer Groups to decompose any additional material differences that can be isolated. The definitions for these columns and other relevant information necessary to understand the primary drivers of differences between MAV and GAAP Plus current estimates should be included in the Questionnaire.

g) *Other* – Any additional amounts required to decompose the difference between GAAP Plus and MAV. Provide a description and breakdown of any material amounts in the Questionnaire responses.

h) *MAV* – Calculated field, sum of columns described above. The amount should equal the amount reported under MAV. A check is provided to ensure that the values match.

8.2 Reconciliations of Non-life Insurance Liabilities

320. A table has been provided for Volunteer Groups to provide reconciliation data between reported GAAP and GAAP Plus/MAV and between GAAP Plus (GAAP rates) discounting and the MAV Three-Bucket Approach (central scenario).

321. For non-life insurance liabilities, the reconciliation provides for a breakdown of these amounts between premium and claims reserve liabilities. Claims reserve liability represents the estimate of costs to settle all reported losses and loss adjustment expenses (LAE) plus an estimate of losses and LAE incurred but not reported.

322. Column descriptions for input into *Premium Liability Reconciliation*:

a) *Premium Receivables* – Change due to netting of premium receivables against the insurance liability. Any portion of premium receivables that are reclassified as *Other Insurance Assets* (eg agents' balances) should not be included in this column.

b) *Premium Deficiency Reserve* – Adjustment due to the removal of the GAAP Premium Deficiency Reserve (if any).

c) *DAC Adjustment* – Represents the amount to add back to the unearned premium (debit) relating to the reversal of deferred expense asset balances in the balance sheet.

d) *Change to Profitability Assumptions / Cash Flows Impact* – Differences due to the profitability/expense assumptions.

> Example: Assume under a jurisdictional GAAP that a premium liability of 100 was calculated with an implicit combined ratio of 100%. If the acquisition expenses were zero and the MAV premium liability was calculated with a combined ratio of 85%, then the amount of this item in the GAAP-to-MAV reconciliation would be -15 (=[85%-100%]*100).

e) *Discounting Impact* – Change due to differing discount rates.

f) *Recognition Criteria* – Any changes due to policies that are recognised in the first column but not recognised in the last column and vice versa.

g) *Contract Boundaries* – Any changes due to policies or renewals that are within the contract boundary in the first column but are not within the contract boundary in the last column and vice versa.

h) *Other* – Any additional amounts required to decompose the difference. Provide a description and breakdown of any material amounts in the Questionnaire.

323. Column descriptions for input into *Claims Reserve Reconciliation*:

a) *Discounting Impact* – Change due to different discount rates.

b) *Other* – Any additional amounts required to decompose the difference. Provide a description and breakdown of any material amounts in the Questionnaire.

9 Qualifying Capital Resources

Relevant Worksheets in Template:	*FT19.ICS.Balance sheet* *FT19.BCR+HLA* *FT19.ICS Summary* *FT19.Financial Instruments* *FT19.Financial Instruments.TPC* *FT19.Non-Paid-Up Cap Resources* *FT19.Encumbered Assets*	*Due 31 July 2019*

324. Qualifying capital resources are determined on a consolidated basis for all financial activities and comprise qualifying financial instruments and capital elements other than financial instruments.

325. Qualifying capital resources are subject to adjustments, exclusions and deductions defined further in the following sections. To avoid any double-counting, any item that is deducted from capital resources should not have a risk charge attributed to it.

326. In 2019 Field Testing, the intention is to gather data to enable the IAIS to make informed decisions on the capital resources framework of ICS Version 2.0 for the monitoring period, including:

a) The classification of financial instruments and other capital elements into tiers; and

b) The appropriate capital composition limits within the tiering framework.

327. Qualifying capital resources, gross and net of adjustments and limits, are calculated in the following worksheets of the Template:

a) *FT19.BCR+HLA* for BCR capital resources; and

b) *FT19.ICS Summary* for ICS capital resources, which will be calculated on two bases: one for which financial instruments with acceleration clauses that may be triggered in going concern are permitted in Tier 2 Paid-Up capital resources, and one for which such acceleration clauses are not permitted in Tier 2 Paid-Up capital resources. This approach is consistent with that taken in 2018 Field Testing.

9.1 Financial Instruments Issued by Volunteer Groups

328. This section is relevant to the completion of worksheets *FT19.Financial Instruments* and *FT19.Financial Instruments.TPC*. These worksheets contain a number of tables, which are described below. Within the tables, blue cells are for data inputs while yellow and orange cells contain formulae and are populated automatically.

329. The following applies to the tables contained in worksheet *FT19.Financial Instruments:*

a) The *ICS Summary Table* provides summary information on financial instruments that qualify as ICS capital resources.

b) The *ICS Field Testing Classification and Amortisation Table* provides the ICS classification result for each financial instrument reported, along with the qualifying amounts (on both MAV and GAAP Plus bases) for each instrument, respectively. This table also performs amortisation calculations for financial instruments that are to be amortised over the final five years to their effective maturity dates. The columns in this table sources information from the *2019 Field Testing Assessment Table* in the same worksheet.

c) The *Data Input Table* is used to collect information required to perform an assessment against ICS qualifying criteria and additional information that will be used to help inform future policy decisions. Volunteer Groups should report all relevant information on financial instruments issued to external investors in the *Data Input Table*. Volunteer Groups should not include any intra-group financial instruments issued between entities included within the scope of the group, ie involving transactions that are eliminated in the consolidated ICS balance sheet.

d) The *2019 Field Testing Assessment Table* contains calculations to perform an automated assessment of each instrument against the ICS qualifying criteria, based on the data submitted for each financial instrument in the *Data Input Table*. The results are used to populate entries in the *ICS Field Testing Classification and Amortisation Table*. The qualifying criteria (set out in Section 9.1.3 of this document) are only for the purposes of 2019 Field Testing and should not be seen as indicative of how financial instruments will be classified under future iterations of the ICS.

330. In the worksheet *FT19.Financial Instruments.TPC*, Volunteer Groups should provide additional information on any reported financial instruments that have been issued by a consolidated subsidiary to third parties. This information will be used to investigate the impact of potential limits on inclusion of third party capital (TPC) within ICS capital resources. The limits will not be calculated or applied within the Template, and the relevant information will form part of the IAIS' considerations regarding a holistic approach to fungibility within the ICS during the monitoring period.

331. Volunteer Groups should provide the following data in worksheet *FT19.Financial Instruments.TPC* for each consolidated subsidiary that has issued financial instrument(s) to third parties:

a) The Volunteer Group subsidiary's total liabilities

b) The Volunteer Group subsidiary's equity and subordinated debt

c) The Volunteer Group subsidiary's equity and subordinated debt attributable to third party investors

332. This data should not be reported on an ICS basis, but rather as recognised in the local balance sheet. For the avoidance of doubt, the local unconsolidated GAAP of the issuing subsidiary should be used, even if sub-consolidated accounts exist.

333. Where an amount is reported on worksheet *FT19.ICS.Balance Sheet* for non-controlling interest (other than financial instruments) attributable to the Volunteer Group's subsidiary, a break-down of the reported amount (by subsidiary) should also be provided in the worksheet *FT19.Financial Instruments.TPC*. The total figure reported in the worksheet *FT19.Financial Instruments.TPC* in respect of all consolidated subsidiaries that have issued financial instruments to third parties and, as applicable, generate non-controlling interests, should reconcile to the total figure reported in the equity section of the balance sheet in worksheet *FT19.ICS.Balance Sheet.*

9.1.1 Data Submission

334. This section contains instructions for Volunteer Groups on the information to report in the *Data Input Table* in the worksheet *FT19.Financial Instruments*, ie what data to report and how to report it within the table. It also describes features of the capital resources framework and the options being explored in 2019 Field Testing to inform policy decisions on outstanding issues. The descriptions and instructions that follow refer to column headings in various tables within the Template. Volunteer Groups should note that column headings within the Template are often paraphrased descriptions of data input requirements or criteria to save space; the column headings within the Template should be considered alongside the Technical Specifications for completeness.

335. Volunteer Groups should provide in the *Data Input Table* all relevant information pertaining to paid-up financial instruments issued by the Volunteer Group and included on its consolidated balance sheet as at its reporting date. This includes senior debt issued by a holding company and any ordinary shares issued by consolidated subsidiaries to third parties. A separate worksheet is dedicated to information on non-paid-up capital items. Any instruments issued after the balance sheet reporting date should not be reported within the Template. Each financial instrument reported is assessed against the ICS Field Testing qualifying criteria in the *2019 Field Testing Assessment Table*. The criteria identify features important to provide an adequate quality of capital for each tier with respect to five key principles: loss absorbing capacity, level of subordination, availability to absorb losses, permanence and absence of encumbrances and mandatory servicing costs.

336. Volunteer Groups should use separate rows to report information on different financial instruments (ie one row for each instrument). For the avoidance of doubt, where a Volunteer Group has issued multiple instruments with largely similar features, Volunteer Groups should not use a single row to report that information; in that case, Volunteer Groups should split the data into multiple entries to ensure that accurate information is provided in respect of each specific instrument.

337. The information reported in the *Data Input Table* should reflect the contractual terms and conditions of the financial instrument, unless otherwise indicated. Some data inputs will require Volunteer Groups to provide information on the features of the regulatory and/or legal environment in which an instrument was issued (eg in the case of structural and contractual subordination). Where

inputs relate to the features of the regulatory and/or legal environment, rather than the terms and conditions of the financial instrument, it is clearly indicated in the Technical Specifications.

338. Many of the columns in the *Data Input Table* utilise drop-down menus in order to collect information in a specific format. Volunteer Groups should not amend the list of menu items under any circumstances. If Volunteer Groups have issued financial instruments with features that cannot be accurately captured within the Template, this should be noted in the Questionnaire. Where a drop-down menu has not been provided, Volunteer Groups are asked to use the format indicated in the column header (eg % for distribution rate) or as specified within the Technical Specifications.

339. Financial instruments may take a number of different forms including common or ordinary shares, preferred shares, hybrid capital instruments, subordinated debt, surplus notes, etc. In the *Data Input Table*, the column labelled *Type of Financial Instrument* contains a drop-down menu list of different types of financial instruments. For each financial instrument reported, Volunteer Groups should select the category that best describes the instrument.

340. For each financial instrument reported, Volunteer Groups should indicate the type of issuing entity in column *Type of issuing entity* of the *Data Input Table* and whether it is a mutual entity in the adjacent column. In instances where more than one description may apply to the issuing entity, please select the one that is considered most appropriate. The types of issuing entities listed in the drop-down menu are as follows:

a) Parent non-insurance holding company – this refers to a parent holding company (ie an ultimate or intermediate parent) that does not undertake insurance activities

b) Parent insurance company – ie ultimate or intermediate parent that undertakes insurance activities

c) Insurance subsidiary – this refers to controlled subsidiaries of a parent that undertake insurance activities

d) Special purpose vehicle

e) Non-insurance financial subsidiary – this refers to controlled subsidiaries of a parent that undertake financial activities other than insurance, including banking subsidiaries

f) Other

341. Volunteer Groups should also indicate the region where the financial instrument was issued. When reporting information on financial instruments reported by mutual entities, Volunteer Groups should also provide the relevant information in columns labelled *Additional Information on Financial Instruments Issued by Mutuals*.

342. Volunteer Groups should provide information on the subordination of financial instruments in columns labelled *Subordination Information* of the *Data Input Table*. In particular, for each financial

instrument Volunteer Groups should specify the degree of subordination (ie *To whom is the instrument subordinated?*) and the type of subordination (eg contractual or structural). For contractually subordinated financial instruments, Volunteer Groups should specify whether the subordination clause has legal effect outside of the jurisdiction in which the instrument was issued, ie whether the subordination of the financial instrument to policyholders and other non-subordinated creditors can be legally enforced when those senior creditors are in another jurisdiction. Additional information requested in respect of structurally subordinated financial instruments is described in Section 9.1.3.4 below.

343. Volunteer Groups are asked to detail whether the financial instrument reported is treated as a liability in any applicable jurisdictional insolvency law tests that determine whether the issuer's liabilities exceed its assets. That is, whether the financial instrument would contribute to the firm's insolvency in any applicable solvency test.

344. Volunteer Groups should provide relevant information on key dates (eg issue date, maturity date, first ordinary call date, etc.) in columns labelled *Date Information* of the *Data Input Table*. These columns have been pre-set to date format in Excel and when completed correctly should display the information in long date format (eg in Europe, 22/06/2015 should read as 22 June 2015; the same output should be obtained by reporting 06/22/2015 in North America). The entry "various" does not constitute a valid entry for reporting the issue date of multiple financial instruments with similar features (eg several common/ordinary share issuances). In this case, Volunteer Groups should split the data into multiple entries by issue date. For perpetual instruments, no maturity date should be specified (ie column *Date Information – Maturity* of the *Data Input Table* should be left blank). When providing information in column *First Ordinary Call* of the *Data Input Table*, Volunteer Groups should provide information in respect of ordinary calls that fall after the issue date, rather than extraordinary call rights. For the avoidance of doubt, Volunteer Groups should not enter a first ordinary call date that is the same as the issue date of an instrument (as this interferes with the instrument classification logic within the Template). Data on extraordinary call rights should be provided in the adjacent columns clearly marked for that purpose.

345. When providing information on the distribution rate of a financial instrument in column *Distributions – Distribution Rate (%)* of the *Data Input Table* (eg the coupon rate of a debt instrument), "various" is not a valid input to simultaneously describe the distribution rate of multiple instruments. Where financial instruments have different distribution rates, Volunteer Groups should report information on those instruments in separate rows of the Template.

346. Information on any principal loss-absorbency mechanisms (ie write-down or conversion features) in the terms of an instrument should be provided in columns labelled *Principal Loss Absorbency* of the *Data Input Table*. If an instrument does not currently possess one of these features, but it is expected to be replaced by an instrument with one of these features upon redemption (eg due to changes in local jurisdictional requirements), please indicate this in columns *Principal Loss Absorbency of Replacement Instruments* of the *Data Input Table*.

347. *Data Input Table* contains three columns labelled *Prior Supervisory Approval* to collect information on requirements for supervisory approval of the redemption or repurchase of a financial instrument prior to contractual maturity. Redemption refers to the repayment, in whole or in part, of an investor's principal in a financial instrument at the issuing Volunteer Group's option at any time prior to or at contractual maturity. This redemption right (ie call option) resides only with the issuer. Repurchase refers to any purchase of a Volunteer Group's own financial instruments (for example, an open market purchase of an Volunteer Group's own financial instrument or through a tender offer by private agreement with investors). Redeemed or repurchased financial instruments are cancelled by the issuer. The table also contains a series of columns to collect information on financial instruments and supervisory conditions where supervisory approval is not a feature of the regulatory jurisdiction in which an instrument was issued.

348. Volunteer Groups should provide information on any lock-in features specific to a financial instrument, or any other special conditions that might apply to a financial instrument, in particular as it nears maturity in columns labelled *Special conditions* of the *Data Input Table*. A lock-in feature typically involves the suspension of distributions and/or redemption where there is non-compliance with a regulatory capital requirement and is usually specified in the terms and conditions of a financial instrument. Another common feature is amortisation of the amount of an instrument that can be recognised as qualifying capital resources as it approaches its maturity date. Amortisation is normally a feature of the local regulatory jurisdiction rather than being specified within the terms of an instrument.

349. For dated financial instruments that do not have a lock-in feature, the amount recognised as qualifying capital resources will be amortised from 100% to 0% on a straight-line basis in the final five years prior to its effective maturity (defined in Section 9.1.3.3 below). The ICS amortisation calculation is applied automatically in the *ICS Field Testing Classification and Amortisation Table*.

350. For each financial instrument reported, Volunteer Groups should provide the par (face) value of the issued instrument in the column labelled *Face Amount (Par Value)* of the *Data Input Table*, and any share premium associated with the instrument in the column labelled *Share Premium associated with the issuance*. Volunteer Groups should report the gross par (face) value ie without making deduction for treasury stock or direct investments in own financial instruments as otherwise, this would lead to a double deduction from capital resources. This information is captured and applied as a deduction elsewhere in the Template (treasury stock should be reported in worksheet *FT19.ICS.Balance Sheet* and direct investments in own financial instruments should be reported in the tables labelled *ICS Summary Table (Tier 2 Debts valued under MAV)* and *ICS Summary Table (Tier 2 Debts valued under GAAP Plus)*). In situations where the Volunteer Group has redeemed or repurchased a portion of a financial instrument, the amount reported should be the par value of the outstanding portion of the instrument. In cases where a Volunteer Group is required by its local regulator to amortise the financial instrument's par value included within regulatory capital, the amount reported should be the par value before amortisation. This is because the IAIS will apply its own amortisation calculation in the Template.

351. For each debt instrument (including senior debt, subordinated debt, hybrids, etc.), Volunteer Groups should provide the value of the corresponding liability recognised on the balance sheet in columns labelled *Debt instrument – Balance sheet values* of the *Data Input Table*. For each instrument, Volunteer Groups should provide three different balance sheet values, corresponding to the valuation in the GAAP balance sheet and the two different valuation approaches being tested in 2019 Field Testing (MAV and GAAP Plus). The MAV and GAAP Plus amounts reported should follow the valuation approaches specified in the *MAV* and *GAAP Plus* Sections of the Technical Specifications. Furthermore, the balance sheet values of debt financial instruments reported in worksheet *FT19.Financial Instruments* should be consistent with the information reported for debt instruments and borrowings in worksheet *FT19.ICS.Balance Sheet*.

352. In *Data Input Table*, information should be provided on whether an expectation of cancellation or repurchase has been created in the terms of an instrument or by the Volunteer Group. For example, an expectation would be created if the Volunteer Group has made a communication to investors that could reasonably be considered as an indication that the duration of an instrument will be shorter than its contractual maturity (ie the Volunteer Group has indicated intent to repurchase the instrument or exercise a contractual right to call the instrument). Such communication could take place either within the terms and conditions of an instrument, within other investor facing documentation or through other formal communication with investors. For the avoidance of doubt, call options and incentives to redeem are not relevant to this data item (ie the presence of a call option and/or an incentive to redeem within the terms and conditions of a financial instrument does not necessarily mean that a Volunteer Group should report "Y" for this specific data item). Information on call options and incentives to redeem is collected elsewhere in the *Data Input Table*.

353. Volunteer Groups should provide information on the presence of any acceleration clauses within the legal terms and conditions of a financial instrument in columns *Acceleration Clauses* of the *Data Input Table*. Acceleration clauses provide for acceleration of payments (eg distributions, redemption amounts) owed in respect of a financial instrument. Volunteer Groups should indicate the circumstances in which any acceleration clauses may be triggered (ie in going concern and/or in winding-up).

354. Columns labelled *SPV Issuance* of the *Data Input Table* apply specifically to financial instruments issued by a special purpose vehicle (SPV). If an instrument was not issued by an SPV, please select not applicable (N/A) from the drop-down menus.

355. For each financial instrument reported, Volunteer Groups should indicate in columns *Third party capital* of the *Data Input Table*, whether or not an instrument was issued by a consolidated subsidiary of the Volunteer Group and is held by third parties. This includes instruments that generate a non-controlling interest (eg ordinary shares). Volunteer Groups are also requested to indicate where this is the case in the column labelled *Does the instrument result in a non-controlling interest of the issuer?*. Where a Volunteer Group reports information about a financial instrument that has been issued by a consolidated subsidiary to third parties, it should provide additional information in the worksheet *FT19.Financial Instruments.TPC.*

9.1.2 Data Assessment

356. The yellow cells in *2019 Field Testing Assessment Table* in worksheet *FT19.Financial Instruments* contain formula-based assessments against the ICS 2019 Field Testing qualifying criteria for each financial instrument reported. These columns are populated automatically and Volunteer Groups should not over-write these by manually entering information in these columns. Each column header provides a brief description of the criterion tested. References to the specific criteria set out in the Technical Specifications are provided above the column headers.

357. The outcome of the assessment against each criterion is specified as "Pass", "Fail" or "ERROR" (or "N/A" if not applicable). A minimum amount of information must be provided by a Volunteer Group in the *Data Input Table* in order for the automated classification logic to accurately determine whether a financial instrument complies with a given criterion. The assessment will return "ERROR" if the information provided is insufficient, or is entered in an incorrect format. Such error messages can be used by Volunteer Groups to identify whether amendments or additional data need to be provided in the *Data Input Table*. Volunteer Groups should submit completed Templates that are free of error messages. If a Volunteer Group cannot determine the reason behind an error message then this should be explained in the Questionnaire.

9.1.3 Classification of Financial Instruments as ICS Tier 1 and Tier 2 Capital Resources

358. The relevant criteria for classification of financial instruments as Tier 1 and Tier 2 capital resources for 2019 Field Testing are set out in the following sections. The assessment of each financial instrument reported against these criteria is performed in *2019 Field Testing Assessment Table* in worksheet *FT19.Financial Instruments*. Criteria reference letters are listed above the column headers in that table.

9.1.3.1 Tier 1 Unlimited Financial Instruments Issued by the Volunteer Group

359. For 2019 Field Testing, financial instruments will qualify as ICS Tier 1 capital resources for which there is no limit (referred to as *Tier 1 Unlimited* in worksheet *FT19.Financial Instruments*) if all of the following criteria are met:

a) The instrument is fully paid-up.

b) The instrument is in the form of issued capital such that it is the first instrument to absorb losses as they occur.

c) The instrument represents the most subordinated claim in a winding-up of the IAIG where the holder is entitled to a claim on the residual assets proportional to its share of the issued share capital after all claims have been repaid, and which is not subject to a fixed or capped amount.

d) The instrument is perpetual (ie it does not have a maturity date).

e) The principal amount of the instrument is not repaid outside winding-up, other than by means of discretionary repurchase permitted under national law.

f) There is not an expectation created at issuance by the IAIG, through the terms of the instrument or otherwise, that the Volunteer Group will repurchase or cancel the instrument.

g) There are no circumstances under which a distribution is obligatory (non-payment is, therefore, not an event of default).

h) Distributions are paid out of distributable items (retained earnings included).

i) The instrument is neither undermined nor rendered ineffective by encumbrances. In particular, priority of claims should not be compromised by guarantees or security arrangements given by either the IAIG or another related entity over which the IAIG exercises control or significant influence, for the benefit of investors.

j) Neither the IAIG nor a related party over which the IAIG exercises control or significant influence has purchased the instrument, nor has the IAIG directly or indirectly funded the purchase of the instrument.

k) The paid-in amount is recognised as equity capital (ie not recognised as a liability) where a determination that liabilities exceed assets constitutes a test of insolvency.

360. Compared to the ICS qualifying criteria included in 2018 Field Testing, the IAIS has amended one Tier 1 Unlimited criterion for 2019 Field Testing by removing unnecessary wording from criterion h) for clarification purposes.

9.1.3.2 Tier 1 Limited Financial Instruments Issued by the Volunteer Group

361. For 2019 Field Testing, financial instruments will qualify as ICS Tier 1 capital resources for which there is a limit (referred to as *Tier 1 Limited* in worksheet *FT19.Financial Instruments*) if all of the following criteria are met:

a) The instrument is fully paid-up.

b) The instrument is subordinated to policyholders and other non-subordinated creditors and holders of Tier 2 capital instruments but may rank senior to holders of Tier 1 capital instruments for which there is no limit.

c) The instrument is perpetual (ie it does not have a maturity date). For mutual Volunteer Groups[15], the requirement for an instrument to be perpetual is considered to be met if

[15] Characteristics of a mutual group typically include the inability to issue substantial amounts of common equity and an ultimate parent within the group that cannot issue common equity. If a Volunteer Group is unsure of its classification as a mutual group or non-mutual group for the purposes of 2019 Field Testing then it should consult its Group Wide Supervisor.

redemption at maturity (for a dated instrument) can be deferred subject to supervisory approval or a lock-in feature, and where an instrument has an initial maturity of at least ten years.

d) The instrument does not contain any incentive to redeem, such as a step-up.

e) The instrument is only callable at the option of the issuer after a minimum of five years from the date of issue (ie the instrument is not retractable by the holder) and prior supervisory approval is required for any redemption.

f) The instrument may be repurchased by the issuer at any time with prior supervisory approval.

g) There is not an expectation created by the IAIG, through the terms of the instrument or otherwise, that the IAIG will repurchase the instrument or exercise any right to call the instrument, or that the repurchase or redemption will receive supervisory approval.

h) The IAIG has full discretion at all times to forego or cancel distributions (ie dividends and coupon payments are non-cumulative). The IAIG's obligation to pay missed distributions is forever extinguished and non-payment is not an event of default.

i) Distributions are paid out of distributable items (retained earnings included).

j) The instrument does not have distributions that are tied or linked to the credit standing or financial condition of the IAIG or another related entity, such that those distributions may accelerate winding-up.

k) The instrument is neither undermined nor rendered ineffective by encumbrances. In particular, priority of claims should not be compromised by guarantees or security arrangements given by either the IAIG or a related entity over which the IAIG exercises control or significant influence, for the benefit of investors.

l) Neither the IAIG nor a related party over which the IAIG exercises control or significant influence has purchased the instrument, nor has the IAIG directly or indirectly funded the purchase of the instrument.

m) The paid-in amount is recognised as equity capital (ie not recognised as a liability) where a determination that liabilities exceed assets constitutes a test of insolvency.

n) The instrument cannot possess features that hinder recapitalisation, such as provisions that require the issuer to compensate investors if a new instrument is issued at a lower price during a specified time frame.

o) If the instrument is not issued out of an operating entity or the holding company of the IAIG (eg it is issued out of an SPV), proceeds must be immediately available without limitation to an operating entity or the holding company of the IAIG in a form that meets or exceeds all of

the other criteria for inclusion in Tier 1 capital resources for which there is a limit (ie the SPV may only hold assets that are intercompany instruments issued by the IAIG or a related entity with terms and conditions that meet or exceed the criteria for Tier 1 capital resources for which there is a limit).

362. The IAIS has made minor amendments to three Tier 1 Limited criteria for 2019 Field Testing. The wording of criteria d), i) and m) has been updated to improve clarity and to ensure consistency with the corresponding Tier 1 Unlimited criteria. None of these amendments should be interpreted as a change in policy.

9.1.3.3 Tier 2 Financial Instruments Issued by the Volunteer Group

363. For 2019 Field Testing, Tier 2 Paid-Up capital resources will be calculated on two separate bases: one for which acceleration clauses that may be triggered in going concern are permitted and another for which they are not. A default option is not specified and this issue will be further considered for the development of ICS Version 2.0 for the monitoring period. For 2019 Field Testing, the relevant criteria for financial instruments to qualify as Tier 2 Paid-Up capital resources are as follows:

a) The instrument is fully paid-up.

b) The instrument is subordinated to policyholders and other non-subordinated creditors of the IAIG. The form of subordination can be either contractual or structural, with structurally subordinated instruments being subject to additional conditions set out in Section 9.1.3.4. Note that subordination to other non-subordinated creditors of the IAIG is not relevant to structurally subordinated instruments that are issued by an IAIG's holding company to senior creditors.

c) The instrument has an initial maturity of at least five years with its effective maturity date defined to be the earlier of:

   i. The first occurrence of a call option together with a step-up or other incentive to redeem the instrument; and

   ii. The contractual maturity date fixed in the instrument's terms and conditions.

d) The instrument's availability to absorb losses as it nears its effective maturity is captured by either:

   i. Decreasing the qualifying amount of the instrument from 100% to 0% on a straight-line basis in the final five years prior to maturity; or

   ii. The existence of a lock-in clause, which is a requirement for the Volunteer Group to suspend repayment or redemption if it is in breach of its applicable regulatory capital requirement or would breach it if the instrument is repaid or redeemed.

e) The instrument is only callable at the option of the issuer after a minimum of five years from the date of issue (ie the instrument is not retractable by the holder) and prior supervisory approval is required for any redemption prior to contractual maturity. [16] For structurally subordinated financial instruments, the requirement for supervisory approval of redemptions can be fulfilled through supervisory approval[17] of dividends prior to their payment from an insurance subsidiary to the holding company.

f) The instrument may be repurchased by the issuer at any time with prior supervisory approval. For structurally subordinated financial instruments, the requirement for supervisory approval of repurchases can be fulfilled through supervisory approval[17] of dividends prior to their payment from an insurance subsidiary to the holding company.

g) There is not an expectation created by the IAIG, through the terms of the instrument or otherwise, that the IAIG will repurchase the instrument or exercise its right to call the instrument, or that the repurchase or redemption will receive supervisory approval.

h) The instrument does not have distributions that are tied or linked to the credit standing or financial condition of the IAIG or another related entity, such that those distributions may accelerate winding-up.

i) The instrument does not give holders rights to accelerate the repayment of future scheduled principal or coupon payments, except in winding-up. (This criterion will not apply in the capital resources calculation that permits acceleration clauses that may be triggered in going concern.)

j) The instrument is neither undermined nor rendered ineffective by encumbrances. In particular, priority of claims should not be compromised by guarantees or security arrangements given by either the IAIG or a related entity over which the IAIG exercises control or significant influence, for the benefit of investors.

k) Neither the IAIG nor a related party over which the IAIG exercises control or significant influence has purchased the instrument, nor has the IAIG directly or indirectly funded the purchase of the instrument.

[16] In the absence of a requirement for prior supervisory approval, this criterion is considered to be met if the following conditions are met:

- the terms of the financial instrument include a lock-in feature that prevents redemption when a firm does not comply with its regulatory capital requirement (or where redemption would lead to non-compliance);
- either:
  - the supervisor receives prior notification upon redemption, OR
  - call dates are fixed and known and the supervisor monitors potential redemption; and
- the supervisor has the power to prevent redemption of the instrument.

[17] For structurally subordinated financial instruments, supervisory approval of ordinary dividends can be met if the supervisor has in place supervisory controls over distributions, including the ability for the supervisor to limit, defer and/or disallow the payment of any distributions should it find that the insurer is presently, or may potentially become, financially distressed.

l) If the instrument is not issued out of an operating entity or the holding company of the IAIG (eg it is issued out of an SPV), proceeds must be immediately available without limitation to an operating entity or the holding company of the IAIG in a form that meets or exceeds all of the other criteria for inclusion in paid-up Tier 2 capital resources (ie the SPV may only hold assets that are intercompany instruments issued by the IAIG or a related entity with terms and conditions that meet or exceed the criteria for Tier 2 Paid-Up capital resources).

364. The IAIS has made changes to three Tier 2 criteria for 2019 Field Testing. Criterion b) on subordination has been re-worded to clarify the level of subordination required for structurally subordinated instruments. Additionally, criteria e) and f) have also been slightly revised to clarify the requirements for supervisory review or approval of dividends paid from an insurance subsidiary to a holding company as they apply to structurally subordinated instruments. These are technical changes to help clarify reporting requirements for structurally subordinated instruments. None of these amendments should be interpreted as a change in policy.

9.1.3.4 Structural Subordination

365. Structural subordination of debt refers to a situation where a holding company issues a financial instrument directly to third party investors and then down-streams the proceeds into insurance subsidiaries. Consistent with 2018 Field Testing, the recognition of structural subordination of financial instruments for the purposes of meeting Tier 2 Paid-Up criterion b) in 2019 Field Testing is subject to the following conditions:

a) The debt instrument has been issued by a clean holding company, defined as a holding company that does not have policyholder liabilities on its stand-alone balance sheet.

b) The Volunteer Group and the supervisor have determined that the proceeds of the instruments, which have been down-streamed into insurance subsidiaries, are being tracked and reported appropriately.

c) Amounts from the instrument issuance have been down-streamed into an insurance subsidiary of the holding company and the insurance subsidiary is located in a jurisdiction whose regulatory regime proactively enforces structural subordination through appropriate regulatory/supervisory controls over distributions from insurance subsidiaries.[18]

366. The information relevant to assessing these additional conditions should be provided by Volunteer Groups in columns labelled *Down-streaming Activities* and *Additional Information on Structural Subordination* of the *Data Input Table*, as follows:

[18] Supervisory controls over distributions from insurance subsidiaries refer to the supervisory review and/or prior supervisory approval of all distributions, including the ability for the supervisor to limit, defer and/or disallow the payment of any distributions should it find that the insurer is presently, or may potentially become, financially distressed. As part of its review and/or prior approval of distributions, the relevant supervisor considers surplus adequacy, financial flexibility, the quality of earnings, and other factors deemed to be pertinent as they relate to the financial strength of the insurer and policyholder protection.

a) The amount of the proceeds from the instrument issuance that have been down-streamed into each insurance subsidiary of the parent non-insurance holding company, and whether or not the jurisdiction of the subsidiary is the same as that of the holding company. If the jurisdiction is not the same, additional information should be included in the Questionnaire.

b) For debt instruments issued by holding companies, Volunteer Groups should indicate if the relevant holding company is clean and whether or not it has any policyholder liabilities. For instruments not issued out of a holding company, Volunteer Groups should report this as not applicable.

c) Whether down-streamed amounts can be tracked and reported appropriately over time. Additional information about the means of down-streaming proceeds and the tracking of amounts down-streamed should be provided in response to questions in the Questionnaire.

d) Whether dividends from insurance subsidiaries of the holding company are subject to review and/or prior supervisory approval. If yes, Volunteer Groups should report in the Questionnaire:

- Whether review and/or supervisory approval applies to all dividends; and
- The circumstances under which supervisory approval of dividends applies.

9.2 Non-Paid-up Capital (NPC) Resources

367. Non-paid-up capital items may take a number of different forms, including unpaid preference shares, unpaid subordinated debt, letters of credit, guarantees and mutual member calls. For the purposes of 2019 Field Testing, the recognition of NPC resources in ICS Tier 2 is limited to mutual Volunteer Groups. Volunteer Groups are asked to provide information on any NPC within the worksheet *FT19.Non-Paid-Up Cap Resources* which contains two tables:

a) *ICS Summary Table* provides summary information on financial items, contracts and arrangements that qualify as ICS capital resources. All of the cells in these tables contain formulae and are populated automatically.

b) *NPC Data Input Table*: Volunteer Groups should report all relevant information on non-paid up items that could potentially qualify as capital resources. All of the cells in this table are data entry cells, except for those in the column *Does item qualify as ICS Non-Paid-Up Tier 2?* which contains automated assessments of each non-paid up item against the qualifying ICS criteria.

368. Volunteer Groups should provide information regarding any non-paid-up items in the blue cells of the *NPC Data Input Table*. Volunteer Groups should indicate the expected classification that the item would be afforded under the ICS framework, if the item was paid-up, as well as the expected ICS qualifying amount, in the columns labelled *Expected classification and amount of paid-up item under 2019 ICS* of the *NPC Data Input Table*.

369. For 2019 Field Testing, financial items, contracts and arrangements established by mutual Volunteer Groups will qualify as Tier 2 ICS Non-Paid-Up ICS capital resources (subject to a limit – see Section 9.5) if all of the following criteria are met:

a) The item has been approved by the supervisor as satisfying all relevant criteria as to its characteristics and amount.

b) The item is callable on demand by the mutual Volunteer Group and is not subject to any contingencies or conditions that prevent or act as a disincentive to the call being made or satisfied.

c) When called, the item becomes a financial instrument that meets in full the criteria for inclusion in Tier 1 capital resources (or Tier 2 Paid-Up) or as an element within Tier 1 capital resources.

d) The item is legally enforceable in each relevant jurisdiction.

e) The counterparty to the contract to provide capital resources is able and willing to pay the agreed amounts when called upon by the mutual Volunteer Group.

f) The item is neither undermined nor rendered ineffective by encumbrances.

g) The mutual Volunteer Group is required to notify the supervisor of any changes of fact or circumstance that could affect the supervisor's approval of the item.

9.3 Capital Elements other than Financial Instruments

370. Information on capital elements other than financial instruments (CEOFI) that are included in capital resources for ICS should be reported by Volunteer Groups in the equity section of the balance sheet in worksheet *FT19.ICS.Balance Sheet*. As these items may vary by local jurisdiction (in both type and designation), the information is collected for both MAV and GAAP Plus approaches. Where the treatment for a particular element is not clear in the Technical Specifications or there is uncertainty with respect to the treatment, interpretation or classification of an element (eg significant expert judgment is required), please provide additional details, relevant assumptions and rationale in the Questionnaire.

9.3.1 Overview of CEOFI

371. For 2019 Field Testing, Tier 1 capital elements other than financial instruments include the following items:

a) Retained earnings: the accumulated balance of income less losses resulting from operations, including earnings retained as surplus held in the participating policyholders' equity account for joint stock companies, and in the non-participating account for mutual companies. Note that this capital element is the sum of three separate lines in the equity section of the balance

sheet: *Retained earnings at the end of the period*, *Participating policyholders' equity or account* and *Reserves* (including both restricted and unrestricted reserves, as defined in Section 9.3.3 below).

b) Share premium resulting from the issuance of instruments included in Tier 1 and other forms of contributed surplus earned from sources other than profits (eg members' contributions and initial funds for mutual companies and other contributions by shareholders in excess of amounts allocated to share capital for joint stock companies).

c) AOCI[19].

d) The fair market value of equity-settled employee stock options provided that a corresponding expense is recorded in the profit and loss account of the Volunteer Group under applicable accounting standards.[20] [21] This should be reported in the balance sheet as contributed surplus.

e) Other allocated to equity, which includes:

   i. Minority/Non-controlling interests (NCI) reported in worksheet *FT19.ICS.Balance sheet*, representing third party equity interest in consolidated subsidiaries. This includes any interest generated by share issuance and subsequent changes in reserves of issuing entities.

   ii. Adjustments applied to the Volunteer Group's consolidated balance sheet (as per audited financial statements) to produce the ICS balance sheet. This item is automatically calculated based on other balance sheet inputs.

   iii. AOCI Adjustment (only relevant to GAAP Plus).

372. Item e) in the above list (Other allocated to equity) does not include amounts reported in the line labelled *Other* in the equity section of the balance sheet. The line for *Other* items does not contribute directly to capital resources within the Template. Where a Volunteer Group considers that an equity item is not appropriate to include in another named line in the balance sheet, please report this in the *Other* line and provide additional information in the Questionnaire so that a determination can be made if that amount should be included within qualifying capital resources.

373. For 2019 Field Testing, Tier 2 capital elements other than financial instruments include the following:

[19] Some components of AOCI will be deducted from Tier 1 capital resources as prescribed in paragraph 388.j).
[20] Equity-settled employee stock options refer to contracts under which employees of the IAIG are granted rights to purchase shares of the IAIG at pre-determined strike prices. Employee stock options that can be settled in cash should not be included as capital resources.
[21] The granting (and vesting) of equity-settled employee stock options is capital neutral. Once an equity-settled employee stock option is exercised, capital resources would increase by the amount paid in by the employee to purchase the underlying shares at the applicable strike price.

a) Share premium resulting from the issuance of instruments included in Tier 2 Paid-Up capital resources.

b) The value of encumbered assets in excess of the on-balance sheet liabilities secured by the encumbered assets and incremental ICS capital requirement in respect of those assets and liabilities excluded from Tier 1 (see Section 9.4.2 for details on the treatment of encumbered assets).

c) Tier 2 basket, comprised of the following three items which relate to deductions from Tier 1 (Section 9.4.1), subject to a limit of 10% of the ICS capital requirement:

   i. 50% of the value of each net pension fund that is an asset on the Volunteer Group's balance sheet, net of any eligible Deferred Tax Liability (DTL).

   ii. DTA that has been deducted from Tier 1 capital resources.

   iii. 50% of the value of computer software intangibles (net of amortisation) deducted from Tier 1 capital resources, net of any eligible DTL.

374. The IAIS has made two changes to CEOFI for 2019 Field Testing:

a) Treatment of NCI, as described in paragraph 371.e) above. In 2019 Field Testing the full amount of NCI reported on the balance sheet will be included within Tier 1 CEOFI, as compared to the approach in 2018 Field Testing where NCI was split into components corresponding to NCI generated from ordinary share issuance by consolidated subsidiaries to third parties and an *other than financial instruments* component (representing subsequent changes in reserves of the issuing entities). This change is presentational and is not intended to signal a change in policy.

b) Remove the distinction between restricted and unrestricted reserves as regards their treatment as ICS capital resources. In 2018 Field Testing, the IAIS defined both types of reserves in the Technical Specifications, with unrestricted reserves included in ICS Tier 1 and restricted reserves included in ICS Tier 2 capital resources. This year, all such amounts should be reported within the *Reserves* line in the balance sheet and will be included within the retained earnings component of Tier 1 CEOFI. This approach does not prejudge the treatment of reserves in ICS Version 2.0 for the monitoring period. The IAIS will continue to collect data on both restricted and unrestricted reserves (as set out below in Section 9.3.3) to help inform future policy decisions regarding the treatment of issues related to fungibility of capital within the ICS.

9.3.2 GAAP Plus AOCI Adjustment

375. The AOCI Adjustment is applicable under GAAP Plus where insurance liabilities are discounted using an asset book yield and fixed income investments backing those liabilities are reported at fair value. Liabilities discounted using an asset book yield include life liabilities under Japanese GAAP Plus

and FAS 97/FAS 120 liabilities under US GAAP/SAP Plus. The AOCI Adjustment would not be applicable where liabilities are discounted using a market rate/curve or for undiscounted short duration liabilities. In order to address the asymmetry in accounting and the resulting volatility in capital resources, an AOCI Adjustment has been defined under GAAP Plus such that the net unrealised gain/loss associated with fixed income assets that meet certain criteria is deducted from Tier 1 capital resources. The criteria are as follows:

a) Volunteer Group must meet all operational criteria:

   i. Volunteer Group maintains Asset/Liability Management Policies that provides for specific identification and duration matching of asset/liability portfolios.

   ii. Volunteer Groups maintain systems and processes to evaluate the effectiveness of the duration matching including independent verification, regular tests and reporting to the Board of Directors.

   iii. Evaluation of the effectiveness of duration matching should include the following test which must be met in order for assets to be included in the AOCI Adjustment:

   $0.8 \leq \frac{D(L)}{D(A)} \leq 1.25$ where D is duration.

b) The net unrealised gain/loss to be excluded must relate to fixed income assets that are both classified as AFS that back long-term liabilities;

c) Specifically identified in a segregated portfolio for the purpose of asset/liability matching; and

d) The unrealised gain/loss is not likely to be realised.

376. The related asset balances are restated to amortised cost for purposes of calculating the Credit risk charge (Section 12.5) but are not restated on the reported GAAP Plus balance sheet.

377. For 2019 Field Testing, the AOCI Adjustment amount should be calculated using the table provided in the worksheet *FT19.ICS.Balance sheet*.

378. Beginning with the *Accumulated unrealised gains (losses) on AFS debt securities reported in OCI* balance as reported in the GAAP Plus balance sheet [Row 74], deduct any unrealised gains/losses relating to the following:

a) Fixed income investments that are backing short-term insurance liabilities. Short-term is defined as having a contract duration of one year or less.

b) Fixed income investments that are backing liabilities discounted using a market based rate/curve.

c) Fixed income investments designated as fair value accounting hedges.

d) Fixed income investments not meeting the operational criteria (eg not specifically identified in a separate portfolio for asset/liability matching or not meeting the operational criteria effectiveness test).

e) Fixed income investments where, based on management judgment, it is more likely than not that unrealised gains/losses would be realised through sale, conversion, prepayment, etc. For example, this could include certain callable bonds where the call price is lower than the market price or residential mortgage backed securities (RMBS), student loans, consumer or other asset backed securities (ABS) that are likely to be prepaid. A more likely than not assessment in this context is defined as a greater than 50% probability of occurrence based on facts and circumstances known to management as of the balance date.

f) Fixed income investments that have experienced significant credit impairment.

379. For US GAAP Plus, as ASU 2018-12 is not effective until 2021, asset unrealised gain/loss data may not yet be available at a granular enough level in order to segregate assets backing FAS 97/FAS120 contracts and those backing contracts that would fall under the ASU. If the data is not yet available at a granular enough level, Volunteer Groups should apply a weighted average based on the liability balances as a practical expedient for calculating the amount that would be reported in 375.b) above

380. The AOCI Adjustment should be calculated net of tax, consistent with how unrealised gains and losses are recorded in AOCI.

381. Volunteer Groups following the US SAP Example of GAAP Plus should perform the following steps to calculate an AOCI Adjustment and enter the results in the AOCI Adjustment section of the worksheet *FT19.ICS.Balance Sheet*:

a) Identify all fixed income assets.

b) Quantify the total unrealised gains/losses by subtracting the value of those assets in *GAAP – Related to Insurance Activities* from *GAAP Plus – Related to Insurance Activities*. This amount should be recorded in the worksheet *FT19.ICS.Balance sheet* under the GAAP column – *Amounts per Audited Consolidated Financial Statements* and row – *Accumulated unrealised gains (losses) on AFS debt securities reported in OCI*.

c) Use the table *GAAP Plus AOCI Adjustment to Capital Resources* and apply the criteria specified in paragraph 375.

9.3.3 Regulatory Reserves

382. This section describes the additional information on regulatory reserves being collected within 2019 Field Testing. The purpose of this data capture is to help inform future policy decisions regarding the treatment of issues related to fungibility of capital within the ICS. The IAIS has included an additional table labelled *Additional Information on Reserves* in worksheet *FT19.ICS.Balance Sheet* for reporting of information relevant to identification of reserves that may be subject to legal or

regulatory restrictions. When reporting this data, Volunteer Groups should indicate if a reserve is considered to be restricted or unrestricted, as explained below.

383. Unrestricted reserves are reserves or profits accumulated by the Volunteer Group that are unappropriated and available to absorb losses from any source in the same way as other Tier 1 capital instruments or elements (as set out in the 2019 Technical Specifications). Further, reserves that have been appropriated or specifically allocated under legislative or supervisory authority for a particular risk or subset of risks and that may become unrestricted may be classified as unrestricted reserves, subject to the following conditions:

a) Supervisory authority re-characterises or designates the reserve as unrestricted and available to absorb losses from any source in the same way as qualifying Tier 1 capital instruments or elements. This supervisory re-characterisation or designation is not contingent upon a specific event or set of circumstances. The release of the reserve generates retained earnings and is subject to supervisory notification or approval.

b) Where supervisory notification or approval is required:

   i. The circumstances of such supervisory notification or approval occur under going concern conditions.

   ii. Supervisory approval would not be unreasonably withheld as evidenced by prior approvals or explicit supervisory acknowledgement that approval would not be unreasonably withheld.

384. Restricted reserves are reserves or profits accumulated by the Volunteer Group that are appropriated and set aside for a specific subset or class of risks and that would only be released and available to absorb losses relating to a specific subset or class of risks upon a specific event or set of circumstances. In winding-up, restricted reserves would be available to absorb losses related to all policyholder claims.

385. The following table includes a list of different types of reserves reported by Volunteer Groups in previous field testing exercises, along with the expected classification as restricted or unrestricted according to the definitions set out above. Volunteer Groups are encouraged to refer to this list and to report information on such reserves in a consistent manner to previous years (unless the nature of the reserve has changed or a Volunteer Group disputes the classification set out in the table). Where a Volunteer Group has a regulatory reserve that is not included in the table, it is recommended that the Volunteer Group consult with its supervisor to determine the appropriate classification. Furthermore, the Volunteer Group should provide a detailed description of the reserve in the Questionnaire so that the IAIS can form a view as to the appropriate classification.

Table 9. Classification of specific types of reserves previously reported in ICS Field Testing

Reserve	Classification
Provision for Bonuses and Rebates (Germany)	Unrestricted
FX Volatility Reserve (Chinese Taipei)	Restricted
Legal Capital Reserve and Special Capital Reserve for Revaluation Increments of Property (Chinese Taipei)	Unrestricted
Special Claim Reserve (Chinese Taipei)	Restricted
Claim Fluctuation Reserve (Chinese Taipei)	Unrestricted
Emergency Risk Reserve (Korea)	Restricted
Legal Reserve (Korea)	Unrestricted
Reserve for Business Rationalisation (Korea)	Unrestricted
Voluntary Reserve (Korea)	Unrestricted
Contingency Reserves (Japan)	Unrestricted
Price Fluctuation Reserve (Japan)	Unrestricted
Catastrophe Reserve (Japan)	Unrestricted
Merger reserves (UK, South Africa)	Unrestricted
Share Premium Reserve (UK)	Unrestricted
Safety Reserve (UK)	Unrestricted
Asset Valuation Reserve (US Stat)	Unrestricted
Interest Maintenance Reserve (US Stat)	Unrestricted
General Risk Reserves (China)	Unrestricted
Regulatory Surplus Reserves (China)	Unrestricted
Excess loan loss reserve (Volunteer Groups with a banking subsidiary)	Restricted
Premium on Non-Controlling Interest (Australia)	Unrestricted
Foreign Currency Translation Reserve (Netherlands)	Unrestricted

9.4 Capital Adjustments and Deductions

386. For 2019 Field Testing, there are a number of adjustments and deductions that apply to the determination of qualifying capital resources. Volunteer Groups are asked to report if the adjustments are made directly in the balance sheet valuation of the local jurisdiction and also complete the section *Information on assets subject to deduction from capital resources* in worksheet *FT19.ICS.Balance Sheet*. In the worksheet *FT19.Financial Instruments,* Volunteer Groups should indicate in the *ICS Summary Table* any direct investments in own capital instruments distinguished between ICS Tier 1 Unlimited, Tier 1 Limited and Tier 2 Paid-up under both MAV and GAAP Plus valuation approaches (treasury stock should be included in reporting of direct investment in own ICS Tier 1 Unlimited capital resources).

9.4.1 Deductions from Tier 1 Capital Resources

387. To the extent that any items have not already been excluded through the valuation approach, the following items will be deducted from Tier 1 capital resources for 2019 Field Testing. Information on these items should be provided in the worksheet *FT19.ICS.Balance Sheet*, unless otherwise specified.

a) Goodwill.

b) Intangible assets, including computer software intangibles.

c) Each asset recognised on the Volunteer Group's balance sheet that relates to a defined benefit pension fund.

d) DTAs on the ICS balance sheet.

e) Reciprocal cross holdings, arranged either directly or indirectly between financial institutions and that artificially inflate the Tier 1 capital position of the Volunteer Group. Volunteer Groups should apply a look-through approach (as described in Section 12.2.1) when reporting this information.

f) Direct and indirect investments in own Tier 1 capital instruments, not otherwise eliminated. Volunteer Groups should apply a look-through approach (as described in Section 12.2.1) when reporting this information. Information on these deductions should be provided in the tables labelled *ICS Summary Table (Tier 2 Debts valued under MAV)* and *ICS Summary Table (Tier 2 Debts valued under GAAP Plus)* in worksheet *FT19.Financial Instruments*.

g) Reinsurance assets arising from arrangements deemed to constitute non-qualifying reinsurance or arrangements that are either not legally binding or not executed within a six-month grace period from the effective date of reinsurance coverage. Non-qualifying insurance refers to agreements:

i. With entities providing reinsurance that are neither regulated nor subject to risk-based solvency supervision, including appropriate capital requirements; or

ii. That do not provide a sufficient transfer of risk.

h) Encumbered assets in excess of the on-balance sheet liabilities secured by the encumbered assets and incremental ICS capital requirement in respect of those assets and liabilities (see Section 9.4.2 for details on the treatment of encumbered assets). This figure is automatically calculated in worksheet *FT19.Encumbered Assets*, based on the information provided by the Volunteer Group in that worksheet.

i) The value of equity and debt owned by the Volunteer Group in entities that are excluded from the scope of the group.

j) For GAAP Plus, amounts in AOCI that relate to:

i. Cash flow hedges where the item being hedged is not recorded at fair value on the ICS Balance Sheet; and

ii. Changes in the fair value of liabilities that are due to changes in the own credit risk.

388. Items a) to c) listed above should be net of any associated DTL that would be extinguished if the item becomes impaired or derecognised under the valuation approach. DTLs are permitted to be netted against DTAs (item d) above) provided that it excludes amounts that have already been netted against items a) to c).

9.4.2 Treatment of Encumbered Assets

389. This section describes the treatment of encumbered assets and associated data requirements to be reported in worksheet *FT19.Encumbered Assets*. For 2019 Field Testing, an encumbered asset is an asset that a Volunteer Group pledges as collateral to a counterparty to either meet regulatory requirements or in order to participate in certain activities, such as: centrally cleared derivatives, over-the-counter (OTC) derivatives, mortgage borrowing, on-balance sheet repurchase agreements/securities lending and reverse repurchase agreements/securities lending, letters of credit/guarantees, collateral for reinsurance, assets held in trust, etc.

390. The encumbered assets data capture in 2019 Field Testing is similar to the previous year. Volunteer Groups should provide information in worksheet *FT19.Encumbered Assets* to indicate the total amount of encumbered assets, the value of on-balance sheet liabilities secured by the encumbered assets and additional information pertaining to incremental ICS capital requirements for encumbered assets and secured liabilities.

391. The deduction from ICS Tier 1 capital resources is calculated on worksheet *FT19.Encumbered Assets* and is the total value of encumbered assets in excess of the sum of the value of the Volunteer

Group's on-balance sheet liabilities secured by the encumbered assets, plus the value of the Volunteer Group's incremental ICS capital requirement for encumbered assets and secured liabilities.

392. Volunteers will have the option of calculating the incremental ICS capital requirement and reporting the result in the Template. In addition, in response to feedback from Volunteer Groups on the complexity and onerous nature of the full calculation, the Template includes an automated simplified calculation of the incremental ICS capital requirement. To effect the simplified calculation, additional proxy data will be collected in the Template in tables *Additional Proxy Data* (separate reporting for MAV and GAAP Plus) within worksheet *FT19.Encumbered Assets*. The simplified calculation takes into account the following information:

a) Non-life risk: the total non-life net current estimate for the Volunteer Group will automatically populate from information provided on *FT19.ICS.Balance Sheet*. Volunteer Groups should report the value of the non-life net current estimate for insurance liabilities secured by encumbered assets.

b) Life risk: the total life net current estimate for the Volunteer Group will automatically populate from information provided on *FT19.ICS.Balance Sheet*. Volunteer Groups should report the value of the life net current estimate for insurance liabilities secured by encumbered assets.

c) Catastrophe risk: the total net current estimate for the Volunteer Group is sourced from information provided elsewhere in the Template. The total net current estimate for liabilities secured by encumbered assets for the Volunteer Group will automatically populate with a local area calculation.

d) Credit risk: figures for the total assets and encumbered assets are sourced from information already provided in the Template.

e) Market risk: figures for the total net asset value (NAV) and NAV corresponding to encumbered assets and secured liabilities are sourced from information already provided in the Template.

393. No ICS Tier 1 deduction is required for encumbered assets relating to off-balance sheet securities financing transactions (ie securities lending and borrowing, repos and reverse repos) that do not give rise to a liability on the balance sheet.

394. The amount of encumbered assets deducted from ICS Tier 1 capital resources will be included in ICS Tier 2 capital resources, subject to the limit that applies to Tier 2.

9.4.3 Deductions from Tier 2 Capital Resources

395. To the extent that any items have not already been excluded through the valuation approach, the following items will be deducted from Tier 2 capital resources:

a) Reciprocal cross holdings, arranged either directly or indirectly between financial institutions and that artificially inflate the Tier 2 capital position of the Volunteer Group. Volunteer Groups

should apply a look-through approach (as described in Section 12.2.1) when reporting this information.

b) Direct and indirect investments in own Tier 2 capital instruments, not otherwise eliminated. Volunteer Groups should apply a look-through approach (as described in Section 12.2.1) when reporting this information.

9.5 Capital Composition Limits

396. Capital composition limits are used within a capital resources framework to appropriately reflect the quality of capital resources and the ability of those resources to absorb losses. Capital composition limits for the ICS will be explicitly tested in 2019 Field Testing.

397. The calculation of the BCR ratio is subject to the following capital composition limits:

a) Qualifying Additional capital cannot exceed 50% of the BCR capital requirement.

b) Non-paid-up capital items are limited to an amount not greater than 10% of the BCR capital requirement.

398. BCR capital resources will be calculated using the ICS capital resources as a proxy. That is, gross ICS capital resources will be used as a proxy for gross BCR capital resources, from which net BCR capital resources will be calculated. The BCR-specific adjustments/deductions and limits are unchanged and will continue to apply. The BCR limits specified here are applied in worksheet *FT19.BCR+HLA* within the Template.

399. The IAIS is considering a number of capital composition limits to apply to ICS capital resources. The following description of the ICS capital composition limits is for the purposes of 2019 Field Testing only. The values of the limits for ICS Version 2.0 for the monitoring period have not been finalised.

400. For non-mutual Volunteer Groups, the following limits are applied in the worksheet *FT19.ICS Summary* within the Template:

a) Tier 1 Limited capital resources are limited to 10% of the ICS capital requirement;

b) Tier 2 capital resources are limited to 50% of the ICS capital requirement; and

c) No allowance for Tier 2 Non-Paid Up capital.

401. For mutual Volunteer Groups, the following limits are applied in the worksheet *FT19.ICS Summary* within the Template:

a) Tier 1 Limited capital resources are limited to 30% of the ICS capital requirement;

b) Tier 1 Limited + Tier 2 capital resources are limited to 60% of the ICS capital requirement; and

c) Tier 2 Non-Paid Up capital will be limited to 10% of the ICS capital requirement.

402. Any capital resources from financial instruments that qualify as Tier 1 Limited that are in excess of the limit on Tier 1 Limited will be included within Tier 2 capital resources (subject to the limit on Tier 2 capital resources).

10 BCR and HLA Related Data

Relevant Worksheets in Template:	*FT19.BCR+HLA*	*Due 31 July 2019*

10.1 Overview

403. The "IAIS Basic Capital Requirement for Global Systemically Important Insurers (G-SIIs)" (BCR Document)[22] was published on 23 October 2014. The "IAIS Higher Loss Absorbency for G-SIIs" (HLA Document)[23] was published on 5 October 2015. The HLA Document includes some changes to the BCR relative to the BCR Document published in 2014. All Volunteer Groups are requested to provide information[24] on:

a) BCR Capital Resources (see Section 9.5 of this document as well as the BCR Document). For 2019 Field Testing, ICS gross capital resources are used to the extent possible as a proxy for gross BCR capital resources, from which net BCR capital resources are calculated. This was introduced having in mind the shorter time line for 2019 Field Testing and is not expected to have a significant impact on BCR results. Volunteer Groups whose particular situation significantly diverges from this expectation should report it in the Questionnaire.

b) BCR and HLA required capital amounts (in Section 10.2 of this document) in order to facilitate monitoring.

c) If necessary, refinement of the BCR in line with paragraph 30 of the BCR Document.

d) If necessary, refinement the HLA in line with paragraph 115 of the HLA Document.

404. For G-SIIs, submission of data by 31 July 2019, in accordance with the requirements of these Technical Specifications, will meet the requirements for confidential reporting as stated in the *Guidance on Confidential BCR and HLA Reporting* document published on 18 December 2015[25]. For other Volunteer Groups, submission of this data will be relevant to the BCR and HLA and also the Field Testing of the ICS. In particular, the MAV Three-Bucket Approach for discounting will be used for the purposes of the BCR, HLA and ICS. In addition, the BCR and HLA will serve as benchmarks in the development of the ICS along with existing jurisdictional baseline data.

[22] For the BCR Document see the public IAIS website (http://www.iaisweb.org/page/supervisory-material/financial-stability-and-macroprudential-policy-and-surveillance).

[23] For the HLA Document see the public IAIS website (http://www.iaisweb.org/page/supervisory-material/financial-stability-and-macroprudential-policy-and-surveillance).

[24] For avoidance of doubt, please refer to paragraph 2 of the HLA Document which states: "Together with the Basic Capital Requirement (BCR), the HLA will provide a globally comparable group capital standard that is intended to apply to all G-SIIs."

[25] For the Guidance on Confidential BCR and HLA Reporting see the public IAIS website (http://www.iaisweb.org/page/supervisory-material/financial-stability-and-macroprudential-policy-and-surveillance).

10.2 BCR and HLA Required Capital

10.2.1 BCR Overview[26]

405. BCR required capital is calculated on a consolidated group-wide basis for all activities (as per Section 5.1 *Balance Sheets – Scope and General Considerations*). All holding companies, insurance legal entities, banking legal entities and any other companies in the group will be included in the consolidation. Individual non-financial entities within the group may be excluded from the scope of the BCR if the risks from those entities are negligible.

406. The BCR required capital consists of three basic components:

a) Insurance, including non-traditional activities.

b) Banking, which refers to regulated banking activities.

c) Other non-insurance financial activities not currently subject to regulatory capital requirements.

407. In summary, the full BCR required capital is provided in formula form in the HLA Document, Annex E. This describes the uplift made from the 2014 requirement. With the exception of NI regulatory capital held with respect to regulated banks, this reflects the application of a 1.33 scale factor to the 2014 regulatory capital requirements. Both the 2014 and updated factors are specified in the HLA document, Annex D.

408. The BCR required capital formula is:

$$BCR = [TL_{BCR} + TNL_{BCR} + NT_{BCR} + A_{BCR}] + NI\text{-}RB_{BCR} + [NI\text{-}UB_{BCR} + NI\text{-}AUM_{BCR} + NI\text{-}O_{BCR}]$$

where

- $TL_{BCR} = \sum_{i=1}^{4} a_i \, TL_i$ with TL standing for traditional life
- $TNL_{BCR} = \sum_{i=1}^{4} b_i \, TNL_i$ with TNL standing for traditional non-life
- $NT_{BCR} = \sum_{i=1}^{4} c_i \, NT_i$ with NT standing for non-traditional
- $A_{BCR} = \sum_{i=1}^{3} d_i \, A_i$ with A standing for assets
- $NI\text{-}RB_{BCR}$ is the BCR required capital for non-insurance (NI) regulated banking
- $NI\text{-}UB_{BCR}$ is the BCR required capital for non-insurance (NI) unregulated banking
- $NI\text{-}AUM_{BCR}$ is the BCR required capital for non-insurance (NI) assets under management
- $NI\text{-}O_{BCR}$ is the BCR required capital for non-insurance (NI) other business.

[26] Please also refer to the BCR Document, in particular Sections 3.3 (noting the factors specified in this section have been updated) and 3.4 as well as Annex E, and the HLA Document, in particular Section 3 and Annexes D and E.

409. For the insurance related activities specific parameters a_i, b_i, c_i and d_i and their related exposures are given in Table 10.

410. The non-insurance activities are discussed in more detail in Section 10.5 below.

411. The calculations for the BCR and HLA required capital are automated in the Template.

10.2.2 HLA Overview

412. Additional details regarding the following may be found in the HLA Document, in particular Sections 4.1 and 4.4.

413. The HLA required capital formula is:

$$HLA = HLA_Bucket_{TL} \, x \, TL_{BCR} + HLA_Bucket_{TNL} \, x \, TNL_{BCR} + HLA_Bucket_{NT} \, x \, NT_{BCR} + HLA_Bucket_{A} \, x \, A_{BCR} + HLA_Bucket_{NI-RB} \, x \, NI_RB_{BCR} + HLA_Bucket_{NI-UB} \, x \, NI_UB_{BCR} + HLA_Bucket_{NI-AUM} \, x \, NI_AUM_{BCR} + HLA_Bucket_{NI-O} \, x \, NI_O_{BCR}$$

where

- The HLA-Bucket parameters are factors as given in Table 11 below.
- The exposures to which these factors are applied are the BCR required capital amounts computed using the full 2015 outcome.

10.3 BCR and HLA Segments, Exposure Measures and Factors for Insurance-related Activities

414. The exposures and factors for the 2015 BCR required capital calculation are given in Table 10.

Table 10. BCR required capital factors and exposures

BCR segment	BCR proxy measure for risk exposure	Factor	BCR Factor: 2015 value
Traditional Life (TL)			
Protection life	net amount at risk	a_1	0.080%
Participating products	net current estimate	a_2	0.80%
Annuities	net current estimate	a_3	1.6%
Other life	net current estimate	a_4	0.80%
Traditional Non-life (TNL)			
Property	premium measure	b_1	8.4%
Motor	net current estimate	b_2	8.4%
Casualty	net current estimate	b_3	15.0%
Other Non-Life	net current estimate	b_4	10.0%

Non-traditional (NT)			
Variable annuities	notional value	c_1	1.6%
Mortgage insurance	risk in force	c_2	5.3%
GICS & Synthetic GICS	notional value	c_3	1.46%
Other non-traditional	net current estimate	c_4	1.73%
Assets (A)			
Credit - investment grade	fair value	d_1	0.93%
Credit - non investment grade	fair value	d_2	2.4%
Equity, real estate & non-credit investment assets	fair value	d_3	11.2%

415. All references to net current estimate in Table 10 are net of reinsurance ceded.

416. The exposures and factors, for both the HLA required capital calculation are given in Table 11.

Table 11. HLA required capital factors and exposures

BCR Required Capital Exposure	**HLA Factors**		
	Low Bucket	**Mid Bucket**	**High Bucket**
TL_{BCR}: Traditional life insurance	6%	9%	13.5%
TNL_{BCR}: Traditional non-life insurance			
A_{BCR}: Assets			
NT_{BCR}: Non-traditional insurance	12%	18%	27%
$NI\text{-}AUM_{BCR}$: Non-insurance – assets under management			
$NI\text{-}O_{BCR}$: Non-insurance – other			
$NI\text{-}RB_{BCR}$: Non-insurance – regulated banking	8.5%	12.5%	18.75%
$NI\text{-}UB_{BCR}$: Non-insurance – unregulated banking	12.5%	18.75%	25%

417. The HLA exposures for insurance related risks are the BCR required capital amounts. Consequently, no additional data is required to be collected.

418. The HLA required capital amount is computed in the Template for all three buckets.

10.4 BCR Data Collection for Insurance-related Activities

10.4.1 Assets

419. For the calculation of the BCR required capital for assets exposed to Credit risk, Volunteer Groups are required to provide the amounts of relevant assets that are of investment grade quality in the *FT19.BCR+HLA* worksheet.

10.4.2 Insurance liabilities

420. For the calculation of the BCR required capital for insurance liabilities, Volunteer Groups are requested to report, in the *FT19.BCR+HLA* worksheet, the following exposure measures not included on the balance sheet for the relevant insurance liabilities:

a) Written premium

b) Sums insured for life segments only

421. In addition for specific sub-segments of insurance liabilities, Volunteer Groups are required to provide additional measures as follows:

a) Additional exposure measures for some traditional life insurance liabilities.

b) Net amount at risk (NAAR) for protection life. NAAR equals the sum insured minus the current estimate, net of reinsurance recoverables, where the sum insured is the sum of all maximum amounts that the insurance group would have to pay out on policies in force within the protection segment. The NAAR equals the maximum possible pay-outs in excess of the current estimate.

c) Additional exposure measures for some non-traditional insurance liabilities.

422. The notional value of the guarantee embedded in a variable annuity should be calculated as the maximum present value of all guaranteed benefits payable by the insurer under the assumption that it is not able to fund any of the payments from the account (ie the account value is zero).

423. Notional value of a guaranteed investment contract (GIC) represents the present value of principal and interest payments that are contractually guaranteed by the Volunteer Group.

424. Net risk in force for the mortgage insurance exposures measures the amount of the outstanding principal of the mortgage loans insured.

10.5 Non-insurance

425. The NI-RB_{BCR} component of the BCR required capital relies on banking sector requirement (the Leverage ratio and Basel III Risk Weighted Assets (RWA)[27] requirements), and is computed as follows:

$$NI\text{-}RB_{BCR} = \text{Max [3\% Leverage ratio, 8\% RWA]}$$

426. The NI-UB_{BCR} component of the BCR required capital is computed as follows:

$$NI\text{-}UB_{BCR} = \text{4\% Leverage ratio}$$

427. The NI-AUM_{BCR} component of the BCR required capital is computed as follows:

$NI\text{-}AUM_{BCR}$ = 16% of gross income from such activities (averaged over the most recent three years)

428. The NI-O_{BCR} component of the BCR required capital is computed as follows:

$NI\text{-}O_{BCR}$ = existing global capital requirements x 1.33

429. Financial activities that are subjected to neither banking nor insurance regulation, such as some securities operations[28], are to be incorporated in the BCR by aggregating existing global capital requirements for such non-bank, non-insurance (NBNI) financial activities. In particular, third party asset management is a material activity for a number of Volunteer Groups.

430. The above information will be captured as part of the worksheet *FT19.Baseline*.

[27] This formulation treats regulated banks in aggregate and not separately. In theory this permits offsetting between banks in the calculation. In practice this is considered unlikely to be a concern. If this is shown not to be the case then a review in the future will be considered.

[28] Some securities operations fall in the scope of either banking or insurance regulation. These are not intended to be included in this paragraph. The IAIS assumes that such operations are already covered by the consideration of the respective sectoral requirements of the insurance-related BCR. Additional consideration may be given in subsequent BCR analysis and calibration to the optimal way to incorporate off-balance sheet securities activities.

11 Consistent and Comparable Margin Over Current Estimate

Relevant Worksheets in Template:	*FT19.ICS Balance Sheet*	*Due 31 July 2019*

431. Consistent with ICP 14, the IAIS is committed to investigate the development of a consistent and comparable margin over current estimate (CC-MOCE) to be included in the valuation of insurance liabilities.

432. For the purposes of 2019 Field Testing, the IAIS is testing three calibrations of the Percentile-MOCE. The Percentile-MOCE is a new approach to quantify the MOCE and measures the variability and uncertainty of the insurance liabilities with respect to the risks specific to the liabilities at a specified level of confidence.

433. For the purposes of 2019 Field Testing, the Percentile-MOCE:

a) Is held in addition to the ICS current estimate;

b) Is not deducted from the ICS capital requirement; and

c) Does not have a single calibration defined as the default or baseline, ie ICS ratios are calculated on all three calibrations.

434. Only the Percentile-MOCE is being field tested in 2019 and data is not being collected on the Cost of Capital MOCE (C-MOCE) or Prudence MOCE (P-MOCE).

435. In each calibration, different percentiles have been chosen for Life risks and Non-life risks. These risks often exhibit very different characteristics particularly in terms of their duration and variability of outcomes. The following calibrations of the Percentile-MOCE is intended to reflect this differentiation:

Table 12. Calibrations of the Percentile-MOCE

	Life Percentile	Non-life Percentile
Calibration 1	75th	60th
Calibration 2	80th	65th
Calibration 3	85th	70th

436. A number of assumptions are made to simplify the calculation:

a) The ICS Life risk charges and Non-life risk charges are used as the base measure. They are measures of the change in value of the liabilities between the 99.5th percentile and the

weighted average of present value of future cash flows (the current estimate). Therefore they provide a benchmark from which other percentiles can be derived.

b) The variability in the present value of future cash flows is assumed to follow a normal distribution.

437. The Percentile-MOCE is calculated automatically within the Template using the Life and Non-life ICS risk charges as inputs. A multiplying factor is calculated for each percentile by drawing its value from the standard normal distribution and dividing this by the value of the 99.5th percentile from the same distribution.

438. In formulaic terms:

Assume Z is standard normal random variable, i.e. $Z \sim N(0,1)$. Let $F(z)$ be the cumulative distribution function of Z. For a given probability p we get:

$P(Z < Z^*) = F(Z^*) = p$ and $Z^* = F^{-1}(p)$.

Then the multiplying factor will be $\frac{F^{-1}(x)}{F^{-1}(0.995)}$

So the Percentile-MOCE taking the x^{th} percentile for Life risks and y^{th} percentile for Non-life risks, this will be calculated as:

$$ICS\ Risk\ Charge_{Life} * \frac{F^{-1}(x)}{F^{-1}(0.995)} + ICS\ Risk\ Charge_{Non-Life} * \frac{F^{-1}(y)}{F^{-1}(0.995)}$$

Table 13. Multiplying Factors

Percentile	Multiplying Factor
60th	10%
65th	15%
70th	20%
75th	26%
80th	33%
85th	40%

12 The ICS Risk Charges

439. This section contains instructions for completing the worksheets for the risk charges identified for the ICS.

440. Each risk charge within the standard method will be calculated on both the MAV and GAAP Plus approaches in order to facilitate a comparison of the various components under the two valuation bases. Each risk charge will be calculated using the MAV Three-Bucket Approach (central scenario) for discounting and currently-existing jurisdictional GAAP rules and any adjustments as previously defined for GAAP Plus.

441. At the discretion of each Volunteer Group, ICS risk charges (in particular, Longevity risk, Non-Default Spread risk and Interest Rate risk) may be recalculated if it is viewed that the result would be materially different under the two additional MAV scenarios (Additional 1 and Additional 2). The results may be provided in Table T25 *Optional ICS risk information* in the worksheet *FT19.Insurance Portfolios*.

12.1 Approach

442. The approach taken is to consider each risk category and determine an approach to measuring that risk which is suitable on an individual basis. Some risks are best measured on the basis of a stress approach. This is particularly the case where a risk could manifest in changes in the values of both assets and liabilities, or where the risk cannot be adequately captured by a single factor or item of the balance sheet (eg Mortality risk, Longevity risk, Interest Rate risk). Other risks are measured using a factor-based approach. Cases where this is appropriate include where a risk exposure is appropriately captured by a balance sheet item. However, in the case of Catastrophe risk, a stochastic modelling approach also forms part of the ICS standard method risk charges as this is likely to provide the greatest level of risk sensitivity and to adequately reflect the risk profile of the Volunteer Group.

443. The risks will be combined to recognise risk diversification. This is automatically done in the Template; Volunteer Groups do not have to enter any data for the aggregation.

12.2 Calculation Methods within the Standard Method

12.2.1 Look-through

444. For reasons of risk sensitivity and sound risk management, the look-through approach should apply to indirect investments and insurance arrangements whenever and to the extent possible on the basis of the underlying current exposures at a point in time. This principle also applies to any indirect holdings that may artificially inflate the Tier 1 or Tier 2 capital resources of a Volunteer Group.

445. When a full look-through is not possible, a partial look-through may be applied, along the lines as provided by the Basel III framework[29]. For example, for an investment fund it could be assumed that the fund first invests, to the maximum extent allowed under its mandate, in the asset classes with the highest risk charge, and then continues making investments in descending order until the maximum total investment level is reached.

446. Finally, when no look-through is possible, the full investment should be considered as unlisted equity.

447. In the context of Market risks, look-through could be applied, for instance, to collective investment funds, hedge funds, mandatory convertible bonds, etc. in order to identify all the indirect exposures embedded in such instruments. A look-through approach should be applied to the extent possible, in order to identify which assets are sensitive to the stress-based approaches to measuring risks. A similar approach can be applicable in the context of capital resources, in order to identify any relevant adjustments to ICS capital resources in respect of indirect holdings or reciprocal cross holdings.

448. In the context of insurance risks, the look-through approach could be applied to the underlying risk of investments such as single tranche mortality bonds, catastrophe bonds, etc. This is in order to appropriately capture the effect on such instruments of the stress scenarios designed for mortality, longevity, catastrophe events and any other relevant scenario.

12.2.2 Risk Mitigation

449. Risk mitigation techniques may be recognised in the ICS risk charges as long as they meet the following principles:

a) The risk mitigation technique must be effective and legally 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 calculation of the ICS risk charges allows for the effects of risk mitigation techniques through a reduction in requirements commensurate with the extent of risk mitigation. It

[29] http://www.bis.org/publ/bcbs266.htm.

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 risk embedded in the use of risk mitigation techniques (eg Credit risk). These two effects should be separated.

d) The calculation should be made on the basis of assets and liabilities existing at the reporting date of the ICS calculation.

e) There should be no double counting of mitigation effects.

f) The Volunteer Group 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.

g) 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 Volunteer Group will receive the protection in the cases specified by the contracting parties. Credit quality should be assessed consistently with the definition of credit categories provided in the section on *Credit risk*.

450. Where risk mitigation techniques are in force for a period shorter than 12 months and meet the qualitative criteria above, the risk mitigation effect to be taken into account in the ICS risk charges is in proportion to the length of time defined as:

a) The proportion of the full term of the risk exposure that the risk mitigation technique is in place up to a maximum of 100% (where the risk exposure's term is less than 12 months); or

b) The proportion of 12 months that the risk mitigation technique is in place up to a maximum of 100%.

451. However where the Volunteer Group plans to replace a risk mitigation arrangement relating to a Market risk exposure at the time of its expiry with a similar arrangement, this renewal may be taken into account if the Volunteer Group expects to renew and all of the foreseeable costs of renewal within the time horizon are taken into account. The renewal of the arrangements may be taken into account only if:

a) The renewal is consistent with previous business practice and documented strategy.

b) The replacement of the risk mitigation instrument shall not take place more often than every three months except for Currency risk or Equity risk where the replacement of the risk mitigation instrument shall not take place more often than every month.

c) The risk that the risk mitigation arrangement 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. If the

instruments mitigating Currency or Equity risk are replaced more frequently than every three months then the Volunteer Group should be also able to justify to their supervisor that:

a. the market for these instruments is sufficiently liquid at this tenor; and

b. these instruments do not pose a materially greater risk than those replaced less frequently than every three months.

d) The replacement of the risk mitigation arrangement is not conditional on any future event, which is outside of the control of the Volunteer Group. Where the replacement of the risk mitigation arrangement is conditional on any future event that is within the control of the Volunteer Group, then the conditions should be clearly set out in the documented strategy referred to in point (a).

e) The renewal is realistic with regards to availability of the arrangement and its cost, including the risk that these costs may increase during the following 12 months, is deducted from the value attributed to the instrument.

f) Any additional risk stemming from the risk mitigation arrangement (eg Credit risk) is taken into account in the ICS risk charges.

g) A Volunteer Group should be able to demonstrate to its group-wide supervisor that the required instruments will available for renewal via a deep and liquid market under all reasonably foreseeable eventualities over the following 12 months. Where this is not the case, the benefit recognised for the renewal of the risk mitigation arrangement shall be no greater than 80% of the full risk mitigating value of the arrangement at the valuation date.

452. Separately, renewal of risk mitigation arrangements with respect to non-life Premium risk may be taken into account if the Volunteer Group expects to renew and the costs of renewal within the time horizon are taken into account. The renewal of the arrangements should be taken into account only if:

a) The renewal is consistent with previous business practice and documented strategy.

b) The renewal is realistic with regards to availability of the arrangement and its cost[30].

c) Any additional risk stemming from the risk mitigation arrangement (eg Credit risk) is taken into account in the relevant ICS risk charges.

453. When modelling natural catastrophe risk, the renewal of the arrangements should be taken into account only if the renewal is consistent with previous business practice and documented

[30] Costs may include, but are not limited to, ceded premiums to the reinsurer and commissions.

strategy. The renewal should be realistic with regards to availability of the arrangement and its cost. Any additional risk stemming from the risk mitigation arrangement (eg Credit risk) is also taken into account in the natural catastrophe risk modelling.

454. The following principle also applies specifically to the recognition of financial risk mitigation techniques in the ICS: there should be an explicit reference to specific exposures or a pool of exposures.

455. Due to the limited effectiveness of risk mitigation of Operational risk, risk mitigation should not be recognised in the calculation of the ICS Operational risk charge.

12.2.3 Geographical Segmentation

456. For a number of risk charges, a geographical segmentation is used in Field Testing:

a) European Economic Area (EEA) and Switzerland

b) US and Canada

c) China

d) Japan

e) Other developed markets

f) Other emerging markets

457. The following table sets out the definitions of each region.

Table 14. Geographical segmentation definitions

Region	Jurisdictions included
EEA and Switzerland	Austria, Belgium, Bulgaria, Croatia, Republic of Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom, Iceland, Liechtenstein, Norway, Switzerland
US and Canada	US[31] and Canada
China	Mainland China, Macao SAR
Japan	Japan

[31] Including NAIC members outside of the 50 United States and the District of Columbia: American Samoa, Guam, Northern Mariana Island, Puerto Rico and US Virgin Islands.

Other developed[32]	Australia, New Zealand, Israel, San Marino, Korea, Singapore, Chinese Taipei, Hong Kong SAR
Other emerging markets	For a list of emerging markets, please see Table E of the Statistical Appendix of the IMF World Economic Outlook April 2016[33]. For completeness, if a country is not listed in the regions above, it should be classified as 'Other emerging market'.

458. These are not the same regions used in the *Equity risk* Section. The definition of emerging and developed markets used for Equity risk is based on the FTSE Developed Index and the FTSE Emerging Markets Index.

459. When providing information related to insurance business, the Template should be completed on the basis of location of risk. Where this information is not available, the location where the business was written may be used as a proxy and information on this should be provided in the Questionnaire.

12.2.4 Management Actions

460. Volunteer Groups should provide risk charges both before management actions and after management actions. For the purposes of the standard method in 2019 Field Testing, management actions is confined to changes in liabilities for future bonuses and other discretionary benefits. This information is used to limit the diversified effect of management actions across risks to the existing liabilities for future bonuses and other discretionary benefits in the unstressed ICS balance sheet.

461. Management actions should be realistic and cannot be contrary to the Volunteer Group's obligations to policyholders or to legal provisions applicable to the Volunteer Group.

Example: Management actions considered after an equity stress

Consider a Volunteer Group with a portfolio of savings contracts. Those savings contracts do not include any legally enforceable profit participation, however the Volunteer Group has an internal policy aiming at redistributing approximately 80% of each year financial profits (when positive) to policyholders. Such a policy leads to an amount of 80 of discretionary benefits in the current estimate figure, corresponding to the maximum loss absorbency that the Volunteer Group would be able to pass through to policyholders in case of adverse financial scenarios.

However, for reasons of competitiveness and avoiding mass lapses, the Volunteer Group is, in practice, not likely to pass through the maximum possible amount of loss to policyholders. For instance, while a drop of 40% in the value of its equity investments would have a negative impact of 100 on the value of assets, and normally result in an amount of discretionary benefits reduced to 0

[32] 'Other developed' taken from IMF list of advanced economies minus countries mentioned in other regions as of April 2016.
[33] See http://www.imf.org/external/pubs/ft/weo/2016/01/pdf/text.pdf (accessed on 12 May 2016).

by applying the distribution policy unchanged, the Volunteer Group could assume that it would decide to distribute future discretionary benefits for an amount of 30. Therefore, the impact of the shock after management actions would be 100 – (80 – 30) = 50.

This example can be summarised as follows:

Balance sheet before shock:

Assets	**1000**	**Capital resources**	**150**
of which equity	*250*	**MOCE**	**50**
of which other	*750*	**Current estimate**	**800**
		of which discretionary	*80*

Balance sheet after shock, before management actions:

Assets	**900**	**Capital resources**	**50**
of which equity	*150*	**MOCE**	**50**
of which other	*750*	**Current estimate**	**800**
		of which discretionary	*80*

Balance sheet after shock, after management actions:

Assets	**900**	**Capital resources**	**100**
of which equity	*150*	**MOCE**	**50**
of which other	*750*	**Current estimate**	**750**
		of which discretionary	*30*

12.2.5 Margin Over Current Estimate (MOCE)

462. All stress-based calculations should include only current estimates in determining the pre and post stress NAV. Factors applied to insurance liabilities should only be applied to current estimates. MOCE and DTA on MOCE should not be included.

12.3 Insurance Risks

12.3.1 Grouping of Policies for Life Risks

463. A stress-based approach will be used for 2019 Field Testing to calculate the risk charge for a number of insurance risks. To ensure consistency between the pre-stress and post-stress cash flows, where the stress-based approach is used, the projections of the stressed cash flows should be conducted at the same level of granularity as the pre-stress cash flows. In most cases, it is expected that the pre-stress projections should be done for each policy individually. However, where the pre-stress cash flows have been projected by applying some grouping of policies, to ensure consistency, the same grouping of policies should be applied to the stressed cash flows.

464. For some policies, an upward stress may produce an increase in risk charge, while for others a downward stress may result in an increase in risk charge. Even if cash flow projections are mostly performed at a policy level, to determine whether to apply an upward or a downward stress, it is necessary to decide on the appropriate grouping of policies, in particular for mass lapse risk. The level of prudence of the resulting risk charge would thus depend on the granularity of the policy groupings adopted by the Volunteer Group.

465. From a practicality standpoint, grouping by portfolios of products (or policies) exposed to homogeneous insurance risks within the class can be applied. In deciding on the appropriateness of grouping of policies, the Volunteer Group should ensure that portfolios of products (or policies) exposed to homogeneous insurance risks are grouped together. For this purpose, a homogeneous risk group encompasses a collection of policies with similar risk characteristics.

466. Homogeneous risk groups should be expected to be reasonably stable over time. Where necessary, Volunteer Groups should take into account items such as:

a) Underwriting policy

b) Claims settlement pattern

c) Risk profile of policyholders

d) Product features, in particular guarantees

e) Future management actions

12.3.2 Geographical Segmentation for Life Risks

467. Volunteer Groups should provide data by the following geographical groupings:

a) EEA and Switzerland

b) US and Canada

c) China

d) Japan

e) Other developed markets

f) Other emerging markets

12.3.3 Mortality Risk

Relevant Worksheets in Template:	*FT19.ICS Risk Charges.MAV* *FT19.ICS Risk Charges.GAAP+*	*Due 31 July 2019*

468. For Mortality risk, a stress-based approach is applied in 2019 Field Testing. Under this approach, the value of the assets and the liabilities after the stress should reflect the impact of risk mitigating mechanisms.

469. The following components could be included within a stress-based approach to Mortality risk:

a) Stress to the level of mortality

b) Stress to the trend in which mortality is expected to develop

c) Stress to the volatility of mortality rates

470. Catastrophe Mortality risk is addressed as part of Catastrophe risk.

471. For the purposes of 2019 Field Testing, Volunteer Groups should estimate the Mortality risk charge by stressing the level of mortality rates only.

472. The Mortality risk calculation only applies to those policies that are subject to Mortality risk.

473. Volunteer Groups may take into account management actions in the calculation of the Mortality risk charge. The effect of such management actions should be recorded separately in the worksheets *FT19.ICS Risk Charges* to enable a comparison of the change in NAV before and after management actions. In the Questionnaire, Volunteer Groups are also asked to provide a description of management actions taken and the basis for such actions.

474. The Technical Specifications for Mortality risk apply both to the MAV and GAAP Plus valuation approaches. This section has been written from the perspective of the MAV approach; while somewhat different valuation data might be used for the GAAP Plus approach, the Mortality risk calculation is fundamentally the same for both approaches.

12.3.3.1 Input Data Required

475. Input data required are:

a) The base NAV, ie value of assets less insurance liabilities before applying the prescribed shock, net of reinsurance

b) The NAV after applying the prescribed shock, net of reinsurance, and before management actions

c) Effects of the management actions on NAV after applying prescribed shocks

12.3.3.2 Output Data

476. The following output will be automatically calculated by the Template:

a) $Mortality\ Risk\ Charge$= Mortality risk charge before management actions

b) $Mortality\ Risk\ Charge^{\ mgmt}$ = Mortality risk charge after management actions

12.3.3.3 Calculation

477. The Mortality risk charge is calculated as:

$$Mortality\ Risk\ Charge = \Delta NAV \mid shock$$

$where$

$\Delta NAV \mid shock$ = Change in NAV, ie value of assets less insurance liabilities after applying the prescribed shock.

$shock$ = Increase of x% in mortality rates at all ages for all policies where an increase in mortality rates would lead to a decrease in the NAV, ie $(1 + \mathrm{x}\%) \times base\ mortality\ assumptions$, with x as follows:

Table 15. Mortality level shocks

	X%
EEA and Switzerland	12.5 %
US and Canada	12.5 %
China	12.5 %
Japan	10 %
Other developed markets	12.5 %
Other emerging market	12.5 %

478. The $Mortality\ Risk\ Charge$ should be first calculated under the condition that the scenario does not change the value of future discretionary benefits in the insurance liabilities.

479. Volunteer Groups should then determine the change in NAV, taking into account realistic management actions, eg the Volunteer Group is able to change its assumptions on future bonus rates in response to the scenario. This is $Mortality\ Risk\ Charge^{\ mgmt}$.

480. The calibration proposed for 2019 Field Testing is subject to refinements based on further analysis and evidence.

481. For the purposes of 2019 Field Testing, no geographical diversification is assumed when calculating the Mortality risk charge.

482. Even though the stresses are applied to different geographical regions, double counting of the risk mitigating impact of reinsurance arrangements covering more than one geographical area should be avoided.

12.3.4 Longevity Risk

Relevant Worksheets in Template:	*FT19.ICS Risk Charges.MAV* *FT19.ICS Risk Charges.GAAP+*	*Due 31 July 2019*

483. In 2019 Field Testing, a stress-based approach is applied to Longevity risk.

484. The following components could be included within a stress approach:

a) Stress to the level of longevity

b) Stress to the trend that longevity is expected to follow

c) Stress to the volatility of longevity rates

485. For the purposes of 2019 Field Testing, Longevity risk will retain a simplified approach. Under this approach, Volunteer Groups should estimate the Longevity risk charge by stressing only the level of longevity. The prescribed single stress is intended to combine the level, trend and volatility components.

486. The Longevity risk calculation applies only to those policies that are subject to Longevity risk.

487. Volunteer Groups may take into account management actions in the calculation of the Longevity risk charge. The effect of such management actions should be recorded separately in the worksheets *FT19.ICS Risk Charges* to enable a comparison of the change in NAV before and after management actions. In the Questionnaire, Volunteer Groups are also asked to provide a description of management actions taken and the basis for such actions.

488. The Technical Specifications for Longevity risk apply to both the MAV and GAAP Plus valuation approaches. This section has been written from the perspective of the MAV approach; while somewhat different valuation data might be input for the GAAP Plus approach, the Longevity risk calculation is fundamentally the same for both approaches.

12.3.4.1 Input Data Required

489. Input data required:

a) The base NAV, ie the value of assets less insurance liabilities before applying the prescribed shock, net of reinsurance

b) The NAV after applying the prescribed shock, net of reinsurance, and before management actions

c) Effects of the management actions on NAV after applying the prescribed shocks

12.3.4.2 Output Data

490. The following output will be automatically calculated by the Template:

a) $Longevity\ Risk\ Charge$= Longevity risk charge before management actions

b) $Longevity\ Risk\ Charge^{\ mgmt}$ = Longevity risk charge after management actions

12.3.4.3 Calculation

491. The Longevity risk charge is calculated as follows:

$$Longevity\ risk\ charge = \Delta NAV|shock$$

$where$

$\Delta NAV|shock =$ Change in NAV, ie value of assets less insurance liabilities after applying the prescribed shock

$shock$ = Decrease of x% in mortality rates at all ages for all policies where a decrease in mortality rates would lead to a decrease in the NAV ie $(1 - x\%) \times base\ mortality\ assumptions$, with x as follows:

Table 16. Mortality shocks for Longevity risk

	x%
EEA and Switzerland	17.5%
US and Canada	17.5%
China	17.5%
Japan	17.5%
Other developed markets	17.5%
Other emerging market	17.5%

492. The $Longevity\ Risk\ Charge$ should be first calculated under the condition that the scenario does not change the value of future discretionary benefits in the insurance liabilities.

493. Volunteer Groups should then determine the change in NAV, taking into account realistic management actions, eg the Volunteer Group is able to change its assumptions in future bonus rates in response to the scenario. This is the $\text{Longevity Risk Charge}^{\text{mgmt}}$.

494. The calibration proposed for 2019 Field Testing is subject to refinements based on further analysis and evidence. For example, the IAIS will carry out further analysis to assess whether the shocks represented in the table above could vary by geographical grouping.

495. For the purposes of 2019 Field Testing, no geographical diversification is assumed when calculating the Longevity risk charge. Further data collections or analysis may be conducted to determine whether geographical diversification should be allowed.

496. Even though the stresses are applied to different geographical regions, double counting of the risk mitigating impact of reinsurance arrangements covering more than one geographical area should be avoided.

12.3.5 Morbidity and Disability risk

Relevant Worksheets in Template:	*FT19.ICS Risk Charges.MAV* *FT19.ICS Risk Charges.GAAP+*	*Due 31 July 2019*

497. The Technical Specifications for Morbidity/Disability risk apply both to the MAV and GAAP Plus valuation approaches. This section has been written from the perspective of the MAV approach; while somewhat different valuation data might be used for the GAAP Plus approach, the Morbidity/Disability risk calculation is fundamentally the same for both approaches.

498. The charge determined for this risk reflects the impact of unexpected changes in the level, trend and volatility of disability, sickness and morbidity rates (the expected impacts are assumed to be incorporated in valuation methodologies) as well as unexpected changes in the level of claim payments. This risk category includes risk events that are caused by accident as well as by sickness. In summary, Morbidity/Disability risk covers all risks linked to unexpected changes in the health status of policyholders.

499. Similar Morbidity/Disability benefits may be classified as life or non-life business (see below for definition of the scope of Morbidity/Disability risk).

500. The risk charge relating to the Morbidity/Disability risk is obtained by the application of a stress scenario, designed as a combination of stresses as specified below.

12.3.5.1 Definition of the Scope of the Application of Morbidity / Disability Risk

12.3.5.1.1 Segmentation

501. Morbidity/Disability risk is applied only to benefits evaluated on a similar to life technical bases (see examples below). Irrespective of the legal or contractual classification of insurance obligations, generally the technical calculation basis of insurance obligations should form the decision criterion for the assignment to life or non-life activities. If the technical basis is not consistent with the nature of the risk relating to the obligation, the nature of the underlying risk of the contract should form the decision criterion.

Example
Segmentation of a classic health insurance product (no levelling of premiums) with a morbidity benefit
• If the health insurance liabilities are calculated on the basis of claims triangles or unearned premiums, this liability should be classified into a non-life segment. If the morbidity liabilities calculations are based on a disability/morbidity table, then this liability should be classified into a life segment.
• In the case where the calculation methodology of insurance obligations changes after the occurrence of an event in order to reflect the evolution of the underlying risk, the segmentation should reflect this evolution.

Example
Segmentation of a disability product:
• The disability liability should be classified into a non-life segment during the period in which the policyholder does not have a declared disability, if the insurance liabilities calculation methodology is based on claims triangles or unearned premiums.
• If the insurance liabilities calculation methodology changes when a policyholder declares a disability and takes into account biometric variables from that moment, this disability liability should be classified into a life segment after the occurrence of the claim.

Example
Segmentation of morbidity and disability products where the insurance liability calculation is based on loss ratios:
• The morbidity or disability liability should be classified into a non-life segment if the determination of the loss ratio was based on non-life techniques such as claims triangles.
• The morbidity or disability liability should be classified into a life segment if the determination of the loss ratio was based on life techniques such as morbidity/disability tables.

12.3.5.1.2 Sub-risks to be Covered

502. The following is a (non-exhaustive) list of major types of Morbidity/Disability risks that have been identified, and can be pursued on similar to life technical bases:

a) Sickness.

b) Accident at work/occupational disease while employed and post-employment (particularly with respect to occupational disease).

c) Critical illness, specifically tied to benefit availability dependent on surviving a specified period of time following confirmation of diagnosis.

d) Disability, including temporary and permanent, temporary and full, physical and non-physical (mental).

e) Loss of income, including past and future income and includes (but not limited to) salary replacement.

f) Long-term care – all forms of insurance that address full or partial loss of ability to perform all defined and established functions of daily living.

g) Health insurance – medical and directly related expenses.

h) Health insurance – other than medical and directly related expenses such as preventative health and wellness benefits.

503. For the purpose of the calculation of the Morbidity/Disability risk charge, similar to life insurance obligations should be split in the following four mutually exclusive benefit segments:

a) Category 1: Medical expenses

   i. Products providing any kind of compensation (either fixed or based on real costs) for medical expenses, in-patient or not. The compensation depends directly on the treatment or expenses incurred by the policyholder, and is not directly dependent on the time spent in a given health status.

   ii. Typical examples are medical expense / supplemental medical contracts that provide benefits for practitioner fees, medication fees, vision and dental expenses, etc.

   iii. When a policy provides a combination of benefits between medical expenses and short-term recurring payments (Categories 1 and 3), it can either be split into both categories, or considered under Category 1 altogether.

b) Category 2: Lump sum in case of a health event

   i. Products providing a single payment at the occurrence of a specified, and usually severe, health event, such as the diagnosis of cancer or other types of dread disease, or the occurrence of an accident resulting in a certain level of disability.

   ii. Typical examples are accident, critical illness, and permanent disability policies that provide a lump sum payment on occurrence of a claim. This category also generally includes accidental death and dismemberment policies.

c) Category 3: Short-term recurring payments

   i. Products providing a recurring amount of compensation for a period depending on the time spent in a given temporary health status, such as unable to work, hospitalisation, etc.

ii. Typical examples are hospital indemnity, personal accident / loss of income policy, short-term disability income protection (generally in the context of group insurance).

d) Category 4: Long-term recurring payments

i. Products providing a fixed annuity in case of long-term / permanently deteriorated health status.

ii. Typical examples are personal or group policies for permanent disability, long-term care, etc.

504. The typical examples provided above are indicative and are not meant to be exhaustive. The terminology may also vary across jurisdictions.

505. The distinction between short-term recurring and long-term recurring should generally be made according to the temporary vs. permanent characteristics of the recurring benefit. A benefit that is contractually limited to a given period (typically no more than five years) should be classified as short-term recurring. A benefit that is to be paid lifelong, or until a time (for instance, retirement age) that makes it variable across policyholders, without any upfront short-term limitations, should be considered as long-term recurring.

506. Each benefit category is divided into two segments by original contract term:

a) Short-term: Includes contracts with an original term of up to five years.

b) Long-term: Includes contracts with an original term of longer than five years.

Example

- Short-term recurring payments with long contract term (Category 3):
  Medical benefit products with a 10-year renewal or whole life term that provide hospitalisation benefits are typically categorised as short-term recurring payments with long contract term.

- Long-term recurring payments with short contract term (Category 4):
  Group disability contracts that are typically one year in duration but for which the associated benefits could continue to be paid to individuals until age 65 or 70.

507. A policy may actually include coverage belonging to several of the above benefit categories. For instance, a policy may provide:

a) Regular payments in cases of short-term (temporary) disability.

b) Regular payments in cases of long-term disability.

c) A lump sum in cases of critical illness.

508. Each of the different components of such a policy is subject to the relevant shock. However, if it is not feasible for the individual stresses to be applied to each component of the policy, the stress applied to a given policy should be based on the dominant component of that policy.

12.3.5.2 Input Data Required

509. Input data required are:

a) The base NAV, ie value of assets less insurance liabilities before applying the prescribed shock, net of reinsurance.

b) The NAV after applying the prescribed shock, net of reinsurance, and before management actions.

c) Effects of the management actions on NAV after applying prescribed shocks.

d) Risk exposure amounts for each benefit category and original contract duration segment.

12.3.5.3 Output Data

510. The following output will be automatically calculated by the Template:

a) $Morbidity/Disability\ Risk\ Charge^{mgmt}$ = Morbidity/Disability Risk charge after management actions

b) $Morbidity/Disability\ Risk\ Charge$ = Morbidity/Disability Risk charge before management actions

c) $$Morbidity/Disability\ Risk\ Charge^{mgmt} = \sum_{i,j} Category_{ij}\ Risk\ Charge^{mgmt}$$
$$i = 1, 2, 3, 4$$
$$j = Short, Long$$

d) $$Morbidity/Diability\ Risk\ Charge = \sum_{i,j} Category_{ij}\ Risk\ Charge$$
$$i = 1, 2, 3, 4$$
$$j = Short, Long$$

e) $$Category_{4,j}\ Risk\ Charge = MAX(Inception\ Rate\ Risk\ Charge_{j,}\ Recovery\ Rate\ Risk\ Charge_j)$$
$$j = Short, Long$$

511. If applying management actions per category is not feasible, Volunteer Groups may apply management actions on an overall basis.

12.3.5.4 Calculation

512. The risk charge per benefit category and contract term is calculated as:

$$Category_{i,j} Risk\ Charge = \Delta NAV \mid shock$$

where

$\Delta NAV \mid shock$ = change in NAV after applying the prescribed shocks.

a) For benefit categories i = 1, 2 and 3:

$shock$ = Instantaneous increase of x_j% in inception rate

j = short-term, long-term with x_j as shown in the tables below.

The shock is meant to capture the total Morbidity/Disability risk for categories 1-3. There are two applications of this inception rate shock:

1. For benefits in categories 1-3 where claim costs are explicitly modelled using inception rates and/or recovery rates, the shock is only applied to inception rates. If only recovery rates are modelled, the shock is applied as a decrease in recovery rates.

2. For other benefits in categories 1-3, which do not explicitly have inception rates and/or recovery rates, the shock to inception rate should be interpreted as a shock to the medical claim payments amount.

b) The Category 4 risk charge is calculated for both contract term segments as the maximum of Inception Rate risk charge and Recovery Rate risk charge, where:

i. The Inception Rate risk charge is calculated as:

$$Inception\ Rate\ Risk\ Charge = \Delta NAV \mid shock$$

where: $\Delta NAV \mid shock$ = change in NAV after applying the prescribed shocks.

$shock$= increase in the inception rate used to calculate the current estimate as shown in the table below

ii. The Recovery Rate risk charge is calculated as:

$$Recovery\ Rate\ Risk\ Charge = \Delta NAV \mid shock$$

where:

$\Delta NAV \mid shock$ = change in NAV after applying the prescribed shocks.

$shock$ = decrease in the recovery rate of 20% (same shock for both contract durations – short and long)

Table 17. Morbidity/Disability risk shocks – Location of risk Japan

Category (i)	Short-term	Long-term
1	20%	8%
2	25%	8%
3	20%	10%
4	inception rate shock = 25%, recovery rate shock=20%	inception rate shock = 20%, recovery rate shock = 20%

Table 18. Morbidity/Disability risk shocks – All other locations of risk

Category (i)	Short-term	Long-term
1	20%	8%
2	25%	20%
3	20%	12%
4	inception rate shock = 25%, recovery rate shock=20%	inception rate shock = 20%, recovery rate shock = 20%

513. The individual risk charges should first be calculated under the condition that the scenario does not change the value of future discretionary benefits in the insurance liabilities.

514. Volunteer Groups should then determine the change in NAV, taking into account realistic management actions (eg the Volunteer Group is able to change its assumptions in future bonus rates in response to the scenario).

12.3.6 Lapse Risk

Relevant Worksheets in Template:	*FT19.ICS Risk Charges.MAV* *FT19.ICS Risk Charges.GAAP+*	*Due 31 July 2019*

515. Lapse risk is the risk of adverse change in the value of qualifying capital resources due to unexpected changes in the level and trend of exercise rates of policyholder options. The risk charge takes into account all legal or contractual options that can change the value of future cash flows. This includes options to partially or fully terminate, surrender, renew, extend, reduce or increase insurance coverage as well as the reduction or suspension of premium payments and changes in take up rates of options such as annuitisation options. This risk is applicable only to life business and similar to life health business.

516. The Technical Specifications for Lapse risk apply both to the MAV and GAAP Plus valuation approaches. This section has been written from the perspective of the MAV approach; while somewhat different valuation data might be input for the GAAP Plus approach, the Lapse risk calculation is fundamentally the same for both approaches.

12.3.6.1 Input Data Required

517. For the Level and Trend component, the input data required are:

a) The base NAV, ie the value of assets less insurance liabilities before applying the prescribed upward or downward shocks, net of reinsurance

b) The NAV after applying the prescribed upward or downward shocks, net of reinsurance before management actions

c) Effects of the management actions on NAV after applying the prescribed shocks

518. For the Mass Lapse component, the input data required are:

a) The base NAV before applying the prescribed mass lapse shock, net of reinsurance

b) The NAV after applying the prescribed mass lapse shock, net of reinsurance before management actions

c) Effects of the management actions on NAV after applying the prescribed shocks

519. Estimates may be provided on a best efforts basis if Volunteer Groups are unable to provide exact figures due to system constraints. If estimates are provided, please provide details on material assumptions or simplifications used in the Questionnaire.

520. In the Questionnaire, Volunteer Groups should provide a brief description of the management actions taken for both Level and Trend component, and Mass Lapse component as well as the basis for such actions.

12.3.6.2 Output Data

521. The following output will be automatically calculated in the Template:

a) $Lapse\ Risk\ Charge$ = Lapse risk charge before management actions

b) $Lapse\ Risk\ Charge^{mgmt}$ = MAX($Lapse\ Risk\ Charge_{level}^{mgmt}$, $Lapse\ Risk\ Charge_{mass}^{mgmt}$)

c) $Lapse\ Risk\ Charge_{level}^{mgmt}$ = Lapse risk charge for Level and Trend component after management actions

d) $Lapse\ Risk\ Charge_{mass}^{mgmt}$ = Lapse risk charge for Mass Lapse component after management actions

12.3.6.3 Calculation

Level and Trend Component

522. The Lapse risk charge for the Level and Trend component is calculated as:

$$Lapse\ Risk\ Charge_{level}^{mgmt} = max\ (Lapse\ Risk\ Charge_{up}^{mgmt}, Lapse\ Risk\ Charge_{down}^{mgmt})$$

where

$$Lapse\ Risk\ Charge_{up}^{mgmt} = Lapse\ Risk\ Charge_{up}\ after\ management\ actions$$

$$Lapse\ Risk\ Charge_{down}^{mgmt} = Lapse\ Risk\ Charge_{down}\ after\ managment\ actions$$

$$Lapse\ Risk\ Charge_{up} = \Delta NAV\ |shock_{up}$$

$$Lapse\ Risk\ Charge_{down} = \Delta NAV\ |shock_{down}$$

$\Delta NAV \mid shock$ = Change in NAV after applying the prescribed shocks

$shock_{up}$ = Increase of X% in the assumed option take-up rates in all future years for all homogeneous risk groups adversely affected by such risk

$shock_{down}$ = Decrease of X% in the assumed option take-up rates in all future years for all homogeneous risk groups adversely affected by such risk

523. Options that allow for a reduction in insurance coverage (eg options to partially or fully terminate cover) will be affected by the increase (decrease) in take-up rates. Where an option allows for an increase (decrease) in insurance cover (eg extension of cover), the X% increase (decrease) should be applied to the rate that would apply if the option is not taken up (ie not exercised). In the case of an increase, the resulting shocked lapse rate should not exceed 100%, ie $\min[100\%, (1 + \mathrm{X}\%) \times \text{base option take up rate assumptions}]$. In the case of a decrease, the resulting shocked lapse rate should be floored at 0%, ie $\max[0\%, (1 - \mathrm{X}\%) \times \text{base option take up rate assumptions}]$.

524. The stress factor X takes the following value depending on the geographical grouping:

Table 19. Stress factors

	Stress factor (X)
EEA and Switzerland	40%
US and Canada	40%
China	40%
Japan	25%
Other developed markets	40%
Other emerging markets	40%

525. For each geographical group, $Lapse\ Risk\ Charge_{level}^{mgmt}$ should first be determined for each homogeneous risk group[34] before aggregating across all homogeneous risk groups in the same geographical group.

526. $Lapse\ Risk\ Charge_{up}$ and $Lapse\ Risk\ Charge_{down}$ should first be calculated under the condition that the scenario does not change the value of future discretionary benefits in the insurance liabilities.

527. Volunteer Groups should then determine the change in NAV, taking into account realistic management actions (eg the Volunteer Group is able to change its assumptions in future bonus rates in response to the scenario). These will give $Lapse\ Risk\ Charge_{up}^{mgmt}$ and $Lapse\ Risk\ Charge_{down}^{mgmt}$.

Example for Level and Trend component

The following example illustrates how results should be aggregated in a given Region A, assuming that there are only two homogeneous risk groups for Region A

	Base NAV				
	Assets (a)	PV Benefits (b)	PV Expenses (c)	PV Premiums (d)	Current Estimate (e)=(b)+(c)-(d)

[34] Please refer to Section 12.3.1 on Grouping of Policies for details on how grouping should be done.

Homogenous Risk Group 1	Base	100	200	20	150	70
Homogenous Risk Group 2	Base	80	100	10	50	60
Total		180	300	30	200	130

Base NAV for Region A=(100-70)+(80-60)=50

		Post Shock NAV (net of Reinsurance and before Management Actions)				
		Assets (a)	PV Benefits (b)	PV Expenses (c)	PV Premiums (d)	Current Estimate (e)=(b)+(c)-(d)
Homogenous Risk Group 1	Upward Shock	100	150	10	100	60
	Downward Shock	100	220	30	160	90
Homogenous Risk Group 2	Upward Shock	60	80	10	40	50
	Downward Shock	80	110	20	70	60

Assuming no effect of management actions

		Post Shock NAV (net of Reinsurance and after Management Actions)				
		Assets	PV Benefits	PV Expenses	PV Premiums	Current Estimate
Homogenous Risk Group 1	Upward Shock	100	150	10	100	60
	Downward Shock	100	220	30	160	90
Homogenous Risk Group 2	Upward Shock	60	80	10	40	50
	Downward Shock	80	110	20	70	60

Post shock NAV for Group 1 = Min(100-60,100-90)=10 (downward shock resulted in larger drop in NAV)

Post shock NAV for Group 2 = Min(60-50, 80-60)=10 (upward shock resulted in a larger drop in NAV)

Reported in Template for Region A

Lapse risk (Level and Trend component)

		Base NAV Net of Reinsurance	Post Shock NAV (Net of Reinsurance)[1]	Effect of management actions	Change in NAV after management actions	Change in NAV before management actions

Region A		50	20	0	30	30

Mass Lapse Component

528. The lapse risk charge for the Mass Lapse component is calculated as:

$$Lapse\ Risk\ Charge_{mass}^{mgmt} = Lapse\ Risk\ Charge_{mass}\ after\ management\ actions$$

$$Lapse\ Risk\ Charge_{mass} = \Delta NAV \mid shock$$

$where$

$\Delta NAV \mid shock =$ Change in net asset value after applying the prescribed shocks

$shock =$ immediate surrender of 30% of retail policies and an immediate surrender of 50% of non-retail policies for each homogeneous risk group

529. For each geographical group, the Mass Lapse component should first be determined for each homogeneous risk group before aggregating across all homogeneous risk groups in the same geographical group. The Mass Lapse component for each homogeneous risk group is subject to a floor of zero, ie should not be negative.

530. $Lapse\ Risk\ Charge_{mass}$ should first be calculated under the condition that the scenario does not change the value of future discretionary benefits in the insurance liabilities.

531. Volunteer Groups should then determine the change in net asset value (net of reinsurance), taking into account realistic management actions (eg the Volunteer Group is able to change its assumptions in future bonus rates in response to the scenario). This is the $Lapse\ Risk\ Charge_{mass}^{mgmt}$.

532. Both the Level and Trend component as well as the Mass Lapse component are applicable to products with dynamic lapse function[35] such as variable annuities and universal life products. The Level and Trend component shock is to be applied to the base rate of the dynamic lapse function.

[35] A dynamic lapse function typically varies the lapse rate used in the calculation of insurance liabilities depending on the difference between the return the insurer is providing on its policies and the returns provided by competitors.

12.3.7 Expense Risk

Relevant Worksheets in Template:	*FT19.ICS Risk Charges.MAV* *FT19.ICS Risk Charges.GAAP+*	*Due 31 July 2019*

533. The Expense risk charge covers both unit expense risk and expense inflation risk. Unit Expense risk is the risk of adverse change in the value of qualifying capital resources due to unexpected changes in the level of expenses incorporated within the insurance liabilities. Such expenses would include administrative and overhead expenses, management expenses and acquisition expenses excluding commissions expected to be incurred in future.

534. Expense inflation risk is the risk of expenses increasing at a higher rate than the inflation rate assumed in the calculation of insurance liabilities due to adverse changes in factors relating specifically to the insurance sector. This risk is applicable only to life business and similar to life health business.

535. The Technical Specifications for Expense risk apply both to the MAV and GAAP Plus valuation approaches. This section has been written from the perspective of the MAV approach; while somewhat different valuation data might be used for the GAAP Plus approach, the Expense risk calculation is fundamentally the same for both approaches.

12.3.7.1 Input Data Required

536. Volunteer Groups should provide the following input data:

a) The base NAV, ie the value of assets less insurance liabilities before applying the prescribed shock, net of reinsurance.

b) The base NAV after applying the prescribed shock, net of reinsurance before management actions.

c) Effects of the management actions on NAV after applying the prescribed shock.

d) Change in NAV net of reinsurance and after management actions for both the unit expense component and expense inflation component.

537. Estimates may be provided on a best-efforts basis if the Volunteer Group is unable to provide exact figures due to system constraints. If estimates are provided, please provide material assumptions or simplifications used in the Questionnaire.

538. In the Questionnaire, Volunteer Groups should provide a brief description of the management actions taken for each region for both the unit expense component and expense inflation component as well as the basis for such actions.

12.3.7.2 Output Data

539. The following output will be automatically calculated in the Template:

a) $Expense\ Risk\ Charge$= expense risk charge before management actions

b) $Expense\ Risk\ Charge^{\ mgmt}$ = expense risk charge after management actions

12.3.7.3 Calculation

540. The expense risk charge is calculated as:

$$Expense\ Risk\ Charge = \Delta NAV \mid shock$$

$where$

$\Delta NAV \mid shock$ = Change in the NAV after applying the prescribed shock

$shock$ = Increase of x% in unit expense assumptions, ie $(1 + x\%) \times$ $base\ unit\ expense\ assumptions$; and an additive increase of y% per annum in expense inflation, with x and y as follows:

Table 20. Expense risk shocks

	x% ***(unit expense)***	***y%*** ***(expense inflation)***
EEA and Switzerland	6%	1%
US and Canada	6%	1%
Japan	6%	1%
Other developed markets	8%	Year 1 – 10: 2%; Year 11 onwards: 1%
China and Other Emerging Markets	8%	Year 1 – 10: 3%; Year 11 – 20: 2%; Year 21 onwards: 1%

541. The shocks to the unit expense and expense inflation assumptions should be applied simultaneously.

542. The Expense risk charge should be first calculated under the condition that the scenario does not change the value of future discretionary benefits in the insurance liabilities.

543. Volunteer Groups should then determine the change in NAV, taking into account realistic management actions (eg the Volunteer Group is able to change its assumptions in future bonus rates in response to the scenario). This is the $Expense\ Risk\ Charge^{\ mgmt}$.

12.3.8 Premium Risk and Claims Reserve Risk

Relevant Worksheets in Template:	*FT19.ICS Risk Charges.MAV* *FT19.ICS Risk Charges.GAAP+*	*Due 31 July 2019*

544. The Technical Specifications for Premium risk and Claims Reserve risk apply both to the MAV and GAAP Plus approaches. This section has been written from the perspective of the MAV approach; while somewhat different valuation data might be used for the GAAP Plus approach, the Premium risk and Claims Reserve risk calculation is fundamentally the same for both approaches.

545. Premium risk and Claims Reserve risk are captured by a factor-based approach, with factors applied to segments within defined regions. The claims reserve factors include the effects of latent liability risk.

12.3.8.1 Geographical Segmentation

546. All data items in the worksheet will be aggregated into the following geographical segments:

a) EEA and Switzerland

b) US and Canada

c) China

d) Japan

e) Other developed markets

f) Other emerging markets

547. See Section 12.2.3 for further details on the definitions of these geographical segments.

12.3.8.2 Segments / Lines of Business

548. The tables should be completed on the basis of location of risk. This is important to ensure that the appropriate factor is applied. Where this information is not available, the location of the legal entity underwriting the business may be used as a proxy and information on this should be provided in the Questionnaire.

549. Each of the first four regions (EEA and Switzerland, US and Canada, China and Japan) is segmented into lines of business based on statutory reporting in those regions.

550. Additional jurisdictions (Australia and New Zealand, Hong Kong SAR, Korea, Singapore, Chinese Taipei) are segmented into lines of business based on statutory reporting. For jurisdictions not listed, the segmentation in the following paragraph should be used.

551. Exposures to risks in jurisdictions not listed should be reported as part of other developed or other emerging markets, using the following segmentation.

a) Motor

b) Property damage

c) Accident, protection and health (APH)

d) Short-tail medical expenses

e) Other short-tail

f) Marine, aviation, transport (MAT)

g) Workers' compensation

h) Public liability

i) Product liability

j) Professional indemnity

k) Other liability and other long tail

l) Non-proportional motor, property damage, APH and MAT

m) Catastrophe reinsurance

n) Non-proportional liability

o) Non-proportional professional indemnity

p) Mortgage insurance

q) Commercial credit insurance

r) Other medium-term

552. Definitions of ICS segments are provided at the end of this section. Each segment has been assigned:

a) An ICS category: a high level grouping of the type of business (property-like, liability-like, motor-like, other, mortgage and credit); and

b) A risk factor for the purpose of calculating the risk charge. Each bucket has been assigned a corresponding risk factor that is based on the associated risk of that segment, and the factors

are calibrated to a 99.5% VaR. Some of the risk factors for 2019 Field Testing have been updated compared to 2018 Field Testing (see below). As in 2018 Field Testing, some Claims Reserve risk factors include an uplift for latent liability risk.

12.3.8.3 Latent Liability Risk

553. The purpose of this charge is to capture risk on liability exposures that is not adequately captured by historical claims experience. Latent liability exposure can develop over many years and can also affect written business that has already been fully earned. A latent liability factor is included in these categories:

- *Line of business*: product liability; general commercial liability, employer's liability/workers' compensation;
- *Region*: EEA and Switzerland, US and Canada, China, Japan, Other developed markets, Other emerging markets; and
- *Type of business*: direct and proportional, non-proportional.

554. As such, the following segments' factors include latent liability risk:

a) *EEA and Switzerland*: General liability - third party liability, non-proportional casualty reinsurance, workers' compensation

b) *Canada*: Liability

c) *US*: Workers' compensation, commercial multi-peril, other liability–occurrence, products liability, reinsurance – non-proportional assumed liability

d) *China*: Liability

e) *Japan*: General liability, workers' compensation

f) *Australia & New Zealand:* Public and product liability, employer's liability, public and product liability (non-proportional reinsurance), employer's liability (non-proportional reinsurance)

g) *Hong Kong SAR:* General liability

h) *Korea:* Workers' accident

i) *Singapore:* Work injury compensation, public liability, other liability

j) *Chinese Taipei:* Liability – public, employer, product, etc.

k) *Other developed and emerging markets*: Workers' compensation, public liability, product liability, other liability and other long tail, non-proportional liability

12.3.8.4 Input Data Required

555. Volunteer Groups should report the following amounts for each relevant region and segment within that region:

556. Premium Risk

a) Net premium – Earned – Report the net earned premium as defined under statutory reporting in that region for the latest financial year (eg from 1 January 2018 to 31 December 2018 for end of December reporting date). The amount should be net of ceded reinsurance.

b) Net premium – To be earned (Y +1) – Report the expected premium to be earned in the next financial year (eg from 1 January 2019 to 31 December 2019 for end of December reporting date). This figure should be consistent with the business already written and include expected new business. The amount should be net of ceded reinsurance.

c) Net premium – Written – Report the net written premium as defined under statutory reporting in that country/region for the latest financial year (eg from 1 January 2018 to 31 December 2018 for end of December reporting date). The amount should be net of ceded reinsurance.

The Premium risk charge for the line of business is then calculated as the relevant risk factor multiplied by the greater of net earned premium and net premium to be earned. However when net earned premium is not reported by the Volunteer Group, net written premium will be used as a proxy.

557. Claims Reserve Risk

Net current estimate – Claims – Report the discounted net current estimate for claims as at the end of the most recent financial year (eg 31 December 2018 for end of December reporting date). For more information on the determination of current estimates, refer to Section 6.3.

The Claims Reserve risk charge for a segment is calculated as the relevant risk factor multiplied by the net current estimate (discounted).

In 2019 Field Testing, for the calculation of the Claims Reserve risk charge under US GAAP Plus, exposures are automatically adjusted within the Template to address the discrepancy between discounted and undiscounted exposures. This adjustment is defined according to the run-off pattern of the segment:

Table 21. Run-off pattern

Run-off Pattern	Discounting Factor
Short tail	98.0%
Medium tail	96.5%
Long tail	91.5%

For example, the table below shows the discounting factors to apply to the US GAAP Plus exposures for US Claims Reserve segments.

Table 22. Discounting factors

Segment	Run-off Pattern	Discounting Factor
Auto physical damage	Short tail	98.0%
Homeowners/Farmowners	Short tail	98.0%
Special property	Short tail	98.0%
Private passenger auto liability/medical	Medium tail	96.5%
Commercial auto/truck liability/medical	Medium tail	96.5%
Workers' compensation	Long Tail	91.5%
Commercial multi-peril	Long Tail	91.5%
Medical professional liability (occurrence)	Long Tail	91.5%
Medical professional liability (claims made)	Long Tail	91.5%
Other Liability – Occurrence	Long Tail	91.5%
Other Liability – Claims-Made	Long Tail	91.5%
Products liability	Long Tail	91.5%
Reinsurance – non-proportional assumed property	Medium tail	96.5%
Reinsurance – non-proportional assumed liability	Long Tail	91.5%
Special liability	Long Tail	91.5%
Mortgage insurance	Medium tail	96.5%
Fidelity/surety	Medium tail	96.5%
Financial Guaranty	Medium tail	96.5%
Other	Medium tail	96.5%
Reinsurance – non-proportional assumed financial lines	Medium tail	96.5%

12.3.8.5 Aggregation

558. Aggregation is automated within the Template. Volunteer Groups do not have to enter any data with respect to the aggregation.

559. For the purposes of Field Testing, the risk charges for each ICS segment in each region are not simply added together, thus recognising that there is diversification across lines of business and regions.

560. In 2019 Field Testing, correlation factors within each ICS category are introduced. The table below shows the newly introduced correlations within each ICS category:

Table 23. Correlation factors

Categories	Correlation factor between segments of the category
Liability-like	50%
Motor-like	75%
Property-like	50%
Other	25%

561. The first step of aggregation is to combine each ICS segment's Premium risk and Claims Reserve risk charges, applying a 25% correlation between the Premium and Claims Reserve risk charges (with the exception of mortgage and credit as outlined in the paragraph below). The second step of aggregation is within categories, where a correlation matrix is applied across segments of a given category. The third step of aggregation is within a region, where a correlation matrix is applied to each of the four aggregated IAIS categories' risk charge (applying a 50% correlation between ICS categories). The fourth step of aggregation is across regions, where a correlation matrix is applied to each region's total risk charge (applying a 25% correlation between regions).

562. Mortgage business and credit business are added across all regions and then aggregated with Real Estate risk and Credit risk, respectively.

12.3.8.6 Data Collection

563. In addition, during 2019 Field Testing there will be an assessment of the expenses allocation that are used by Volunteer Groups for the calculation of Premium risk. To help consider this issue, the following data at the group level should be reported in the table *Additional inputs for analysis + Details on the present value of future cash flows* in the worksheets *FT19.ICS Risk Charges*:

- Net Written Premium;
- Net Earned Premium;
- Net loss including loss adjustment expenses; and
- Net Expenses excluding loss adjustment expenses.

564. This data should be provided for the past five financial years (FY – 4 to FY) and projected for the forthcoming financial year (FY+1). Figures for past financial years should be based on actual results. Projected figures should align with the projections used for the Non-life Premium risk exposures.

565. Moreover, at the segment level in Table T75, the following data will be collected at the end of the most recent financial year (eg 31 December 2018 for end of December reporting date): unearned premium reserve, the undiscounted net current estimates for claims and the current estimate of the premium liability.

12.3.8.7 Definition of ICS Segments and Risk Charges

566. The following table provides the definitions of ICS segments as well as the risk charges for Premium and Claims Reserve risks.

567. The 2019 Field Testing factors reflect the results of the calibration exercises conducted since 2016 Field Testing. This effort resulted in updated factors for some segments. The calibration process is on-going and may result in changes in the future.

568. For the sake of 2019 Field Testing, the following Claim Reserve factors have been updated (factors are disclosed in bold in Table 24):

- Australia & New Zealand – Consumer credit;
- Australia & New Zealand – Other type B;
- Hong Kong SAR – Motor vehicle, damage and liability;
- Hong Kong SAR – Goods-in-transit;
- Hong Kong SAR – Fire and property damage;
- Hong Kong SAR – General liability;
- Hong Kong SAR – Non-proportional treaty reinsurance.

569. The following Premium factors have been updated:

- Japan – Automobile;
- Australia & New Zealand – Other type A;
- Australia & New Zealand – Short tail medical expenses.

Table 24. Definitions for non-life lines of business segmentation

ICS Segment	Definition	Premium risk factor	Claims Reserve risk factor including latent liability	Claims Reserve risk factor excluding latent liability
EEA and Switzerland/Medical expense insurance	Insurance obligation that covers the provision or financial compensation for medical treatment or care including preventive or curative medical treatment or care due to illness, accident, disability or infirmity.	15%	10%	10%
EEA and Switzerland/Income protection	Insurance obligation that covers the financial compensation arising from illness, accident, disability or infirmity (excluding medical expense insurance).	25%	35%	35%
EEA and Switzerland/Workers' Compensation	Health insurance obligations which relate to accidents at work, industrial injury and occupational diseases and where the underlying business is not pursued on a similar technical basis to that of life insurance.	25%	27%	25%
EEA and Switzerland/Motor vehicle liability - Motor third party liability	Insurance obligations which cover all liabilities arising out of the use of motor vehicles operating on land (including carrier's liability).	20%	15%	15%
EEA and Switzerland/Motor, other classes	Insurance obligations which cover all damage to or loss of land vehicles (including railway rolling stock).	20%	15%	15%
EEA and Switzerland/Marine, aviation and transport	Insurance obligations which cover all damage or loss to sea, lake, river and canal vessels, aircraft, and damage to or loss of goods in transit or baggage irrespective of the form of transport. Insurance obligations which cover liabilities arising out of the use of aircraft, ships, vessels or boats on the sea, lakes, rivers or canals (including carrier's liability).	35%	25%	25%
EEA and Switzerland/Fire and other damage	Insurance obligations which cover all damage to or loss of property (other than those included in motor (other) and marine/aviation/transport) due to fire, explosion, natural forces including storm, hail or frost, nuclear energy, land subsidence and any event such as theft.	17.5%	17.5%	17.5%
EEA and Switzerland/General liability - third party liability	Insurance obligations which cover all liabilities other than those in motor vehicle liability and marine, aviation and transport.	35%	27%	25%

EEA and Switzerland/Credit and suretyship	Insurance obligations which cover insolvency, export credit, instalment credit, mortgages, agricultural credit and direct and indirect suretyship.	35%	50%	50%
EEA and Switzerland/Legal expenses	Insurance obligations which cover legal expenses and cost of litigation.	15%	40%	40%
EEA and Switzerland/Assistance	Insurance obligations which cover assistance for persons who get into difficulties while travelling, while away from home or while away from their habitual residence.	15%	50%	50%
EEA and Switzerland/Miscellaneous financial loss	Insurance obligations which cover employment risk, insufficiency of income, bad weather, loss of benefit, continuing general expenses, unforeseen trading expenses, loss of market value, loss of rent or revenue, indirect trading losses other than those mentioned above, other financial loss (non-trading) as well as any other risk of non-life insurance not covered by the lines of business above.	30%	35%	35%
EEA and Switzerland/Non-proportional health reinsurance	Reinsurance on a non-proportional basis of health insurance classes.	50%	45%	45%
EEA and Switzerland/Non-Proportional Casualty reinsurance	Reinsurance on a non-proportional basis of casualty classes (motor vehicle liability and general liability).	55%	45%	40%
EEA and Switzerland/Non-proportional marine, aviation and transport reinsurance	Reinsurance on a non-proportional basis of marine, aviation and transport.	55%	40%	40%
EEA and Switzerland/Non-Proportional property reinsurance	Reinsurance on a non-proportional basis of property classes (other motor, fire, credit/suretyship, legal expenses and assistance)	45%	40%	40%
Canada/Property - personal	Insurance against the loss of, or damage to, property, and includes insurance against loss caused by forgery. It includes such classifications as habitational property and multi-peril policies, including residential contents of buildings such as apartments, rooming houses, motels, manufacturing and mercantile buildings and the liability exposure of personal package policies issued with indivisible premiums. This line would	35%	25%	25%

	include fire policies, householder contents and homeowner personal risks, residential burglary and theft and special residential glass coverage. Casualty coverage such as personal liability for bodily injury would not be included in this category.			
Canada/Home Warranty	Refers to a contract of insurance issued by a warranty provider covering defects in the construction of a new home and consequential losses or costs incurred by the owner.	30%	25%	25%
Canada/Product Warranty	Insurance not incidental to any other class of insurance against loss of, or damage to, personal property, other than a motor vehicle, under which an insurer undertakes to pay the costs of repairing or replacing the personal property.	30%	25%	25%
Canada/Property - commercial	Insurance against the loss of, or damage to, property, and includes insurance against loss caused by forgery and all commercial property and multi-peril policies, but excludes all separate classes of insurance as defined by regulators	30%	30%	30%
Canada/Aircraft	Insurance against: 1. liability arising from bodily injury to, or the death of, a person, or the loss of, or damage to, property, in each case caused by an aircraft or the use of an aircraft; or 2. the loss of, the loss of use of, or damage to, an aircraft.	45%	35%	35%
Canada/Automobile - liability/personal accident	Insurance: 1. against liability arising from bodily injury to, or the death of, a person, or the loss of, or damage to, property, in each case caused by an automobile or the use or operation of an automobile; or 2. that falls within clause (i) or (ii) of the definition of accident and sickness insurance, if the accident is caused by an automobile or the use or operation of an automobile, whether or not liability exists in respect of the accident, and the policy includes insurance against liability arising from bodily injury to, or the death of, a person caused by an automobile or the use or operation of an automobile.	35%	20%	20%
Canada/Automobile - other	Insurance against the loss of, the loss of use of, or damage to, an automobile.	35%	20%	20%

Canada/Boiler and Machinery	Insurance against: 1. liability arising from bodily injury to, or the death of, a person, or the loss of, or damage to, property, or against the loss of, or damage to, property, in each case caused by the explosion or rupture of, or accident to, pressure vessels of any kind or pipes, engines and machinery connected to or operated by those pressure vessels; or 2. liability arising from bodily injury to, or the death of, a person, or the loss of, or damage to, property, or against the loss of, or damage to, property, in each case caused by a breakdown of machinery.	30%	25%	25%
Canada/Equipment Warranty	The sub-class of boiler and machinery insurance that covers loss of or damage to a motor vehicle or to equipment arising from its mechanical failure, but does not include automobile insurance or insurance incidental to automobile insurance.	30%	25%	25%
Canada/Credit Insurance	Insurance against loss to a person who has granted credit if the loss is the result of the insolvency or default of the person to whom the credit was granted.	45%	30%	30%
Canada/Credit Protection	Insurance under which an insurer undertakes to pay off credit balances or debts of an individual, in whole or in part, in the event of an impairment or potential impairment in the individual's income or ability to earn an income.	45%	30%	30%
Canada/Fidelity	Insurance against loss caused by the theft, the abuse of trust or the unfaithful performance of duties by a person in a position of trust; and insurance under which an insurer undertakes to guarantee the proper fulfilment of the duties of an office.	45%	30%	30%
Canada/Hail	Insurance against the loss of, or damage to, crops in the field caused by hail.	35%	30%	30%
Canada/Legal Expenses	Insurance against the costs incurred by a person or persons for legal services specified in the policy, including any retainer and fees incurred for the services, and other costs incurred in respect of the provision of the services.	45%	40%	40%
Canada/Liability	Insurance, other than insurance that falls within another class of insurance: 1. against liability arising from bodily injury to a person or the disability or death of a person, including an employee; 2. against liability arising from the loss of, or damage to, property; or	50%	38%	35%

	3. if the policy includes the insurance described in sub-clause (i), against expenses arising from bodily injury to a person other than the insured or a member of the insured's family, whether or not liability exists. Includes general liability, cyber liability, directors & liability, excess liability, professional liability, umbrella liability and pollution liability.			
Canada/Mortgage	Insurance against loss caused by default on the part of a borrower under a loan secured by a mortgage or charge on, or other security interest in, real property.	45%	30%	30%
Canada/Surety	Insurance under which an insurer undertakes to guarantee the due performance of a contract or undertaking or the payment of a penalty or indemnity for any default.	45%	30%	30%
Canada/Title	Insurance against loss or damage caused by: 1. the existence of a mortgage, charge, lien, encumbrance, servitude or any other restriction on real property; 2. the existence of a mortgage, charge, lien, pledge, encumbrance or any other restriction on personal property; 3. a defect in any document that evidences the creation of any restriction referred to in sub-clause (i) or (ii); 4. a defect in the title to property; or 5. any other matter affecting the title to property or the right to the use and enjoyment of property.	35%	30%	30%
Canada/Marine	Insurance against liability arising from: 1. bodily injury to, or the death of, a person; or 2. the loss of, or damage to, property; or 3. the loss of, or damage to, property, occurred during a voyage or marine adventure at sea or on an inland waterway, or during a delay or a transit other than by water that is incidental to a voyage or marine adventure at sea or on an inland waterway.	45%	35%	35%
Canada/ Accident and Sickness		45%	30%	30%
Canada/Other Approved Products	Insurance against risks that do not fall within another class of insurance.	45%	35%	35%
US/ Auto physical damage	Any motor vehicle insurance coverage (including collision, vandalism, fire and theft) that insures against material damage to an insured's vehicle.	12.5%	10%	10%

US/ Homeowners/ Farm owners	Homeowners: coverage for personal property and/or structure with broad personal liability coverage, for dwelling, appurtenant structures, unscheduled personal property and additional living expenses. Farm owners: similar, for farming and ranching risks; property + liability coverages for personal and business losses, on farm dwellings and contents (eg mobile equipment and livestock), barns, stables, other farm structures and farm inland marine.	30%	15%	15%
US/ Special property	Various, including: fire; allied lines; inland marine; earthquake; burglary and theft. Fire insurance includes the loss to real or personal property from damage caused by the peril of fire or lightning, including business interruption, loss of rents, etc. Allied lines are coverages generally written with property insurance, eg, glass; tornado; windstorm and hail; sprinkler and water damage; explosion, riot, and civil commotion; growing crops; flood; rain; and damage from aircraft and vehicle, etc. Inland marine is coverage for property that may be in transit, held by a bailee, at a fixed location, a movable good that is often at different locations (eg, off road construction equipment), or scheduled property (eg, Homeowners Personal Floater) including items such as live animals and property with antique or collector's value. This line also includes instrumentalities of transportation and communication, such as bridges, tunnels piers, wharves, docks, pipelines, power and phone lines, and radio and television towers.	25%	17.5%	17.5%
US/ Private passenger auto liability/ medical	Coverage for financial loss resulting from legal liability for motor vehicle related injuries (bodily injury and medical payments) or damage to the property of others caused by accidents arising out of the ownership, maintenance or use of a motor vehicle. Does not include coverage for vehicles used in a commercial business.	15%	15%	15%
US/ Commercial auto/ truck liability/ medical	Similar to private passenger auto liability/medical, except for commercial vehicles.	15%	15%	15%
US/ Workers' compensation	Insurance that covers an employer's liability for injuries, disability or death to persons in their employment, without regard to fault, as prescribed by state or Federal workers' compensation laws and other statutes. Includes employer's liability coverage against the common	15%	16%	15%

	law liability for injuries to employees (as distinguished from the liability imposed by Workers' Compensation Laws). Excludes excess workers' compensation.			
US/ Commercial multi-peril	Two or more insurance coverages for a commercial enterprise, including various property and liability risks, that are included in the same policy. Includes multi-peril policies other than farmowners, homeowners and automobile policies.	30%	26%	25%
US/ Medical professional liability -- Occurrence	For a licensed health care provider or health care facility against legal liability resulting from the death or injury of any person due to the insured's misconduct, negligence, or incompetence in rendering professional services. The insurance covers events occurring during the policy coverage period.	40%	45%	45%
US/ Medical professional liability – Claims-Made	For a licensed health care provider or health care facility against legal liability resulting from the death or injury of any person due to the insured's misconduct, negligence, or incompetence in rendering professional services. The insurance covers claims presented during the period of coverage.	30%	35%	35%
US/Other Liability– Occurrence	Insurance against legal liability resulting from negligence, carelessness, or a failure to act causing property damage or personal injury to others. Typically, coverage includes liability for the following: construction and alteration; contingent; contractual; elevators and escalators; errors and omissions; environmental pollution; excess stop loss, excess over insured or self-insured amounts and umbrella; liquor; personal injury; premises and operations; completed operations; nonmedical professional, etc. Also includes indemnification coverage provided to self-insured employers on an excess of loss basis (excess workers' compensation). The insurance covers events occurring during the policy coverage period.	17.5%	28%	25%
US/Other Liability – Claims-Made	Same types of coverages as other liability – occurrence above except that the insurance covers claims presented during the period of coverage. The insurable event does not need to occur during the policy period.	15%	20%	20%

US/Products liability	Products liability - occurrence: covers events occurring during coverage period. Products liability - claims made. - covers claims made during the coverage period. Coverage for the manufacturer, distributor, seller, or lessor of a product against legal liability resulting from a defective condition causing personal injury, or damage, to any individual or entity, associated with the use of the product. Products liability - occurrence: covers events occurring during coverage period. Products liability - claims made. - covers claims made during the coverage period. Coverage for the manufacturer, distributor, seller, or lessor of a product against legal liability resulting from a defective condition causing personal injury, or damage, to any individual or entity, associated with the use of the product. Products liability - occurrence: covers events occurring during coverage period. Products liability - claims made. - covers claims made during the coverage period. Coverage for the manufacturer, distributor, seller, or lessor of a product against legal liability resulting from a defective condition causing personal injury, or damage, to any individual or entity, associated with the use of the product.	45%	47%	40%
US/Reinsurance – non-proportional assumed property	Non-proportional assumed liability reinsurance in fire allied lines, ocean marine, inland marine, earthquake, group accident and health, credit accident and health, other accident and health, auto physical damage, boiler and machinery, glass, burglary and theft and international (of the foregoing).	35%	25%	25%
US/Reinsurance – non-proportional assumed liability	Non-proportional assumed liability reinsurance in farm owners multiple-peril, homeowners' multiple-peril, commercial multiple-peril, medical professional liability, workers' compensation, other liability, products liability, auto liability, aircraft (all perils) and international (of the foregoing).	45%	39%	30%
US/Special liability	Various insurance coverages including ocean marine, aircraft (all perils), and boiler and machinery. Ocean marine is coverage for ocean and inland water transportation exposures; such as goods or cargoes; ships or hulls; earnings; and liability. Aircraft is coverage for aircraft (hull) and their contents; aircraft owner's and aircraft manufacturer's liability to passengers, airports and other third parties. Boiler and machinery is	30%	25%	25%

	coverage for the failure of boilers, machinery and electrical equipment. Coverage includes the property of the insured, which has been directly damaged by an accident, costs of temporary repairs and expediting expenses and liability for damage to the property of others.			
US/Mortgage insurance	Mortgage guaranty is indemnification of a lender from loss if a borrower fails to meet required mortgage payments.	45%	30%	30%
US/Fidelity/surety	Fidelity is a bond covering an employer's loss resulting from an employee's dishonest act (eg, loss of cash, securities, or valuables). Surety is a three-party agreement where the insurer agrees to pay a second party or make complete an obligation in response to the default, acts, or omissions of a third party.	35%	40%	40%
US/Financial Guaranty	Financial guaranty is a surety bond, insurance policy, or when issued by an insurer, an indemnity contract and any guaranty similar to the foregoing types, under which loss is payable upon proof of occurrence of financial loss to an insured claimant, oblige or indemnitee as a result of failure to perform a financial obligation.	45%	25%	25%
US/Other	Coverages not included elsewhere which includes credit coverages, warranty, and, where considered part of property/casualty, accident/health coverages. The Schedule P "International" LOB should be allocated to the region(s) where risk is located, but if this is not possible could be included in this segment.	25%	35%	35%
US/Reinsurance – non-proportional assumed financial lines	Non-proportional assumed reinsurance in the following lines: mortgage guaranty, financial guaranty, fidelity, surety, credit, and international (in the foregoing).	45%	20%	20%
Japan/Fire	This insurance covers property damage for either commercial or household caused by fire, windstorm, hail, water damage and earthquake	20%	35%	35%
Japan/Hull	This insurance covers damage of vessel.	40%	35%	35%
Japan/Cargo	This insurance covers damage on good and property in transit by vessel.	35%	40%	40%
Japan/Transit	This insurance is called as Inland marine, which covers property being transported by other than vessel or aircraft.	40%	35%	35%
Japan/Personal Accident	This insurance covers loss by accidental bodily injury. Under this insurance, policyholder is reimbursed based on actual losses occurred or	10%	15%	15%

	receives a fixed benefit due to a certain accident event.			
Japan/Automobile	This insurance covers personal injury or automobile damage sustained by the insured and liability to third parties for losses caused by the insured. Please note fleet automobile insurance should be included here.	7.5%	10%	10%
Japan/Aviation	This insurance covers aircraft, goods or property in transit by aircraft and launch to the space, and liability arising from the loss of or damage to the goods or property in transit or bodily injury or property loss or damage to third parties	50%	45%	45%
Japan/Guarantee Ins.	This insurance covers financial loss caused by the insolvency or payment default of customers to whom credit has been granted	35%	40%	40%
Japan/Machinery	This insurance protects the insured against loss incurred as a result of machinery breakdown.	35%	40%	40%
Japan/General Liability	This insurance covers any legal obligations to pay compensation and costs for bodily injury, property loss or damage to third parties.	17.5%	27%	25%
Japan/Contractor's All Risks	This insurance is purchased by contractors to cover damage to property under construction.	35%	40%	40%
Japan/Movables All Risks	This insurance covers loss or damage to property other than motor, aircraft and vessel.	17.5%	25%	25%
Japan/Workers' Compensation	This insurance covers no-fault basis compensation payments to employees who sustained bodily injury or occupational disease during or which arises out of the course of their employment, and provides employers with protections against claims which their employees make for bodily injury or occupational disease caused by tort.	35%	22%	20%
Japan/Misc. Pecuniary Loss	This insurance provides the insured with tailor-made covers for consequential losses that are not covered by any other classes of business.	35%	45%	45%
Japan/Nursing Care Ins.	This Insurance provides benefit to meet specified conditions requiring the insured to be nursed. Under this insurance, policyholder is reimbursed based on actual cost incurred or receives a fixed benefit for nursing care.	35%	45%	45%
Japan/Others	Any other non-life insurance not listed above should be included.	35%	40%	40%

China/Motor	A vehicle insurance that the object of insurance is vehicle itself and related liability to pay compensation.	10%	20%	20%
China/Property, including commercial, personal and engineering	Insurance that the object of insurance is property and related interests.	30%	45%	45%
China/Marine and Special	Insurance that the object of insurance is watercraft and related liability to pay compensation.	25%	45%	45%
China/Liability	Insurance that the object of insurance is assumed liability of the insurant to pay compensation to the third party.	10%	36%	35%
China/Agriculture	Insurance that the object of insurance is the property loss of agriculture caused by disasters.	25%	35%	35%
China/Credit	Insurance that the object of insurance is the economical loss of loaner because of the debtor's incapacity or refusing to pay for the debt.	45%	35%	35%
China/Short-term Accident	A short-term accident insurance, the object of insurance is the death or disability of insurant because of accident. The period of insurance is usually no more than one year.	10%	10%	10%
China/Short-term Health	Health insurance that the period of insurance is no more than one year and without guaranteed renewable terms.	10%	10%	10%
China/Short-term Life	A short-term life insurance, the object of insurance is the lift of insured. The period of insurance is usually no more than one year.	10%	20%	20%
China/Others	Other insurances.	35%	20%	20%
Australia&NZ/ Householders	This class covers the common Householders policies, including the following classes/risks: contents, personal property, arson and burglary. Public liability normally attaching to these products is to be separated. This class also covers proportional reinsurance of householders business.	30%	20%	20%
Australia&NZ/ Commercial Motor	Motor vehicle insurance (including third party property damage) other than insurance covering vehicles defined below under Domestic Motor. It includes long and medium haul trucks, cranes and special vehicles, and policies covering fleets. This class also covers proportional reinsurance of commercial motor.	25%	20%	20%

Australia&NZ/ Domestic Motor	Motor vehicle insurance (including third party property damage) covering private use motor vehicles including utilities and lorries, motor cycles, private caravans, box and boat trailers, and other vehicles not normally covered by business or commercial policies. This class also covers proportional reinsurance of domestic motor.	25%	20%	20%
Australia&NZ/ Other type A	Other classes of business with similar characteristics to householders and motor This class also covers proportional reinsurance of other type A.	**25%**	20%	20%
Australia&NZ/ Travel	Insurance against losses associated with travel including loss of baggage and personal effects, losses on flight cancellations and overseas medical costs. This class also covers proportional reinsurance of travel insurance.	35%	25%	25%
Australia&NZ/ Fire and ISR	Includes all policies normally classified as fire (includes sprinkler leakage, subsidence, windstorm, hailstone, crop, arson and loss of profits) and Industrial Special Risk This class also covers proportional reinsurance of fire and industrial special risk.	30%	25%	25%
Australia&NZ/Marine and Aviation	Includes Marine Hull and Marine Liability (including pleasure craft), and Marine Cargo (including sea and inland transit insurance). Also includes Aviation (including aircraft hull and aircraft liability). This class also covers proportional reinsurance of marine and aviation.	35%	25%	25%
Australia&NZ/ Consumer Credit	Insurance to protect a consumer's ability to meet the loan repayments on personal loans and credit card finance in the event of death or loss of income due to injury, illness or unemployment. This class also covers proportional reinsurance of consumer credit.	35%	**20%**	**20%**
Australia&NZ/ Other Accident	Includes miscellaneous accident, all risks (baggage, sporting equipment, guns), engineering when not part of Fire & ISR, plate glass when not package, livestock, pluvius and sickness and accident. This class also covers proportional reinsurance of other accident.	35%	25%	25%
Australia&NZ/ Other type B	Other classes of business with similar characteristics to Fire & ISR, marine, aviation, consumer credit and other accident.	35%	**30%**	**30%**

	This class also covers proportional reinsurance of other type B.			
Australia&NZ/ Mortgage	Insurance against losses to a lender in the event of borrower default on a loan secured by a mortgage over residential or other property. This class also covers proportional reinsurance of mortgage.	45%	30%	30%
Australia&NZ/ CTP	Compulsory Third Party business. This class also covers proportional reinsurance of CTP.	45%	35%	35%
Australia&NZ/ Public and Product Liability	Public Liability covers legal liability to the public in respect of bodily injury or property damage arising out of the operation of the insured's business. Product Liability includes policies that provide for compensation for loss and/or injury caused by, or as a result of, the use of goods and environmental clean-up caused by pollution spills where not covered by Fire and ISR policies. Includes builders warranty and public liability attaching to householders policies. This class also covers proportional reinsurance of public and product liability.	45%	31%	30%
Australia&NZ/ Professional Indemnity	PI covers professionals against liability incurred as a result of errors and omissions made in performing professional services that has resulted in economic losses suffered by third parties. Includes Directors' and Officers' Liability insurance plus legal expense insurance. Cover for legal expenses is generally included in this type of policy. This class also covers proportional reinsurance of professional indemnity.	45%	35%	35%
Australia&NZ/ Employers' Liability	Includes workers' compensation, seaman's compensation and domestic workers' compensation. This class also covers proportional reinsurance of employer's liability.	45%	36%	35%
Australia&NZ/ Short tail medical expenses	Insurance obligation that covers the provision or financial compensation for medical treatment or care including preventive or curative medical treatment or care due to illness, accident, disability or infirmity usually made during the term of the policy or shortly (typically, up to 1 year) after the coverage period of the insurance has expired.	**20%**	25%	25%

Australia&NZ/ Other type C	Other classes of business with similar characteristics to mortgage, CTP, and other liability. This class also covers proportional reinsurance of other type C.	45%	35%	35%
Australia&NZ/ Householders - non-prop reins	Non-Proportional reinsurance of householders business (refer definition).	45%	30%	30%
Australia&NZ/ Commercial Motor - non-prop reins	Non-Proportional reinsurance of commercial motor (refer definition).	45%	30%	30%
Australia&NZ/ Domestic Motor - non-prop reins	Non-Proportional reinsurance of domestic motor business (refer definition).	45%	30%	30%
Australia&NZ/ Other non-prop reins type A	Non-Proportional reinsurance of other type A business (refer definition).	45%	30%	30%
Australia&NZ/ Travel - non-prop reins	Non-Proportional reinsurance of travel business (refer definition).	45%	35%	35%
Australia&NZ/ Fire and ISR - non-prop reins	Non-Proportional reinsurance of Fire & ISR business (refer definition).	55%	40%	40%
Australia&NZ/ Marine and Aviation - non-prop reins	Non-Proportional reinsurance of marine and aviation business (refer definition).	55%	40%	40%
Australia&NZ/ Consumer Credit - non-prop reins	Non-Proportional reinsurance of consumer credit business (refer definition).	55%	40%	40%
Australia&NZ/ Other Accident - non-prop reins	Non-Proportional reinsurance of other accident business (refer definition).	55%	40%	40%
Australia&NZ/ Other non-prop reins type B	Non-Proportional reinsurance of other type B business (refer definition).	55%	35%	35%
Australia&NZ/ Mortgage - non-prop reins	Non-Proportional reinsurance of mortgage business (refer definition).	50%	35%	35%
Australia&NZ/ CTP - non-prop reins	Non-Proportional reinsurance of CTP business (refer definition).	55%	40%	40%
Australia&NZ/ Public and Product Liability - non-prop reins	Non-Proportional reinsurance of public and product liability business (refer definition).	55%	43%	40%
Australia&NZ/ Professional Indemnity - non-prop reins	Non-Proportional reinsurance of professional indemnity business (refer definition).	55%	40%	40%

Australia&NZ/ Employer's Liability - non-prop reins	Non-Proportional reinsurance of employer's liability business (refer definition).	55%	43%	40%
Australia&NZ/ Other non-prop reins type C	Non-Proportional reinsurance of other type C business (refer definition).	55%	40%	40%
Hong Kong/ Accident and health	Providing fixed pecuniary benefits or benefits in the nature of indemnity (or a combination of both) against risks of the persons insured 1. Sustaining injury or dying as a result of accident; or 2.Becoming incapacitated in consequence of disease; or 3. Sickness.	30%	25%	25%
Hong Kong/Motor vehicle, damage and liability	This includes 1. Insurance against the risk of the person sustaining injury or dying as a result of travelling as passenger on motor vehicle; 2. Insurance upon loss of or damage to vehicles used on land, including motor vehicles but excluding railway rolling stock; or 3. Insurance against damage arising out of or in connection with the use of motor vehicles on land, including third-party risks and carrier's liability.	25%	**15%**	**15%**
Hong Kong/Aircraft, damage and liability	This includes 1. Insurance against the risk of the person sustaining injury or dying as a result of travelling as passenger on aircraft; 2. Insurance upon aircraft or upon the machinery, tackle, furniture or equipment of aircraft; or 3. Insurance against damage arising out of or in connection with the use of aircraft, including third-party risks and carrier's liability.	45%	40%	40%
Hong Kong/Ships, damage and liability	This includes 1. Insurance against the risk of the person sustaining injury or dying as a result of travelling as passenger on marine transport; 2. Insurance upon vessels used on the sea or on inland water, or upon the machinery, tackle, furniture or equipment of such vessels; or 3. Insurance against damage arising out of or in connection with the use of vessels on the sea or on inland water, including third-party risks and carrier's liability.	45%	40%	40%
Hong Kong/Goods in transit	Insurance upon loss of or damage to merchandise, baggage and all other goods in transit, irrespective of the form of transport (ie include goods in transit via motor, aircraft, ships and other transport).	45%	**45%**	**45%**

Hong Kong/Fire and Property damage	This includes insurance against loss of or damage to property (other than property to which motor, aircraft, ships or goods in transit relates) due to 1. Fire, explosion, storm, natural forces other than storm, nuclear energy or land subsidence; or 2. hail or frost or to any event (such as theft) other than those mentioned in 1.	35%	**25%**	**25%**
Hong Kong/General liability	Insurance against risks of the persons insured incurring liabilities to third parties, the risks in question not being risks to which motor, aircraft or ships relates.	45%	**31%**	**30%**
Hong Kong/Pecuniary loss	This includes: 1. Insurance against risks of loss to the persons insured arising from the insolvency or failure of debtors of theirs; 2. Suretyship; 3. Insurance against risks attributable to interruptions of the carrying on of business carried on by them or to reduction of the scope of business so carried on; or 4. Insurance against risks of loss to the persons insured attributable to their incurring legal expenses (including costs of litigation).	45%	35%	35%
Hong Kong/Non-proportional treaty reinsurance	In the event that it is impracticable to allocate the treaty reinsurance business to the respective eight accounting classes of general business above, such business may be shown under 2 broad classes, namely, Non-proportional Treaty Reinsurance and Proportional Treaty Reinsurance	45%	**30%**	**30%**
Hong Kong/Proportional treaty reinsurance	In the event that it is impracticable to allocate the treaty reinsurance business to the respective eight accounting classes of general business above, such business may be shown under 2 broad classes, namely, Non-proportional Treaty Reinsurance and Proportional Treaty Reinsurance	35%	35%	35%
Korea/ Fire, technology, overseas	This includes fire insurance, technology insurance, original overseas insurance, reinsurance assumed from overseas. - fire insurance: insurance for residential fire, factory fire, general fire (insurance for fire in any ordinary building and movable property therein, excluding residential houses and factories) and other fire. - technology insurance: insurance for construction, assembling, machinery, electronic devices and others. The definitions for each are set out below. 1) construction: protection against damage and liability for damage to a building under construction.	25%	30%	30%

	2) assembly: protection against damage and liability for damage to a structure in assembling progress. 3) machinery: insurance for damage to machinery. 4) electronic devices: insurance for damage to electronic devices and costs and expenses for restoration of data. - original overseas insurance: insurance for property damage, bodily injury, or liability for damages in connection with any goods located in a foreign country. - reinsurance assumed from overseas: assuming other insurer's risk as a reinsurer from overseas.			
Korea/Package	This includes package insurance for household and for business. - for household: insurance for two or more types of damage among insurance for an individual person's property damage, bodily injury, and liability for damages. - for business: insurance for two or more types of damage among an enterprise's property damage, liability for damages, and insurance for bodily injury of its members.	35%	50%	50%
Korea/Maritime	This includes Marine, Transportation and aviation. More specifically this includes cargo, ship, general maritime, marine liability, transportation, aviation, space, and other maritime. 1) cargo: insurance for risks in marine transportation of cargoes. 2) ship: insurance for damage to a ship. 3) general maritime: insurance for risks in marine activities, such as risks in marine construction. 4) marine liability: protection against liability for damage on the seas, such as insurance of liability for marine contamination (excluding ship and general marine). 5) transportation: insurance for risks in cargoes in inland transportation. 6) aviation: insurance for damage to aircraft, such as operation and navigation of aircraft (property) and protection against liability for damages related to accidents of aircraft (liability for damages). 7) space: insurance for risks in successful launching and performance of missions of artificial satellites (property) and protection against liability for damages related to accidents	45%	45%	45%

	of artificial satellites (liability for damages). 8) other maritime: marine insurance products other than those classified above.			
Korea/Personal injury	This includes injury, travel and others (excluding those for foreigners). 1) injury: insurance for an insured person's bodily injury caused by a sudden and unexpected accident. 2) travel: insurance for injuries inflicted while travelling within the Republic of Korea (domestic travel), insurance for injuries inflicted while travelling abroad (overseas travel) and insurance for injuries inflicted on persons staying abroad for a long time, such as students studying abroad and personnel stationed abroad (long stay abroad). 3) others: injury insurance products not listed above.	35%	50%	50%
Korea/Workers accident, liability	This includes insurance for workers' compensation for accidents and insurance for liability. - Workers' compensation for accidents includes: 1) domestic: indemnity for accidents and employer's liability. 2) overseas: indemnity for accidents and employer's liability. 3) seafarers: indemnity for accidents and employer's liability. 4) occupational trainee: indemnity for accidents and employer's liability. - Insurance for liability includes: 1) general liability: personal liability, business liability, ship owner's liability, excursion and ferry ship business, road transportation business, gas accident, sports facilities, local government and others. 2) product liability: product liability, product recall and product guarantee. 3) professional liability: malpractice and errors and omissions (E&O).	12.5%	31%	30%
Korea/Foreigners	This includes insurance for injury, travel and others provided for foreigners.	15%	10%	10%
Korea/Advance payment refund guarantee	Insurance purchased by a builder for damage that a buyer may sustain due to non-performance of repayment of advance payment in connection of building of a ship or construction of marine facilities.	50%	50%	50%

Korea/Other Non-life	General insurance products other than those specified above.	45%	50%	50%
Korea/Private vehicle(personal injury)	Insurance that indemnifies the policyholder from the liability for damages incurred to a victim by killing or injuring another person as a consequence of an accident incurred while the insured owns or manages a vehicle, among covers provided under an automobile insurance policy for a private motor vehicle, which shall include the liability insurance under Article 5 (1) of the Guarantee of Automobile Accident Compensation Act.	15%	30%	30%
Korea/Private vehicle(property, vehicles damage)	Insurance that indemnifies the policyholder from the liability for damages incurred to another vehicle or the policyholder's own vehicle as a consequence of an accident incurred while the policyholder owns or manages a vehicle, among covers provided under an automobile insurance policy for a private motor vehicle.	25%	35%	35%
Korea/Vehicle for commercial or business purpose(personal injury)	Insurance that indemnifies the policyholder from the liability for damages incurred to a victim by killing or injuring another person as a consequence of an accident incurred while the policyholder owns or manages a motor vehicle, among covers provided under an automobile insurance policy for a motor vehicle for commercial or business purpose, which shall include the liability insurance under Article 5 (1) of the Guarantee of Automobile Accident Compensation Act.	25%	20%	20%
Korea/Vehicle for commercial or business purpose(property, vehicles)	Insurance that indemnifies the policyholder from the liability for damages incurred to another vehicle or the policyholder's own vehicle as a consequence of an accident incurred while the policyholder owns or manages a vehicle, among covers provided under an automobile insurance policy for a motor vehicle for commercial or business purpose.	25%	20%	20%
Korea/Other motor	Automobile insurance other than insurance products specified above.	15%	20%	20%
Singapore/Personal Accident	Refers to the insurance business of writing personal accident policy.	30%	25%	25%
Singapore/Health	Refers to the insurance business of writing health policy.	25%	20%	20%

Singapore/Fire	This insurance covers property damage for either commercial or household caused by fire, windstorm, hail, water damage and earthquake	30%	25%	25%
Singapore/Marine and Aviation - Cargo	Includes insurance against risk of loss or damage of any cargo in transit, and any liability arising from such cargo in transit arising from the use of a vessel or ship or aircraft.	35%	30%	30%
Singapore/Motor	Includes insurance against risk of loss, damage or liability arising out of or in connection with the use of motor vehicles.	30%	25%	25%
Singapore/Work Injury Compensation	This insurance covers compensation payments to employees who sustained bodily injury or occupational disease during or which arises out of the course of their employment.	35%	31%	30%
Singapore/Bonds	Includes maid insurance and insurance under which an insurer undertakes to guarantee (other than guarantees to which "Credit/ Credit related" relates to) the due performance of a contract or undertaking, or the payment of a penalty or indemnity for any default.	35%	30%	30%
Singapore/Engineering Construction	Includes insurance against construction, erection, or engineering risks such as the loss or damage involved in a construction project, and installation and erection of ready built-engineering projects. It also includes boiler and pressure vessel insurance, construction all risk insurance, engineering all risk insurance, erection all risk insurance, machinery all risk insurance and insurance on any other specialised equipment or machinery that are excluded from the standard property insurance.	35%	30%	30%
Singapore/Credit	Insurance protecting against the risk of non-payment of goods and services by buyers and importers.	35%	30%	30%
Singapore/Mortgage	Insurance protecting against losses on mortgage loans arising from default by borrowers.	35%	30%	30%
Singapore/Others- non liability class	Other non-liability classes not covered elsewhere.	35%	30%	30%
Singapore/Marine and Aviation - Hull	Includes insurance against risk of physical loss or damage of vessel or ship used on sea or inland water or aircraft, any liability arising from such vessel or ship or aircraft, and damage of vessel or ship or aircraft while under construction. It also includes marine terminal operator insurance and	45%	35%	35%

	airport operator insurance and insurance against aerospace risks.			
Singapore/ Professional indemnity	Includes insurance for professionals against risk of their liability to their principals, clients, principal's clients, or any third parties arising out of neglect, omission or error in the discharge of their professional duties. It also includes directors and officers liability insurance, and errors and omission insurance.	35%	35%	35%
Singapore /Public liability	Includes insurance against risk of the insured's liability to third party in respect of bodily injury, property damage or any monetary losses arising out of negligence (other than liability to which business classes "Cargo", "Marine Hull", "Aviation Hull" and "Motor" relate to).	35%	31%	30%
Singapore /Others-liability class	Other liability classes not covered elsewhere.	35%	31%	30%
Chinese Taipei / Fire - residence	Fire insurance for personal residence.	25%	40%	40%
Chinese Taipei / Fire - commercial	Fire insurance for commercial building.	55%	45%	45%
Chinese Taipei / Marine - inland cargo	Marine insurance for inland cargo.	30%	25%	25%
Chinese Taipei / Marine - overseas cargo	Marine insurance for overseas cargo.	30%	25%	25%
Chinese Taipei / Marine - hull	Marine insurance for hull.	55%	45%	45%
Chinese Taipei / Marine - fish boat	Marine insurance for fish boat/vessel.	45%	45%	45%
Chinese Taipei / Marine - aircraft	Aviation insurance for aircraft.	55%	45%	45%
Chinese Taipei / Motor - personal vehicle	Motor insurance for personal vehicle.	25%	25%	25%
Chinese Taipei / Motor - commercial vehicle	Motor insurance for commercial vehicle.	25%	25%	25%
Chinese Taipei / Motor - personal liability	Motor insurance for personal liabilities.	25%	25%	25%

Chinese Taipei / Motor - commercial liability	Motor insurance for commercial liabilities.	25%	25%	25%
Chinese Taipei / Liability - public, employer, product, etc.	Public liability insurance, employer liability insurance, product liability insurance, etc.	35%	36%	35%
Chinese Taipei / Liability - professional	Professional liability insurance.	35%	35%	35%
Chinese Taipei/ Engineering	Engineering insurance.	55%	45%	45%
Chinese Taipei / Nuclear power station	Insurance for nuclear power station.	55%	45%	45%
Chinese Taipei / Guarantee - surety, fidelity	Surety insurance, fidelity insurance, mortgage insurance, etc.	55%	45%	45%
Chinese Taipei / Credit	Trade credit insurance, credit card insurance, small-amount loan credit insurance, etc.	55%	45%	45%
Chinese Taipei /Other property damage	Property damage insurances not included in other LOBs, eg cash insurance, theft insurance, glass insurance, etc.	35%	40%	40%
Chinese Taipei / Accident	Accident insurance for personal injuries or death.	15%	10%	10%
Chinese Taipei / Property Damage - commercial earthquake	Earthquake insurance (other than compulsory earthquake insurance).	45%	35%	35%
Chinese Taipei / Comprehensive - personal property and liability	Comprehensive insurance for personal property and liabilities.	45%	45%	45%
Chinese Taipei / Comprehensive - commercial property and liability	Comprehensive insurance for commercial property and liabilities.	45%	45%	45%
Chinese Taipei / Property damage - typhoon and flood	Typhoon and flood insurance.	55%	45%	45%
Chinese Taipei / Property damage - compulsory earthquake	Compulsory earthquake insurance (compulsory for personal residence).	55%	45%	45%

Chinese Taipei / Health	Health insurance.	15%	10%	10%
OTHER/Motor	This includes: Motor property damage: Damage to own and third-party motor vehicles (and related property damage) through accident, theft, fire and weather events, excluding liability for personal injury; and Motor bodily insurances: Insurances relating to the injury or death of third parties due to or related to motor vehicles and accidents involving them. This may also extend to include the driver involved.	Devel. 30% Emerg. 35%	Devel. 20% Emerg. 25%	Devel. 20% Emerg. 25%
OTHER/ Property damage	This includes, but is not limited to: 1. Property: Insurance of house or other property (including house contents) against loss through fire, windstorm etc., insurance of contents against losses due to theft, fire, windstorm, earthquake, impact, damages, water damage, and other natural and man-made perils. Contents insurances may extend to loss or damage to property outside the home or its usual location. 2. Fire and industrial: Loss or damage and loss of earnings due to damage to commercial buildings and other physical infrastructure due to fire, windstorm and other perils. 3. Consequential losses: Products covering consequential losses (such as 'loss of profits' or 'business interruption') should also be included in this segment; 4 Construction: This includes 'construction all risks and erection all risks' (CAR/EAR) or similar written in connection with construction projects. This includes the construction and erection of infrastructure projects and buildings.	Devel. 30% Emerg. 35%	Devel. 25% Emerg. 30%	Devel. 25% Emerg. 30%
OTHER/ Accident, protection and health (APH)	This includes, but is not limited to: 1 Accident and sickness: Accident cover provides benefits if an accident result in bodily injury or death. Benefits are lump sum or periodic (typically for at most 2 years). Sickness cover is often an extension of accident insurance; 2 Other consumer accident: Property damage other than householders or motor vehicle. For example, travel insurance. 3. Other commercial accident: Commercial property insurance other than Fire and Industrial risk and MAT, and other than commercial long-term liability; 4 Consumer credit: Guarantee of repayments on consumer credit contracts due to involuntary loss of employment; 5. Consumer	35%	30%	30%

	liability: Private individual's liability for personal injury through personal actions or property			
OTHER/ Short tail medical expenses	Insurance obligation that covers the provision or financial compensation for medical treatment or care including preventive or curative medical treatment or care due to illness, accident, disability or infirmity usually made during the term of the policy or shortly (typically, up to 1 year) after the coverage period of the insurance has expired.	35%	25%	25%
OTHER/ Other short tail	Any non-Life products which do not fit into the segments above, do not fit the definition of non-life medium-term business and where claims are usually made during the term of the policy or shortly (typically, up to 1 year) up to after the coverage period of the insurance has expired.	35%	30%	30%
OTHER/ Marine, Air, Transport (MAT)	This includes: 1. All damage or loss of river, canal, lake and sea vessels, aircraft, goods in transit, liabilities from use of aircraft, ships and boats.; 2 Loss or damage to property, consequential third party liability for damages to the property of others, and consequential third party liability for personal injury to operators, passengers and other should be included.	35%	35%	35%
OTHER/ Workers' compensation	This insurance covers compensation payments to employees who sustained bodily injury or occupational disease during or which arises out of the course of their employment.	Devel. 35% Emerg. 45%	36%	35%
OTHER/ Public liability	Public liability insurance for bodily injury or damage to property.	Devel. 35% Emerg. 45%	Devel. 31% Emerg. 36%	Devel. 30% Emerg. 35%
OTHER/ Product liability	Product liability insurance for bodily injury or damage to property for claims attributed to the use of products.	Devel. 35% Emerg. 45%	Devel. 43% Emerg. 47%	Devel. 40% Emerg. 45%
OTHER/ Professional indemnity	Professional indemnity for a professional person or organisation for claims for losses legal and other) attributed to professional negligence (and related) in the services provided. For example, medical malpractice and directors and officers insurance products.	Devel. 35% Emerg. 45%	35%	35%
OTHER/ Other liability and other long tail	Any non-life products which do not fit into the defined segments above, do not fit the definition of non-life medium-term business and where claims may be made many years (typically 1 or	Devel. 35% Emerg. 45%	36%	35%

	more years) after the coverage period of the insurance has expired. All other liability classes not covered elsewhere.			
OTHER/ Non-proportional motor, property damage, APH and MAT	Non-Proportional reinsurance of motor, property damage and accident/protection/health business, marine, aviation and transport (refer definition).	50%	Devel. 40% Emerg. 45%	Devel. 40% Emerg. 45%
OTHER/ Catastrophe reinsurance	Catastrophe Reinsurance is an inwards reinsurance line of business providing excess of loss protection or proportional protection in respect of aggregate losses arising from a single event or a combination of events. Typically, such business is covering damages to property and is sold with an 'hours' clause and provides protection against natural catastrophe perils such as windstorms, earthquakes and man-made catastrophe such as acts of terrorism.	50%	Devel. 40% Emerg. 45%	Devel. 40% Emerg. 45%
OTHER/ Non proportional liability	Non-Proportional reinsurance of public liability, product liability and other liability (refer definition).	50%	Devel. 44% Emerg. 48%	Devel. 40% Emerg. 45%
OTHER/ Non-proportional professional indemnity	Non-Proportional reinsurance of professional indemnity (refer definition).	50%	Devel. 40% Emerg. 45%	Devel. 40% Emerg. 45%
OTHER/ Mortgage insurance	Indemnity to credit providers for losses due to the failure of a borrower to repay a loan secured by a mortgage over property.	Devel. 45% Emerg. 50%	Devel. 35% Emerg. 40%	Devel. 35% Emerg. 40%
OTHER/ Commercial credit insurance	Indemnity for financial losses due to the failure of a commercial entity to repay outstanding credit contracts or failure to perform contracted services or deliver contracted products other than short-term trade credit and suretyship insurance.	Devel. 45% Emerg. 50%	Devel. 35% Emerg. 40%	Devel. 35% Emerg. 40%
OTHER/ Other medium-term	Any other non-life medium-term insurance products other than the above and not included in non-life insurance segments above. This includes, but is not limited to: Financing or monetising Insurance-linked securities (ILS, for example catastrophe bonds). For example, embedded Value/Present Value of Future Profit securitisations, ILS with financial risk as material trigger condition.	Devel. 50% Emerg. 55%	40%	40%

12.3.9 Catastrophe Risk

Relevant Worksheets in Template:	*FT19.ICS Risk Charges.MAV* *FT19.ICS Risk Charges.GAAP+*	*Due 31 July 2019*

571. The Technical Specifications for Catastrophe risk apply both to the MAV and GAAP Plus approaches. This section has been written from the perspective of the MAV approach; while somewhat different valuation data might be used for the GAAP Plus approach, the Catastrophe risk calculation is fundamentally the same for both approaches.

572. Catastrophe risk covers risks associated with claims events that are yet to happen, particularly low frequency and high severity events. This includes individual major claims as well as the aggregation of multiple claims arising from a single event. Catastrophe risk affects life and non-life business. It considers all losses arising as a consequence of events occurring at any point in time in the next 12 months and should take into account expected business volumes including expected new business to be written during the next 12 months.

573. Allowance may be made for any risk mitigation arrangements, eg outwards reinsurance protection purchased, that may reduce overall Catastrophe risk. Renewal of risk mitigation arrangements with respect to non-life insurance risks may be taken into account if the Volunteer Group expects to renew them, and the costs of renewal within the time horizon are taken into account (see Section 12.2.2 on *Risk Mitigation*). The Catastrophe risk charge is calculated assuming that the payments from risk mitigation arrangements will always be fully recovered where applicable. The contingent credit risk associated with such recoveries should be assessed as part of Credit risk based on the recoverable amount determined within the catastrophe component (see Section 12.5 on *Credit risk*). The calculation of the recoverable amount by rating category is described at the end of this section. The treatment of the renewal of risk mitigation arrangements with respect to natural catastrophe risk is specified in Section 12.2.2.

574. Catastrophe risk is segmented at the risk/peril level. Peril covers both naturally occurring perils (natural catastrophe) and man-made perils/scenarios (other catastrophe) and their consequences.

12.3.9.1 Scope of Calculation

575. When calculating the Catastrophe risk charge, the Volunteer Group should consider all lines of business exposed to Catastrophe risk. For example, a natural catastrophe such as an earthquake could impact not only the residential property, commercial property, auto and marine (incl. energy offshore) lines of business, but also specie/fine art, personal accident, aviation, liability, workers' compensation and some life or health insurance lines of business. To avoid double counting with the other ICS risk charges, the following principles should be applied:

a) Life and similar to life health business should be included only for the pandemic and the terrorism scenario (see below).

b) The impact on financial markets and the whole economy (Market and Credit risks) should not be included in the calculation of Catastrophe risk.

576. The impact of catastrophe claim events should include not only the main peril (eg windstorm, earthquake), but also the secondary perils associated with the primary peril. Secondary perils can, in principle, affect all lines of business within the scope of the calculation. For example, the main peril tropical cyclone may cause secondary perils such as storm surge and events such as dam breaking as well as demand surge or loss amplification. Similarly, fire or tsunami following an earthquake, sprinkler leakage and demand surge or loss amplification should be associated with the earthquake scenario as appropriate.

577. Before performing a detailed calculation, Volunteer Groups should assess the materiality of the impact of catastrophe events based on their contractual exposure to the perils and scenarios listed. For 2019 Field Testing, if the Volunteer Group establishes that its possible exposure to a specific scenario is immaterial, then a detailed calculation is not required.

578. Volunteer Groups should report losses gross as well as net of protection from qualifying risk mitigation arrangements. The amounts reported gross of protections should be calculated net of reinstatement premium received (ie net of inward reinstatement premium). The amounts reported net of protections should take into account any reinstatement premiums received and paid (ie net of inward and outward reinstatement premium).

12.3.9.2 Input Data Required

579. Volunteer Groups should report the following perils:

a) Natural catastrophe:

   i. Tropical cyclone, hurricane, typhoon

   ii. Extra-tropical windstorm / winter-storm

   iii. Earthquake

   iv. Other material natural perils such as:

      a. Flood

      b. Tornado, hail, convective storms

      c. Other risks

b) Other catastrophe scenarios:

i. Terrorist attack

ii. Pandemic

iii. Credit and surety

12.3.9.3 Natural Catastrophe

580. For 2019 Field Testing, Volunteer Groups should report the total annual aggregate loss amounts for the perils, risk measures and confidence levels specified in the Template:

a) Losses gross of protections (eg gross of external reinsurance protections).

b) Losses net of protections (eg net of external reinsurance protections).

c) The resulting risk charge will be calculated as the difference between the 99.5th percentile and the mean of the losses net of protections.

d) The annual aggregate losses should be calculated as the aggregation of losses across all regions and perils.

581. The loss amounts should be calculated considering:

a) The impact of the natural catastrophe on all lines of business affected.

b) An allowance for non-modelled exposures including expected new business over the target time horizon of one year that could be affected by the listed perils.

c) An allowance for non-modelled perils and regions that should be reported as part of the other natural catastrophe losses. This could include perils and regions that are not modelled individually or specifically but for which potential losses are assessed using other approaches.

582. Volunteer Groups are allowed to use stochastic catastrophe models (vendor or proprietary) to calculate the loss amounts resulting from natural catastrophe events.

12.3.9.4 Other Catastrophe Scenarios

583. For catastrophe exposures other than natural perils, Volunteer Groups should report the loss amounts for the event scenarios described below. The impact of the scenarios should be calculated for all lines of business affected by the respective scenario, unless otherwise specified in the scope of the calculation.

584. For each scenario below, the loss amounts gross and net of external protections should be reported. For scenarios that are not material, Volunteer Groups may adopt a simplified and prudent approach to provide a reasonable approximation.

12.3.9.4.1 Terrorist Attack

585. The scenario is defined as the sum of the following two components:

a) Total loss of property (including building, content, motor vehicles) from insurance contracts and the impact on other insurance contracts resulting directly from the loss of property (eg business interruption); and

b) The losses from life insurance contracts, health coverage and workers' compensation.

586. For the life and non-life components, the scenario is a five-tonne bomb blast and should be calculated for the largest geographical risk concentration partly or fully located within a radius of 500 metres. In determining this concentration, all buildings (including properties for own use) should be considered. Note the largest concentration for each life and non-life component may not be the same.

587. For property damage and related covers (eg business interruption), a 100% damage ratio within a circular zone of a 200 metres radius, 25% damage ratio for the next circular zone up to a 400 metres radius and a 10% damage ratio beyond 400 metres up to 500 metres should be assumed. Property damage should take into account insured properties. For fatalities, a 15% fatality rate within a circular zone of a 200 metres radius and a 1.5% fatality rate beyond 200 metres up to 500 metres should be assumed. For disabilities, a 20% disability rate within a circular zone of a 200 metres radius, and a 10% disability rate beyond 200 metres up to 500 metres should be assumed. Fatalities and disabilities should only take into account liabilities from insurance contracts (eg life and health insurance policies). In particular liabilities to own staff not originating from insurance contracts (eg through benefits or other forms of exposure) should not be included. For life insurance liabilities for which the geographical location is not available, Volunteer Groups should make a best effort estimation of the concentration of exposures considering, in particular, group policies.

12.3.9.4.2 Pandemic

588. The scenario is defined as the increase in the number of deaths following a global pandemic.

589. The scenario should be calculated as the total loss amount to all individual and group insurance products covering Mortality risk in any part of the world resulting from the increase of 1.0 in the number of deaths per thousand insureds. Losses both gross and net of qualifying outward reinsurance should be reported in the Template.

12.3.9.4.3 Credit and Surety

590. The risk charge for this scenario is the sum of the losses calculated for the three components detailed below:

a) Mortgage insurance

b) Trade credit

c) Surety

Mortgage insurance

591. The credit stress scenario for mortgage insurance is defined as a decline in home prices that leads to an increase in default frequencies. Each Volunteer Group should apply the region-specific home price declines in the table below to each region where the Volunteer Group is active. The decline in home prices is assumed to persist for the entire one-year time period. The total loss amount should include the impact of both an increase in frequency of delinquency and defaults and an increased loss severity that result from the decline in home prices.

592. In implementing the stress scenario and to account for differences in risk profiles across various exposures and activities, Volunteer Groups should segment their portfolios and business activities into categories based on common or related risk characteristics. Companies should use appropriate models to translate the relevant risk factor (home price decline) into the financial impact (increased losses, decrease in the cures rate). Where applicable, those models that the Volunteer Group already uses to calculate stress losses, premium deficiency reserves or other loss measures should be used.

Table 25. Credit stresses for mortgage insurance

	One-year change in house price
EEA and Switzerland	-25%
US and Canada	-25%
China	-25%
Japan	-25%
Other Developed	-25%
Other Emerging	-25%

593. The scenario should be calculated as an aggregate loss amount resulting from an increase in frequency and severity due to the specified decline in home prices.

Trade Credit

594. The credit stress scenario for trade credit is defined as the total loss amount due to the inability of customers of the policyholder to pay for goods delivered and/or services provided. The trade credit coverage indemnifies the policyholder for bad debt losses incurred due to a customer's inability to pay. A policyholder's customer's inability to pay is indicated by an increase in both the probability of default and the loss given default of that customer.

595. To help approximate these total loss amounts, Volunteer Groups should first calculate their aggregate net earned premium for trade credit by external credit rating category: investment grade vs. non-investment grade. Then the following factors should be applied to net premiums earned in the past year by rating category. Considering that the scenario does not require the identification of

specific defaulting customers, the factors should be applied to the net premium earned as a way to reflect the impact of reinsurance. No further adjustment for reinsurance protection (eg non-proportional reinsurance) is required to calculate the loss amount.

Table 26. Credit stresses for trade credit

Rating category	Factor
Investment Grade	80%
Non-Investment Grade	200%

596. The investment grade and non-investment grade categories should be determined using the current rating of the policyholder's customers (if available). If a customer is not rated, the Volunteer Group may use its internal rating system or assume it is non-investment grade.

597. If the Volunteer Group is not able to apply the above factors due to internal data limitations, the company should apply a stress loss ratio equal to the worst experience that occurred between 2008 and 2010 to the net earned premium for trade credit.

598. The total loss amount should be adjusted for any existing loss mitigation, including reimbursements from policyholder, retention etc.

Surety

599. The credit stress scenario for surety is defined as the total net potential loss amount based on the penal sum of the surety bond. A surety bond indemnifies the policyholder from the principal's inability to perform its contractual obligation. The penal sum represents the maximum amount that the Volunteer Group is required to pay to the beneficiary. The Volunteer Group should calculate the largest net potential losses for its ten largest exposures to surety counterparties (principals) using the methodology described below. The total net potential loss amount will be calculated assuming that the two largest net losses have occurred, and is therefore equal to the sum of the two largest net losses.

600. The net potential loss amount for a principal is calculated using the gross exposure of the principal (after any contractual amortisation that has occurred). The loss severity model 95% probable maximum loss (PML) factor is applied to the gross exposure. For US exposures, the loss severity model 90% PML for each principal can be calculated using the most current construction loss severity model developed by the Surety & Fidelity Association of America. For non-US exposures, the Volunteer Group should use a loss severity model 95% PML worst gross loss to exposure ratio for the past 10 years in that country or for that exposure type, whichever is the most granular. Then the loss amount should be adjusted for any co-surety arrangements, acceptable cash collateral (currently in the custody of the Volunteer Group) and any reinsurance arrangements. Please use the example below as a guide.

Example of Credit Stress for Surety

	Loss calculation	Surety Exposure
1	Gross Exposure for Principal	10,000,000
2	Loss Severity Model 95% PML Factor	0.4
3	Loss Severity Model 95% PML Amount = (1) * (2)	4,000,000
4	Adjustment for co-surety (co-surety % * (3))	400,000
5	Net PML Amount after Co-surety = (3) - (4)	3,600,000
6	Acceptable cash collateral	100,000
7	Net PML amount = (5) - (6)	3,500,000
8	Adjustment for reinsurance	50,000
9	Net potential Loss amount	3,450,000

601. The co-surety amount and the adjustment for reinsurance should be calculated using existing terms of the surety exposure. In addition the Volunteer Group should only adjust for cash collateral already in custody with the firm or in a trust for which the firm is a beneficiary. As noted above, the Volunteer Group should aggregate the two largest net potential loss amount from its ten largest surety exposures and report it as the total loss amount for surety.

12.3.9.5 Aggregation of Catastrophe Risks

602. For the purpose of calculating the Catastrophe risk charge, the other catastrophe scenarios are assumed to be mutually independent and independent of the natural catastrophe perils. Consequently, the total ICS catastrophe capital charge will be calculated as follow:

$$ICS_{Cat} = \sqrt{ICS_{NatCat}^2 + ICS_{Terror}^2 + ICS_{Pand}^2 + ICS_{Credit}^2}$$

12.3.9.6 Calculation of the Recoverable Amount to be Used for the Calculation of the Contingent Credit Risk

603. For the purpose of the Catastrophe risk charge calculation, the following simplification will be applied: the recoverable amount is calculated as the difference between the risk charge for Catastrophe risk calculated as if the risk mitigation arrangements did not exist, and the risk charge for Catastrophe risk calculated taking into account qualifying risk mitigation arrangements.

604. In order to apply the Credit risk standard method, the recoverable amount is allocated by rating categories. This is done using the following steps (see an example of the calculation provided below):

a) For the aggregate of the Natural Catastrophe risk and for each other catastrophe scenario, calculate the recoveries by rating class and the gross and net losses;

b) Aggregate all gross and net losses using the aggregation approach described above. The difference between aggregated gross and net losses is the total recoverable;

c) The recoverable by rating class is equal to the total recoverable multiplied by the ratio of the sum over all scenarios of the recoveries in that rating class to the sum over all scenarios of the recoveries for all rating classes.

605. The approach is illustrated by the following example, where for simplicity, it is assumed that the terrorist attack scenario is the only other catastrophe scenario and where the Catastrophe risk charge is the square root of the sum of the square of the Natural Catastrophe risk charge and the Terrorist Attack risk charge.

Example

		Natural catastrophe	***Terrorist attack***	***Catastrophe risk charge***
Gross Loss: A	ICS RC	150	50	158
Reinsurance recoverable				
Recovery 1: B1	1	20	10	
Recovery 2: B2	1	20	10	
Recovery 3: B3	2	10	5	
Net loss: C = A - B1 - B2 - B3		100	25	103
Recoverable amount: D= A - C				55

All recoverable in ICS RC 1: B1 + B2	40	20	60
All recoverable in ICS RC 2: B3	10	5	15
% recoverable category 1 : E1 = (B1 + B2) / (B1 + B2 + B3)			80%
% recoverable category 1 : E2 = B3 / (B1 + B2 + B3)			20%
Total recoverable amount = D			55
Recoverable category 1: D * E1			44
Recoverable category 2: D * E2			11

606. The recoverable amounts by ICS RC should be reported in the column Reduction in ICS risk charges of the relevant Credit risk section of the worksheets *FT19.ICS Risk Charges* and should be subject to the risk charge for maturities of 1-2 years.

12.4 Market Risks

607. When considering Market risks, it is not only the direct impact on the value of balance sheet items that must be considered, but also the consequential impact of market changes on policyholder behaviour. For instance, with respect to policy lapses:

a) Unexpected increases in future interest rates for non-participating products may lead to the products being perceived as less attractive compared with newer insurance or investment products.

b) Reduction in bonus rates as a response to equity losses or decreases in interest rates may result in policyholders perceiving their coverage to be less valuable or attractive.

608. For the purposes of 2019 Field Testing, individual risk charges are on a pre-tax basis. When applicable, the GAAP Plus AOCI Adjustment impact on the risk charge should be evaluated on a pre-tax basis.

12.4.1 Interest Rate Risk

Relevant Worksheets in Template:	*FT19.ICS Risk Charges.MAV* *FT19.ICS Risk Charges.GAAP+*	*Due 31 July 2019*

12.4.1.1 MAV Approach

609. For 2019 Field Testing, Interest Rate risk is defined to be the aggregate of gains or losses under a set of scenarios, arising from independent sources, stressing the level and/or shape of the yield curve. The scenarios are calibrated so that, when aggregated, the result is the value at risk for the asset and liability portfolio at a 99.5% confidence level.

610. For each currency, five scenarios are specified, based on the Dynamic Nelson-Siegel yield curve model. The first scenario represents the expected mean reversion over the next year as forecast by the model. The remaining four scenarios consist of two symmetric pairs of independent stresses: a level upward (downward) stress, and a twist stress from up to down (down to up). Gains and losses are evaluated under symmetric pairs of level and twist stresses in order to capture convexity, optionality, and other nonlinear aspects of assets and liabilities.

611. For each currency, Volunteer Groups should report the loss under the mean reversion scenario, and the loss under each of the four stress scenarios. Gains should be treated as negative losses, so that losses are entered as positive amounts and gains are entered as negative amounts. Additionally, Volunteer Groups should report scenario losses both before and after management actions.

612. For a single currency, the losses under the mean reversion and stress scenarios entered into the Template are denoted by:

MR_i = Loss under mean reversion scenario

LU_i = Loss under level up stress scenario

LD_i = Loss under level down stress scenario

TU_i = Loss under twist up to down stress scenario

TD_i = Loss under twist down to up stress scenario

$N^{-1}(x)$ = Quantile function for the normal distribution

Let X_i(ie level) and Y_i(ie twist) denote independent normally distributed random variables for currency *i*. Gains or losses under a scenario where the level and twist random variables take particular values are interpolated piecewise linearly from the gains or losses under the stress scenarios. For reference points, it is assumed that if the random variable X_i takes the value

$N^{-1}(0.995)$ then the corresponding level loss is LU_i, while if X_i is $-N^{-1}(0.995)$ then the level loss is LD_i. The loss is assumed to be zero when X_i is zero. Similar reference points are used for the random variable Y_i. For given values of X_i and Y_i, the level and twist loss in the currency is then given by:

$$LT_i = \frac{1}{N^{-1}(0.995)} \times \begin{cases} LU_i \times X_i, & \text{if } X_i \geq 0 \\ -LD_i \times X_i, & \text{if } X_i < 0 \end{cases} + \frac{1}{N^{-1}(0.995)} \times \begin{cases} TU_i \times Y_i, & \text{if } Y_i \geq 0 \\ -TD_i \times Y_i, & \text{if } Y_i < 0 \end{cases}$$

$$= \frac{1}{N^{-1}(0.995)} \times (LU_i \max(X_i, 0) - LD_i \min(X_i, 0) + TU_i \max(Y_i, 0) - TD_i \min(Y_i, 0))$$

The total interest rate requirement for the currency is then equal to:

$$MR_i + \text{VaR}_{99.5}(LT_i)$$

613. Stresses are applied to the entire yield curve. To facilitate analysis of Field Testing results and improve the design and calibration of Interest Rate risk for ICS Version 2.0 for the monitoring period, limited changes are being made in 2019 compared to 2018 Field Testing:

a) The stress approach remains aligned with the three-segment approach used for valuation (see Section 6.3.15.2), with the result that the risk model only impacts the first segment fully.

b) The datasets used for calibration of the stresses to the first segment are similar (weekly interest rate observations starting at 1 January 2010).

c) The grading of the stress between the end of the first segment and the start of the third segment remains unchanged, and relies on the automatic grading that is part of the Smith-Wilson method used to interpolate and extrapolate yield curve point estimates.

d) The magnitude of the level stress on the third segment has been maintained at 10%.

614. Volunteer Groups operating in multiple jurisdictions are exposed to interest rate risk in more than one currency. For 2018 Field Testing, the interest rate risk charge for each currency (excluding the mean reversion components) was aggregated using pairwise correlation assumptions between currencies to combine the level and twist results, with the mean reversion results simply being added up. When two currencies were both impacted by the level up (or both level down), the pairwise correlation used to aggregate the level and twist individual results was 75%. When two currencies were impacted by opposite scenarios (one level up and one level down), the positive 75% correlation was replaced with negative 75%. This simplified approach was designed under the expectation that scenario results would generally be symmetric (ie the result under the level up scenario would approximately be the negative of the result under the level down scenario, and the result under the twist up to down scenario would approximately be the negative of the result under the twist down to up scenario). This expectation was not always observed in the Field Testing results.

615. To overcome the limitations of the simplified aggregation formula used in 2018 Field Testing, a refined approach is being tested in 2019. This approach is based on modelling the full joint distribution of the interest rate risk level and twist random variables X_i and Y_i across currencies while

maintaining the 75% pairwise linear correlation assumption from 2018. Under this approach, the aggregate interest rate risk requirement across currencies is given by:

$$\sum_i MR_i + \mathrm{VaR}_{99.5}\left(\sum_i LT_i\right)$$

The random variables LT_i in the above formula are functions of the level and twist components X_i and Y_i as defined in paragraph 612. The following correlations are assumed between these components:

$$\mathrm{corr}(X_i, X_j) = \mathrm{corr}(Y_i, Y_j) = 75\%, \quad i \neq j$$

$$\mathrm{corr}(X_i, Y_j) = 0\%$$

616. Because there is no simple closed form solution to obtain the aggregate requirement, the requirement is calculated using direct simulation. The simulation algorithm is based on a large number of scenarios using two random variables $\{X_i\}$ and $\{Y_i\}$ with the above correlation structure, and for each scenario calculates the quantity $\sum_i LT_i$. The aggregate requirement is the sum of all mean reversion losses and the 99.5th percentile of the level and twist sums.

12.4.1.2 Assets and Liabilities Subject to the Stress

617. The stress calculations should capture changes in the values of all assets and liabilities that are sensitive to changes in interest rates. Non-interest sensitive assets such as cash, investment income due and accrued and common shares are excluded from the calculation and should not show any change under the interest rate stresses. Subordinated debt and preferred shares held as assets are treated as interest-sensitive within the calculation, but any subordinated debt, preferred shares or other capital instruments issued by the insurer that qualify for inclusion in capital resources are treated as non-interest sensitive.

618. For insurance liabilities valued with a dynamic lapse function that uses the interest rate as an input variable, the base lapse assumption should stay unchanged, while allowing lapses to increase or decrease in reaction to interest rate movements.

12.4.1.3 GAAP Plus Approach

12.4.1.3.1 Background

619. Under the GAAP Plus valuation approach, depending on the underlying accounting and asset or liability type, the Interest Rate Risk shock impacts assets and liabilities differently.

620. For example, in the US, the valuation of variable term and participating insurance current estimates utilise a discount rate that is a blend of the portfolio return rate and the assumed reinvestment rate. There is a similar treatment for long-term life products under the Japanese GAAP

Plus approach. Assets backing those liabilities are essentially reported at amortised cost via an adjustment to capital resources referred to as the AOCI Adjustment (see Section 9.3.2). Other assets such as loans and held for investment securities may also be reported at cost if that is how they are measured on a jurisdictional GAAP basis. In addition, short duration liabilities are reported undiscounted under US GAAP Plus. For most other products under GAAP Plus, insurance liabilities are valued using market yield curves, with certain adjustments, and assets are measured at fair value.

621. A shock to a market based curve does not translate to a change in value for assets valued at cost (including assets subject to the AOCI Adjustment). In addition, it does not impact the portfolio return rate portion of the discount rate used to measure certain insurance liabilities. The shock only has an impact on the reinvestment assumption portion of the discount rate. Short duration non-life liabilities are not discounted. For this reason, Volunteer Groups should apply different methodologies to calculate their GAAP Plus Interest Rate risk charge, depending on how insurance liabilities and assets are valued under different GAAP Plus approaches.

12.4.1.3.2 Liabilities

622. For those insurance liabilities under GAAP Plus that are valued using yield curves based on current market information, the Interest Rate risk charge is calculated using the MAV approach. Thus, the MAV Interest Rate risk approach is applicable for all products under IFRS GAAP Plus including EU GAAP Plus and Chinese C-ROSS. This approach is also applicable under US GAAP Plus for liabilities measured under ASU 2018-12 and for options and guarantees. Under Japanese GAAP Plus, this approach should be applied to non-life liabilities.

623. Where long-term insurance liabilities are discounted using a blended rate of the portfolio earned rate and the reinvestment assumption in GAAP Plus valuation, the stressed IAIS yield curves only apply to the portion of the rate reflecting reinvestment assumptions at each tenor and currency.

624. Where insurance liabilities are undiscounted (eg US short-term insurance liabilities), short-term insurance liability values remain unadjusted, an Interest Rate risk shock is not applied.

12.4.1.3.3 Assets

625. For assets measured at market value, the stress is the same as that used in the standard method for MAV.

626. For assets measured at amortised cost (eg loans, bonds classified as held to maturity or held for reserves as in Japan), an Interest Rate risk shock is not applied.

627. Where unrealised gains and losses are added back to capital resources via the AOCI Adjustment (See Section 9.3.2), assets are essentially measured at amortised cost for Field Testing purposes (eg fixed income investments that back long-term insurance liabilities that have a low probability of sale or transfer), the interest rate risk stress, applied through the change in asset value

is offset by the change in the AOCI Adjustment. Therefore, the net impact of the stress is zero, or the same as for assets measured at cost.

12.4.1.3.4 Calculation and Reporting

628. Where a Volunteer Group applies more than one Interest Rate risk method, the risk charge for each of the components is required to be calculated if material. In such cases, the results of the different methodologies should be reported separately in the Template, and the total GAAP Plus Interest Rate risk charge is the sum of the charges calculated using the different methodologies.

12.4.1.4 Information Provided by the IAIS

629. Volunteer Groups should use the stressed yield curves for those currencies provided by the IAIS.

12.4.1.5 Information Required from Volunteer Groups

630. Under the stress approach for 2019 Field Testing, the changes in the values of assets and liabilities are calculated by segment for each stress scenario:

a) For asset segments please refer to Table 27.

b) For non-life liabilities, no segmentation is required – please report one figure for total non-life.

c) For life liabilities, use the segments from the worksheet *FT19.ICS Balance Sheet*.

631. The changes in value of all financial instruments used for hedging Interest Rate risk that are in place as at the reporting date should be taken into account according to Section 12.2.2 on *Risk Mitigation*.

632. The effect of management actions is determined in a two-step process. First, the selection of the shocked scenarios among the level pair (up or down) and the twist pair (steepening or flattening) is done without reflecting management actions (ie liabilities for future discretionary benefits should not be recalculated under the stress scenarios, and the gain or loss for each scenario should not assume any change in the liability for future discretionary benefits). In a second step, the scenarios selected in the first step are evaluated allowing for the effect of management actions. Management actions must take into consideration any increases or decreases to future discretionary benefits that an insurer would make under a scenario (eg because there is a gain).

Table 27. Interest Rate risk asset segmentation

Interest Rate risk asset category	Balance sheet asset segment
Bonds	Fixed Interest Government Bonds
	Fixed Interest Corporate Bonds
	Fixed Interest Municipal Bonds

	Variable Interest Government Bonds
	Variable Interest Corporate Bonds
	Variable Interest Municipal Bonds
	Convertible notes
Loans	Residential Mortgage Loans
	Commercial Mortgage Loans
	Other (non-mortgage) Loans
Structured securities	Residential Mortgage Backed Securities
	Commercial Mortgage Backed Securities
	Insurance Linked Securities
	Other structured securities
Other investments assets	Other investment assets
Assets held in separate accounts	Assets held in separate accounts
Reinsurance recoverables/assets	Reinsurance recoverables
	Other reinsurance assets
Non-investment assets	Non-investment assets
Fair values of financial instruments used for hedging	On-balance sheet value of market-related off-balance sheet exposures
	On-balance sheet value of non-market-related off-balance sheet exposures

12.4.1.6 Details on the Calibration Approach Used

633. When available, the datasets for all currencies used to calibrate the interest rate risk requirement contain weekly interest rate observations for 12 maturities – years 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, and 30 - starting on 1 January 2010. No filtering adjustment is applied to the raw dataset to derive the calibration. Over the coming years, the starting point for the data series used for calibration will continue to be 1 January 2010. This will result in the time series lengthening annually by one year.

634. The weekly observations are transformed into zero-coupon spot rates, using the same methodology as for the valuation curve – ie including a credit risk adjustment of 10 basis points when the observed instruments are not government bonds.

635. Under the Dynamic Nelson-Siegel model, the yield curve at time t is described in closed form as a linear combination of a level curve (L), a slope curve (S), and a curvature curve (C):

$$y_t(\tau) = L_t + S_t\left(\frac{1-e^{-\lambda\tau}}{\lambda\tau}\right) + C_t\left(\frac{1-e^{-\lambda\tau}}{\lambda\tau} - e^{-\lambda\tau}\right)$$

636. The dynamic of the change in the yield curve - restricted to model definitions where mean-reversion matrix is diagonal[36] - is described by the following transition equation:

[36] A fully flexible model with cross terms in the mean reversion factors (ie with non-diagonal elements in the K matrix) was also tested, without much difference.

$$\begin{pmatrix} dL_t \\ dS_t \\ dC_t \end{pmatrix} = \begin{pmatrix} \kappa_{11}^P & & \\ & \kappa_{22}^P & \\ & & \kappa_{33}^P \end{pmatrix} \left(\begin{pmatrix} \theta_1^P \\ \theta_2^P \\ \theta_3^P \end{pmatrix} - \begin{pmatrix} L_t \\ S_t \\ C_t \end{pmatrix} \right) dt + \begin{pmatrix} \sigma_{11} & 0 & 0 \\ \sigma_{21} & \sigma_{22} & 0 \\ \sigma_{31} & \sigma_{32} & \sigma_{33} \end{pmatrix} \cdot \begin{pmatrix} dW_t^{L,P} \\ dW_t^{S,P} \\ dW_t^{C,P} \end{pmatrix}$$

637. From this model specification, the DNS shocks are computed using the following algorithm.

DNS Shock Generating Algorithm

1) Fit *L*, *S* and *C* to the discrete year-end data points using least squares. That is, choose L, S and C so that the sum of the squares of the difference between L*Level Curve + S*Slope Curve + C*Curvature Curve at the terms for which there are data points, and the data points themselves, is minimised. This initial vector (L, S, C) is referred to as V_0.

2) The mean reversion shock, expressed as a (L, S, C) vector is:

$$(I - e^{-K})(\theta - V_0)$$

where I is the 3 x 3 identity matrix. This linear combination of the DNS curves gets added to the year-end rates.

3) One set of shocks that could be placed under the square root, expressed as (L, S, C) vectors, consists of the columns of the square root of the conditional covariance matrix:

$$M = \sqrt{(\Sigma\Sigma^T) \odot \left(\frac{1 - e^{-(K_i + K_j)}}{K_i + K_j} \right)_{ij}}$$

multiplied by the normal percentile $N^{-1}(0.995)$, where:

$$K = \begin{pmatrix} K_1 & & \\ & K_2 & \\ & & K_3 \end{pmatrix}$$

4) In order to reduce the workload on the insurers and keep this method comparable to the principal components approach used previously, a principal components-type analysis on the three shocks available is performed and the least significant shock is discarded[37]. Let:

$$N = \begin{pmatrix} LOT & & \\ & a & \\ & & b \end{pmatrix} M$$

where:

LOT = Last Observed Term (eg 30 for USD) $a = \sum_{\tau=1}^{LOT} \frac{1 - e^{-\lambda\tau}}{\lambda\tau}$, $b = \sum_{\tau=1}^{LOT} \left(\frac{1 - e^{-\lambda\tau}}{\lambda\tau} - e^{-\lambda\tau} \right)$

[37] The remaining two shocks account for around 99% of the requirements.

Diagonalise the matrix $N^T N$, and let e_1 and e_2 be the two orthonormal eigenvectors of $N^T N$ (with $\|e_1\| = \|e_2\| = 1$) that have the largest eigenvalues (ie the eigenvector with the lowest eigenvalue is discarded). The remaining shocks are defined by Me_1 and Me_2.

5) A rotation is applied on these shocks[38] in order to produce equivalent shocks, where the second shock can be characterised as a twist shock. The characteristic of a twist is that the shocks at some terms are up, and at others the shocks are down. To make things definite, a shock curve is defined to be a twist if the sum of the shocks is zero. The corresponding rotated first shock is assumed to be mostly a level shock.

Let θ be the rotation angle, ie the rotated vectors are defined by $Twist = (\cos(\theta)Me_2 - sin(\theta)Me_1)$ and $Level = (\cos(\theta)Me_1 + sin(\theta)Me_2)$.

Let $S_1(\tau)$ and $S_2(\tau)$ be the shocks at term τ corresponding to the vectors Me_1 and Me_2. The twist definition used implies that θ satisfies:

$\sum_{\tau=1}^{LOT}(\cos(\theta)S_2(\tau) - \sin(\theta)\, S_1(\tau)) = 0$

Or equivalently $\tan(\theta) = \frac{\sum_{\tau=1}^{LOT} S_2(\tau)}{\sum_{\tau=1}^{LOT} S_1(\tau)}$

6) The final shocks are defined by $Twist\ shock = N^{-1}(0.995) * (\cos(\theta)Me_2 - sin(\theta)Me_1)$ and $Level\ shock = N^{-1}(0.995) * (\cos(\theta)Me_1 + sin(\theta)Me_2)$.

7) The actual shocked curves are equal to the year-end curve plus or minus the linear combination of DNS curves, with coefficients taken from the components of the vectors $Level\ shock$ and $Twist\ shock$. For example, if $Twist = (\cos(\theta)Me_2 - sin(\theta)Me_1)$ is equal to:

$$\begin{pmatrix} -0.001 \\ 0.002 \\ 0.01 \end{pmatrix}$$

then the corresponding shocked curves are:

$$\text{Year-end curve} \pm N^{-1}(0.995) * (-0.001\ \text{Level Curve} + 0.002\ \text{Slope Curve} + 0.01\ \text{Curvature Curve})$$

[38] This is equivalent to applying a rotation on the eigenvectors, thus preserving the independence property.

12.4.2 Non-Default Spread Risk

Relevant Worksheets in Template:	*FT19.ICS Risk Charges.MAV* *FT19.ICS Risk Charges.GAAP+*	*Due 31 July 2019*

12.4.2.1 2019 Field Testing Approach

638. Non-Default Spread Risk (NDSR) aims to capture unexpected changes in the level or volatility of spreads over the risk-free yield curve, excluding the default component (which is captured in Credit risk).

639. The stress is bi-directional. For the down shock, a combination of an absolute and a relative stress is used. This prevents a positive spread from becoming negative after applying the shock. The treatment is simpler for the up-shock where only an absolute shock is used.

NDSR = MAX (Up stress; Down stress; 0)

640. The calibration for 2019 Field Testing is provided in the following table:

Table 28. Stresses for Non-Default Spread risk

ICS RC	Up (in bps)	Down[39] (in bps)
1	+50	-50
2	+50	-50
3	+70	-70
4-7	+100	-100
Subject to the relative limit, which is applied to the spread over the base yield curve, defined by:		
Relative limit	No relative limit	50%

641. The stresses are calculated using spreads after risk correction. For insurance liabilities, the calculated stress is applied as a parallel shift to the spread adjustment, as specified for valuation purposes.

[39] The calculation of the absolute down stress is limited to 0 (no negative spread adjustment).

Example of calculation of the stress

Currency X	Current Spread	Up Shock	Resulting Spread (Up Shock)	Down Shock	ABS down	REL down (50%)	Resulting Spread (Down Shock)
	A	B	C = A+B	D	E=A+D	F=0.5xA	=max(E,F)
ICS RC 1	63.8	+50	113.8	-50	13.8	31.9	31.9
ICS RC 2	57.3	+50	107.31	-50	7.3	28.7	28.7
ICS RC 3	111.2	+70	181.2	-70	41.2	55.6	55.6
ICS RC 4 & lower	116.7	+100	216.7	-100	16.7	58.4	58.4

12.4.2.2 Assets and Liabilities Subject to the Stress

642. The stress calculations should capture changes in the values of all assets and liabilities that are sensitive to changes in spreads. For simplicity, the same assets that contribute to the calculation of the valuation spread adjustments (Table 7) should be subject to the stress, with the exception identified in the next paragraph.

643. Sovereign assets are excluded from the scope of the NDSR stress. This is consistent with the approach adopted in the Credit risk module.

644. Insurance liabilities are also included in the scope of the NDSR stress. The application of the stress results in a re-calculation of the spread adjustments, as determined for valuation purposes (this means that the same specification of the discounting methodology is used, only the spreads considered are wider/narrower), using the information provided by the IAIS.

12.4.2.3 GAAP Plus Approach

12.4.2.3.1 Background

645. Under the GAAP Plus approach, depending on the underlying accounting and asset or liability type, the NDSR shock impacts assets and liabilities differently.

646. For example, in the US, the valuation of variable term and participating contract insurance current estimates utilises a discount rate that is a blend of the portfolio return rate and a reinvestment

assumption. There is a similar treatment for long-term life products under the Japanese GAAP Plus approach. Assets backing those liabilities are essentially reported at amortised cost via an adjustment to capital resources referred to as the AOCI Adjustment (see Section 9.3.2). Other assets such as loans and held for investment securities may also be reported at cost if that is how they are measured on a jurisdictional GAAP basis. In addition, short duration liabilities are reported undiscounted under US GAAP Plus. For most other products under GAAP Plus, insurance liabilities are valued using market yield curves, with certain adjustments, and assets are measured at fair value.

647. A shock for NDSR does not translate to a change in value for assets valued at cost (either via the AOCI Adjustment or for assets valued at cost that are not reported at fair value on the GAAP Plus balance sheet). In addition, it does not impact the portfolio return rate portion of the discount rate used to measure certain insurance liabilities. The shock would only have an impact on the reinvestment assumption portion of the discount rate. For short duration non-life liabilities, there is no discounting. For this reason, Volunteer Groups should apply different methodologies to calculate their GAAP Plus NDSR charge, depending on how insurance liabilities and assets are valued under different GAAP Plus approaches.

12.4.2.3.2 Liabilities

648. For insurance liabilities measured using yield curves based on current market information, the impact of the NDSR shock is calculated by applying the MAV approach. Thus, the MAV NDSR approach is applicable for all products under IFRS GAAP Plus including (EU GAAP Plus) and Chinese C-ROSS. This approach would also be applicable for under US GAAP Plus for liabilities measured under ASU 2018-12 as well as options and guarantees. Japanese GAAP Plus would apply this approach to non-life liabilities.

649. For insurance liabilities that are discounted using a portfolio earned rate/curve blended with a reinvestment rate assumption, the NDSR shock is applied to the reinvestment rate only using the NDSR stressed IAIS yield curves at each tenor for each currency.

650. For insurance liabilities that are discounted using a portfolio earned rate/curve blended with a reinvestment rate based on the government bond rate (eg Japanese life liabilities), a shock is not applied.

651. For insurance liabilities that are reported undiscounted (eg US short-term insurance liabilities), a shock is not applied.

12.4.2.3.3 Assets

652. For assets measured at fair value, using yield curves based on current market information, the impact of the NDSR shock is calculated by applying the MAV approach.

653. For assets measured at cost, a shock is not applied.

654. Where unrealised gains and losses are added back to capital resources via the AOCI Adjustment (see Section 9.3.2), assets are essentially being measured at amortised cost for Field Testing purposes (eg fixed income investments that back long-term insurance liabilities that have a low probability of sale or transfer), the NDSR stress is applied through the change in asset value which is offset by the change in the AOCI Adjustment. Therefore, the net impact of the stress is zero, or the same as for assets measured at cost.

12.4.2.4 Information Provided by the IAIS

655. Yield curves including stressed spread adjustments are provided for the General Bucket of the Three-Bucket Approach, for the currencies for which the IAIS has provided base yield curves. The IAIS-provided stressed spreads used in this calculation, should be also used by Volunteer Groups to determine the stressed yield curves under the Middle and Top Buckets of the Three-Bucket Approach.

12.4.2.5 Additional Information Required from Volunteer Groups

656. Volunteer Groups should report the change in the value of assets and liabilities for each bucket of the Three-Bucket Approach (central scenario).

12.4.3 Equity Risk

Relevant Worksheets in Template:	*FT19.ICS Risk Charges.MAV* *FT19.ICS Risk Charges.GAAP+*	*Due 31 July 2019*

657. The Technical Specifications for Equity risk apply both to the MAV and GAAP Plus approaches. This section has been written from the perspective of the MAV approach. While somewhat different valuation data might be used for the GAAP Plus approach, the Equity risk calculation is fundamentally the same for both approaches.

12.4.3.1 Definition of Equity Risk

658. Equity risk is defined as the risk of adverse changes in the value of capital resources due to unexpected changes in the level or volatility of the fair value of equities.

659. In 2019 Field Testing, Equity risk should capture all direct and indirect impacts of the equity stress scenario on the financial situation of the Volunteer Group. Equity risk exposures refer to all assets and liabilities with values sensitive to changes in the level or volatility of the fair value for equities. Changes were made to the applied volatility stresses for 2019 Field Testing to raise the short-term and lower the long-term implied volatility.

660. Indirect impacts are linked to products held by Volunteer Groups that may be sensitive to a change in value or behaviour of the equity prices. Such indirect exposures may include, but are not limited to:

a) Mutual funds invested in equity (see Sections 3.3 and 12.2.1 on *Look-through*)

b) Derivatives sensitive to equity prices and/or volatilities

c) Unit-linked products (especially those providing guarantees)

d) Participating products that are linked to equity values

e) Equity linked variable annuities

12.4.3.2 Segmentation

661. For the calculation of the Equity risk charge, the following segmentation is used in the Template:

a) Listed equity in developed markets

b) Listed equity in emerging markets

c) Hybrid debt / preference shares

d) Other equity

662. Listed equity in developed markets includes equities listed on the securities exchanges of jurisdictions included in the FTSE Developed Index: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong SAR, Ireland, Israel, Italy, Japan, Korea, Netherlands, New Zealand, Norway, Poland, Portugal, Singapore, Spain, Sweden, Switzerland, UK, and US.

663. For the purposes of 2019 Field Testing, any jurisdiction not included in the FTSE Developed Index is considered an emerging market.

664. Preference shares are defined as a company's shares that generally entitle the holder to receive dividends (often fixed) before common share dividends are paid, and that are to be paid out before common shares in the event of bankruptcy, but that do not have any voting rights. All subordinated debt is included in the segment hybrid debt/preference shares and consequently does not bear any Credit risk charge.

665. The segment other equity is comprised of unlisted equities, hedge funds, limited partnerships, commodities, infrastructure equity and other alternative investments.

666. The value for each of these asset segments should be provided before and after applying the stress scenario. Separate columns are provided for direct and indirect ownership of equity and derivatives.

667. The impact on insurance liabilities should be reported in the Template, separately for life and non-life business, following the general IAIS segmentation (please refer to Annex 1). The impact on reinsurance recoverables/assets should be disclosed separately.

668. The impact on non-insurance liabilities should also be reported in the Template.

12.4.3.3 Calculation of the Equity Risk Charge

669. The risk charge for Equity risk is calculated as the change in NAV following the occurrence of the stress scenario described below, taking into account all of the Volunteer Group's direct and indirect exposures to Equity risk as defined above.

670. The impact of the stress scenario should be calculated before and after management actions.

671. The impact of the stress scenario calculated measuring the level and volatility shock separately after management actions is the Equity risk charge.

672. Additionally, data is requested to analyse the impact of the stress scenario when measuring the level and volatility shock together.

12.4.3.3.1 Stress Scenario

673. The stress scenario is a shock consisting of four level scenarios (one for each asset segment) and one volatility scenario as defined below:

a) Instantaneous decrease by 35% of the market prices of all listed shares in developed markets.

b) Instantaneous decrease by 48% of the market prices of all listed shares in emerging markets.

c) Instantaneous decrease of the market prices of hybrid debt/preference shares by x%, which varies based on the ICS RC of the asset:

Table 29. Stresses for hybrid debt/preference shares

ICS RC	x%
1-2	4%
3	6%
4	11%
5	21%
6-7	35%

d) Instantaneous decrease by 49% of the market prices of all assets classified as other equity (see paragraph 665).

e) Instantaneous absolute increase by x% of the implied volatilities of all the asset classes listed above, with x having the following values (eg an initial implied volatility level of 25% plus a shock of 39% equals a post shock of 64%):

Table 30. Absolute stresses for implied volatilities

Maturity (months)	Shock
0-1	42%
3	28%
6	23%
12	20%
24	17%
36	16%
48	15%
60	14%

84	14%
120	12%
144	11%
180	10%
240	7%
300	4%
360 and above	0%

f) For maturities not specified above, the increase is interpolated linearly.

12.4.3.3.2 Calculating the Equity Risk Charge by Measuring the Level and Volatility Shocks Separately

674. The aggregation of Equity risk when running the level and volatility shocks separately consists of the following two steps:

a) Step 1: The total level risk is calculated by aggregating the impact of the stress for each level scenario using the following correlation matrix (ie the diversification effect between each level scenario is taken into account):

Table 31. Equity correlation matrix

Equity segment	Developed	Emerging	Hybrid/preferred	Other
Developed	100%	75%	100%	75%
Emerging	75%	100%	75%	75%
Hybrid/preferred	100%	75%	100%	75%
Other	75%	75%	75%	100%

b) Step 2: The total Equity risk charge is calculated by summing the total level risk in a) above and the impact of the stress under the volatility scenario.

12.4.3.3.3 Calculating the Equity Risk Charge by Measuring the Level and Volatility Shocks Together

675. The Equity risk charge when measuring the level and volatility shocks together consists of the following two steps:

a) Step 1: The risk before diversification is calculated by assuming that the four level scenarios and the volatility scenario happen simultaneously.

b) Step 2: The total Equity risk charge is calculated by applying a diversification factor on the risk before diversification. The diversification factor is the observed diversification of the level scenarios when the Equity risk charge is calculated by measuring the level and volatility shocks separately.

12.4.4 Real Estate Risk

Relevant Worksheets in Template:	*FT19.ICS Risk Charges.MAV* *FT19.ICS Risk Charges.GAAP+*	*Due 31 July 2019*

676. Real Estate risk is defined as the risk of adverse changes in the value of capital resources due to unexpected changes in the level or volatility of market prices of real estate or from the amount and timing of cash flows from investments in real estate.

677. In the GAAP Plus approach, the Real Estate risk charge for owner occupied property is calculated as the difference, if positive, of the balance sheet value on the reporting date less 75% of the property's fair value on the reporting date. If the fair value of such a property is not available, the risk charge is 25% of the property's book value. The risk charge is determined on a property-by-property basis.

678. The shock is represented by a change in the level of real estate prices without distinguishing between commercial, residential and real estate for own use.

679. Real estate exposures subject to this risk include both direct and indirect exposures to real estate (see Sections 3.3 and 12.2.1 on *Look-through*).

680. Direct exposure includes real estate held for own use. When such assets are not carried on the ICS balance sheet at their fair value, the exposure should be adjusted to the fair value.

681. Residential and commercial mortgages are not included in Real Estate risk (see Section 12.5 on *Credit risk*).

682. The Non-life risk charge stemming from mortgage insurance is added to Real Estate risk.

683. Investments in companies engaged in real estate management, facility management or real estate administration, or investments in companies engaged in real estate project development or similar activities are excluded from Real Estate risk for 2019 Field Testing.

12.4.4.1 Results (Real Estate Risk Summary)

684. After Management Actions – The Real Estate risk charge is defined as the change in NAV after applying the prescribed stress and after management actions (see Section 12.2.4 on *Management Actions*), and is calculated automatically within the Template based on input data.

685. Before Management Actions – The change in NAV before management actions is calculated automatically within the Template based on input data.

12.4.4.2 Input Data

686. Input data required for this risk charge are:

a) Value Pre-Shock – The pre-shock value of assets and liabilities sensitive to real estate price changes, including direct and indirect exposures, for

   i. Commercial investment real estate, including:

      a. Direct ownership

      b. Indirect

   ii. Residential investment real estate, including:

      a. Direct ownership

      b. Indirect

   iii. Real Estate for own use

   iv. Other assets whose value is impacted by a change in real estate values

   v. Liabilities – this includes liabilities (both insurance and other) whose value is impacted by a change in real estate values

b) Post-Shock NAV before management actions – The NAV after applying the prescribed shock, before management actions, but including any direct effect on current estimates values (eg unit-linked current estimates);

c) Effect of management actions – Effects of the management actions on NAV after applying the prescribed shock. This should be entered as a positive number.

12.4.4.2.1 Calculation

687. The Real Estate risk charge is calculated as:

$$Real\ estate\ Risk\ Charge = \Delta NAV \mid shock$$

where

$\Delta NAV \mid shock$ = Change in NAV after applying the prescribed shock

$shock$ = simultaneous decrease of 25% in the value of all property exposures

12.4.5 Currency Risk

Relevant Worksheets in Template:	*FT19.ICS Risk Charges.MAV* *FT19.ICS Risk Charges.GAAP+*	*Due 31 July 2019*

688. The Technical Specifications for Currency risk apply both to the MAV and GAAP Plus approaches. This section has been written from the perspective of the MAV approach; while somewhat different valuation data might be used for the GAAP Plus approach, the Currency risk calculation is fundamentally the same for both approaches.

689. The look-through approach should be applied on a best efforts basis for 2019 Field Testing. The approach set out in the *Currency risk* Section requires granular data that may not be readily available from indirect investments. Volunteer Groups may need to make assumptions about currency exposures from indirect investment vehicles. Volunteer Groups should report these assumptions in the Questionnaire.

690. Currency risk exposures consist of 35 predefined currencies. A World Bucket[40] is provided for exposures in any currency not included in the predefined list. In choosing the currencies to report, the general principles of best efforts and proportionality should be taken into account.

691. In the table of exposures, report the net open position in each currency. Net long positions should be reported as positive entries, and net short positions should be reported as negative entries. All positions should be reported in units of the Volunteer Group's base currency, converted using spot exchange rates in effect at the reporting date. The net open position for each currency is calculated by deducting up to 10% of net insurance liabilities in each currency from the sum of the following:

a) The net spot position, defined as all asset items less all liability items, including accrued interest and accrued expenses.

b) The net forward position, defined as all net amounts under forward foreign exchange transactions, including currency futures and the interest and principal on currency swaps.

c) The delta equivalent amounts of currency options.

d) Guarantees and similar instruments that are certain to be exercised and are likely to be irrevocable.

e) At the discretion of the Volunteer Group, net future income and expenses not yet accrued but already fully hedged.

f) Any other item representing a profit or loss in the foreign currency.

[40] The one exception to the World bucket is the BND. The stresses for the BND are the same as the SGD. BND against the SGD will receive the lowest stress factor, which is 5%.

692. The deduction of up to 10% of net insurance liabilities should only be applied to long positions and may not change any long position to a short position. This deduction should approximate the percentage of capital requirements over net insurance liabilities needed to maintain operations (subsidiaries or branches) in the foreign jurisdiction of the currency involved in the long position. Therefore, if a group has assets and/or liabilities in a currency other than the base currency, but has no operations in the foreign jurisdiction of the currency, the deduction should not apply.

693. The net open currency position should exclude assets that are fully deducted from capital resources (eg goodwill), and liability items that qualify for inclusion in consolidated capital resources (eg subordinated debt).

694. The net insurance liability reported for each currency should consist of gross insurance liabilities (excluding MOCE and DTA on MOCE for 2019 Field Testing) net of any reinsurance assets, plus all deferred tax assets and liabilities associated with the insurance liabilities and reinsurance assets. This amount as well as the net open position both before and after the offset should be reported within the Currency risk section of the worksheets *FT19.ICS Risk Charges.*

695. Forward currency positions should be valued at spot market exchange rates as at the balance date. Volunteer Groups should not use forward exchange rates, as these rates reflect current interest rate differentials.

696. A Volunteer Group's net capital investment in a foreign subsidiary includes all positions arising from instruments issued by the subsidiary to the Volunteer Group that meet the criteria for qualifying capital resources. If the Currency risk relating to a capital investment in a foreign subsidiary is hedged, the currency position for the investment should be reported net of the associated hedges (please refer to Section 12.2.2).

697. Report the new value of each net open currency position under the following stress scenarios:

a) Scenario 1: All of the currencies in which the Volunteer Group has a net long position decrease in value, while all of the currencies in which the Volunteer Group has a net short position remain unchanged. The amount of the decrease of each foreign currency relative to the reporting currency is found in the currency stress matrix in Table 32 below. Volunteer Groups should look up the reference currency (in the far left column) and the other currency (in the top row) within the matrix to determine the amount of the decrease.

b) Scenario 2: All of the currencies in which the Volunteer Group has a net short position increase in value, while all of the currencies in which the Volunteer Group has a net long position remain unchanged. The amount of the increase of each foreign currency relative to the reporting currency is found in the currency stress matrix in Table 32. Volunteer Groups should look up the reference currency (in the far left column) and the other currency (in the top row) within the matrix to determine the amount of the increase.

698. For each scenario, the losses by currency are aggregated using a correlation formula for which the assumed correlation of losses between each pair of foreign currencies is 50%. The Currency risk charge is equal to the higher of the aggregated losses incurred under the two scenarios.

Table 32. Currency risk stress matrix

	Against											
Ref Curr	AUD	BRL	CAD	CHF	CLP	CNY	COP	CZK	DKK	EUR	GBP	HKD
AUD	0%	50%	25%	40%	35%	40%	40%	35%	35%	35%	35%	40%
BRL	50%	0%	50%	65%	50%	55%	55%	60%	60%	60%	55%	55%
CAD	25%	50%	0%	35%	30%	25%	35%	35%	30%	30%	30%	25%
CHF	40%	60%	35%	0%	45%	30%	45%	25%	20%	20%	30%	35%
CLP	35%	50%	30%	45%	0%	30%	40%	40%	40%	40%	35%	30%
CNY	35%	55%	25%	35%	30%	0%	35%	35%	30%	30%	25%	5%
COP	40%	55%	35%	50%	40%	35%	0%	45%	45%	45%	40%	35%
CZK	35%	55%	35%	30%	40%	35%	45%	0%	15%	15%	30%	35%
DKK	35%	55%	30%	20%	35%	30%	40%	15%	0%	5%	25%	30%
EUR	35%	55%	30%	20%	35%	30%	40%	15%	5%	0%	25%	30%
GBP	35%	55%	30%	30%	35%	25%	40%	30%	25%	25%	0%	25%
HKD	35%	55%	25%	35%	30%	5%	35%	35%	30%	30%	25%	0%
HUF	40%	60%	40%	35%	45%	45%	50%	25%	25%	25%	35%	45%
IDR	45%	60%	40%	50%	45%	35%	45%	50%	45%	45%	45%	35%
ILS	35%	55%	30%	35%	35%	25%	35%	35%	30%	30%	30%	25%
INR	35%	50%	25%	35%	30%	20%	35%	35%	30%	30%	30%	15%
JPY	50%	65%	40%	35%	45%	30%	50%	45%	35%	35%	40%	30%
KRW	30%	50%	25%	40%	30%	25%	35%	35%	35%	35%	30%	25%
MXN	35%	50%	30%	45%	35%	30%	35%	40%	40%	40%	40%	30%
MYR	35%	50%	25%	35%	30%	15%	30%	35%	30%	30%	25%	15%
NOK	35%	55%	30%	30%	40%	35%	40%	25%	20%	20%	30%	35%
NZD	20%	55%	30%	40%	40%	40%	45%	40%	35%	35%	35%	40%
PEN	35%	50%	25%	35%	30%	15%	30%	35%	30%	30%	30%	15%
PHP	35%	50%	25%	35%	30%	15%	35%	35%	30%	30%	30%	15%
PLN	35%	55%	35%	40%	40%	40%	45%	25%	25%	25%	35%	40%
RON	35%	50%	35%	30%	40%	30%	45%	25%	20%	20%	30%	30%
RUB	45%	60%	40%	50%	40%	35%	45%	45%	40%	40%	45%	35%
SAR	40%	55%	25%	35%	30%	5%	35%	35%	30%	30%	25%	5%
SEK	35%	55%	30%	30%	40%	35%	45%	25%	20%	20%	30%	35%
SGD	30%	50%	20%	30%	30%	15%	30%	30%	25%	25%	25%	15%
THB	35%	55%	30%	35%	30%	20%	35%	35%	30%	30%	30%	20%
TRY	70%	75%	70%	75%	70%	70%	75%	70%	70%	70%	70%	70%
TWD	35%	50%	25%	30%	30%	10%	35%	35%	25%	25%	25%	10%
USD	40%	55%	25%	35%	30%	5%	35%	35%	30%	30%	25%	5%
ZAR	45%	60%	45%	55%	50%	55%	55%	50%	50%	50%	50%	55%

	Against											
Ref Curr	HUF	IDR	ILS	INR	JPY	KRW	MXN	MYR	NOK	NZD	PEN	PHP
AUD	40%	45%	35%	35%	50%	30%	35%	35%	35%	20%	40%	35%
BRL	60%	60%	55%	55%	70%	50%	50%	50%	55%	55%	55%	55%

CAD	40%	40%	30%	25%	40%	25%	30%	25%	30%	30%	25%	25%
CHF	35%	50%	35%	35%	35%	40%	45%	35%	25%	40%	35%	35%
CLP	45%	45%	35%	30%	45%	30%	35%	30%	40%	40%	30%	30%
CNY	45%	35%	25%	15%	30%	25%	30%	15%	35%	40%	15%	15%
COP	50%	45%	35%	35%	50%	35%	35%	30%	40%	45%	35%	35%
CZK	25%	50%	35%	35%	45%	35%	40%	35%	25%	40%	35%	35%
DKK	25%	45%	30%	30%	35%	30%	40%	30%	20%	35%	30%	30%
EUR	25%	45%	30%	30%	35%	35%	40%	30%	20%	35%	30%	30%
GBP	35%	45%	30%	30%	40%	30%	35%	25%	30%	35%	30%	30%
HKD	45%	35%	25%	15%	30%	25%	30%	15%	35%	40%	15%	15%
HUF	0%	55%	40%	40%	55%	40%	45%	40%	30%	40%	45%	45%
IDR	55%	0%	40%	35%	50%	40%	45%	35%	45%	50%	35%	35%
ILS	40%	40%	0%	25%	40%	30%	30%	25%	35%	40%	25%	25%
INR	40%	35%	25%	0%	35%	25%	30%	20%	35%	35%	20%	20%
JPY	50%	50%	40%	35%	0%	40%	50%	35%	40%	50%	35%	35%
KRW	40%	40%	30%	25%	40%	0%	30%	25%	35%	35%	25%	25%
MXN	45%	45%	35%	30%	50%	30%	0%	25%	40%	40%	30%	30%
MYR	40%	35%	25%	20%	35%	25%	25%	0%	30%	35%	20%	20%
NOK	30%	45%	35%	35%	40%	35%	40%	30%	0%	35%	35%	35%
NZD	40%	50%	40%	35%	50%	35%	40%	35%	35%	0%	40%	40%
PEN	45%	35%	25%	20%	35%	25%	30%	20%	35%	40%	0%	20%
PHP	40%	35%	25%	20%	35%	25%	30%	20%	35%	35%	20%	0%
PLN	25%	50%	40%	40%	55%	35%	40%	40%	30%	40%	40%	40%
RON	30%	45%	30%	30%	40%	35%	40%	30%	30%	40%	35%	35%
RUB	50%	50%	40%	35%	50%	40%	40%	35%	40%	50%	35%	40%
SAR	45%	35%	25%	15%	30%	25%	30%	15%	35%	40%	15%	15%
SEK	25%	45%	35%	35%	45%	35%	40%	30%	20%	35%	35%	35%
SGD	35%	35%	20%	15%	30%	20%	30%	15%	25%	30%	15%	15%
THB	40%	35%	25%	20%	35%	25%	35%	20%	35%	35%	20%	20%
TRY	70%	75%	70%	70%	75%	70%	70%	70%	70%	70%	70%	70%
TWD	40%	35%	25%	15%	30%	20%	30%	15%	30%	35%	15%	15%
USD	45%	35%	25%	15%	30%	25%	30%	15%	35%	40%	15%	15%
ZAR	50%	60%	50%	50%	65%	45%	50%	45%	45%	50%	50%	50%

	Against										
Ref Curr	PLN	RON	RUB	SAR	SEK	SGD	THB	TRY	TWD	USD	ZAR
AUD	35%	40%	45%	40%	35%	30%	35%	55%	35%	40%	45%
BRL	55%	50%	60%	55%	55%	50%	55%	70%	55%	55%	65%
CAD	35%	30%	40%	25%	30%	20%	30%	55%	25%	25%	45%
CHF	35%	30%	45%	35%	30%	25%	35%	65%	30%	35%	55%
CLP	40%	40%	40%	30%	40%	30%	35%	60%	30%	30%	50%
CNY	40%	30%	35%	5%	35%	15%	20%	60%	10%	5%	50%

COP	45%	45%	45%	35%	45%	35%	35%	60%	35%	35%	55%
CZK	25%	25%	45%	35%	25%	30%	35%	60%	35%	35%	50%
DKK	25%	20%	40%	30%	20%	25%	30%	60%	25%	30%	50%
EUR	25%	20%	40%	30%	20%	25%	30%	60%	25%	30%	50%
GBP	35%	30%	40%	25%	30%	25%	30%	60%	25%	25%	50%
HKD	40%	30%	35%	5%	35%	15%	20%	60%	10%	5%	55%
HUF	25%	30%	50%	45%	25%	35%	40%	60%	40%	45%	50%
IDR	50%	45%	50%	35%	45%	35%	35%	70%	35%	35%	60%
ILS	35%	30%	40%	25%	35%	20%	25%	55%	25%	25%	50%
INR	40%	30%	35%	15%	35%	15%	20%	55%	15%	15%	50%
JPY	50%	40%	50%	30%	40%	30%	35%	70%	30%	30%	65%
KRW	35%	35%	40%	25%	35%	20%	25%	55%	20%	25%	45%
MXN	40%	40%	40%	30%	40%	30%	35%	60%	30%	30%	50%
MYR	35%	30%	35%	15%	30%	15%	20%	55%	15%	15%	45%
NOK	30%	30%	40%	35%	20%	25%	35%	60%	30%	35%	45%
NZD	40%	40%	50%	40%	35%	30%	35%	60%	35%	40%	50%
PEN	40%	30%	35%	15%	35%	15%	20%	60%	15%	15%	50%
PHP	40%	30%	40%	15%	35%	15%	20%	55%	15%	15%	50%
PLN	0%	30%	45%	40%	30%	35%	40%	55%	40%	40%	50%
RON	30%	0%	40%	30%	25%	25%	35%	60%	30%	30%	50%
RUB	45%	40%	0%	35%	45%	35%	40%	65%	35%	40%	55%
SAR	40%	30%	35%	0%	35%	15%	20%	60%	10%	5%	55%
SEK	30%	25%	45%	35%	0%	30%	35%	60%	30%	35%	50%
SGD	35%	25%	35%	15%	30%	0%	15%	55%	10%	15%	45%
THB	40%	30%	40%	20%	35%	15%	0%	55%	20%	20%	50%
TRY	70%	70%	75%	70%	70%	65%	70%	0%	70%	70%	75%
TWD	35%	30%	35%	10%	30%	10%	20%	55%	0%	10%	50%
USD	40%	30%	35%	5%	35%	15%	20%	60%	10%	0%	55%
ZAR	50%	50%	55%	55%	50%	45%	50%	60%	50%	55%	0%

12.4.6 Asset Concentration Risk

Relevant Worksheets in Template:	*FT19.ICS Risk Charges.MAV* *FT19.ICS Risk Charges.GAAP+*	*Due 31 July 2019*

699. The Technical Specifications for Asset Concentration risk apply both to the MAV and GAAP Plus approaches. This section has been written from the perspective of the MAV approach; while somewhat different valuation data might be used for the GAAP Plus approach, the Asset Concentration risk calculation is fundamentally the same for both approaches.

700. For 2019 Field Testing, Asset Concentration risk charge for all assets except real estate is being calculated using a granularity adjustment. The Asset Concentration risk charge calculation for real estate remains unchanged from 2018 Field Testing. The Asset Concentration risk charge is measured using the applicable valuation basis (MAV or GAAP Plus approach). However, assets in separate accounts or where the investment risks fully flow-through[41] to policyholders are excluded.

701. The granularity adjustment is based on the paper[42] "Granularity Adjustment for Regulatory Capital Assessment" by Michael Gordy and Eva Lütkebohmert published in the September 2013 issue of the International Journal of Central Banking. Unlike the Asset Concentration risk charge calculation for 2018 Field Testing, the granularity adjustment applies to all assets, not just assets in excess of certain thresholds. The granularity adjustment supplements and does not overlap with the Credit risk charge and Equity risk charge, as these risk charges are predicated on the assumption that an insurer's portfolio is infinitely diversified.

702. The risk charge for granularity is equal to:

$$0.71656 \times \frac{\sum_i E_i K_i}{\sum_i K_i}$$

where E_i is the exposure amount, expressed in units of the reporting currency, to connected group i, and K_i is the total risk charge for Credit risk and Equity risk before diversification and management actions, also expressed in units of the reporting currency, for all exposures to entities within connected group i. If the exposure to a connected group does not involve any options then the total risk charge K_i can be expressed as:

$$K_i = \sum_j e_{ij} k_{ij}$$

where e_{ij} is the exposure amount to asset class j within connected group i (so that $\sum_j e_{ij} = E_i$), and k_{ij} is the basic Credit risk or Equity risk factor applicable to this asset class before any diversification

[41] Not considering any guarantee to policyholders that may exist on the value of the overall investment fund(s) such as on variable annuity products

[42] https://www.ijcb.org/journal/ijcb13q3a2.pdf

is applied. If the exposure to the connected group does contain one or more options, then K_i should include the change in the option values under the equity risk scenario.

703. All of an insurer's asset exposures other than real estate including debt, equity and preferred shares, should be aggregated by non-affiliated single counterparty or connected group of counterparties (including reinsurers). For 2019 Field Testing, the BCBS definition[43] of a connected group of counterparties should be used. Specifically, two or more natural or legal persons should be deemed a group of connected counterparties if at least one of the following criteria is satisfied:

a) Control relationship: one of the counterparties, directly or indirectly, has control over the other(s).

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.

704. National government exposures are not included within the granularity calculation. Sub-national government obligations (eg provincial/state or municipal bonds) are included within the granularity calculation with their corresponding Credit and Equity risk charges.

705. Real estate – Net exposures should be determined for property exposures. Property exposures should be based upon single property, or group of properties in very close proximity to each other (for example, two properties within 250 metres of each other), including exposures from both direct and indirect holdings (such as funds of properties). The Asset Concentration risk charge for any property or group of properties in close proximity is calculated using a threshold of 3% of total insurance assets and an associated incremental risk charge factor of 25%.

706. The determination of the gross counterparty and property exposures should include both on- and off-balance sheet positions, and should consider the following:

a) Exposures to reinsurance counterparties should be included, but should not be assessed on a stress basis; in other words, it should not take into account the contingent Credit risk arising from catastrophe scenarios applied.

b) Similar to the specifications within the *Credit risk* Section, the determination of OTC derivatives exposures should be based on a credit-equivalent basis as applicable, and exposures to central counterparties should be excluded from ICS risk charges.

c) Exposures based upon a look-through for investment funds, structured products, etc. should be included. For practical considerations, the look-through approach to be utilised for determining risk exposures within other risk modules should also apply here. Where a look-through approach in other modules allows for practical exceptions, the investment fund,

[43] As specified in the BCBS publication *Supervisory framework for measuring and controlling large exposures* (April 2014), which also outlines criteria for assessing whether 'control' or 'economic interdependence' exists.

structured product etc. should be assessed as a separate counterparty for Asset Concentration risk purposes. When the issuer of a security is a trust (SPV or a similar entity) that has no (material) creditworthiness, and the source of interest and principal payments is the assets in the trust, and there is no guarantor for the payments, look-through to the trust's assets is appropriate, and the assets are then also subject to the asset concentration limit. When there is a guarantor that is responsible for maintaining assets in the trust sufficient for interest and principal payments, or directly guarantees those payments, the guarantor (such as a GSE – government sponsored entity) is subject to Asset Concentration risk, and the assets in the trust provide additional credit support should the guarantor (such as a GSE) not be able to honour its obligations.

d) Non-affiliated (external) guarantees made, commitments given, bank deposits, receivables and any other item subject to the possibility of financial loss due to counterparty default should be included.

e) Gross exposures should be calculated based upon the applicable valuation basis (MAV or GAAP Plus), except where otherwise specified (such as the use of 'credit-equivalent' amounts).

707. For the determination of net counterparty and property exposures, the following should be considered:

a) Exposures from assets held in separate accounts or in respect of life insurance contracts where the investment risks fully flow-through to policyholders (not considering any guarantee to policyholders that may exist on the value of the overall investment fund(s) such as on variable annuity products) should be excluded.

b) Asset exposures should only be netted against liability exposures to the extent that they are subject to a legally enforceable right of offset.

c) For collateral and unconditional and irrevocable guarantees, the 'substitution approach' specified within the *Credit risk* Section may be used, if favourable, for the portion of the exposure that is covered by the collateral and guarantees. There should be no gross exposure reduction for amounts of over-collateralisation. The exposure to the collateral or guarantor counterparty should replace the exposure of the primary obligation counterparty, reducing the aggregate exposure to the counterparty of the primary obligation and increasing that of the collateral or guarantor counterparties. This approach should also be used for bank deposits if an explicit guarantee (such as a national government guarantee) exists. Where national government exposures are substituted for corporate exposures, such amounts are excluded from the determination of the Asset Concentration risk charge within 2019 Field Testing.

d) For collateralised non-life reinsurance exposures, Volunteers should use the haircut approach specified in the *Credit risk* Section in lieu of the substitution approach. For the purpose of the

insurer-wide granularity adjustment, the exposure to the reinsurer is the adjusted net exposure calculated in *Credit risk* Section 12.5. The collateral received is excluded from the insurer-wide granularity adjustment. However, the granularity adjustment for the collateral calculated on a standalone basis is one component of the haircut applied to the collateral.

708. For the granularity adjustment, if an insurer is unable to partition all of its insurance asset exposures into connected groups, it may instead measure exposures only to connected groups whose exposures exceed a threshold specified by the insurer. However, such a threshold should not be greater than 0.1% of total insurance assets excluding real estate and obligations of national governments. If an insurer uses such a threshold, then the granularity adjustment is approximated as:

$$0.71656 \times \frac{\sum_{i \text{ above threshold}} E_i K_i + E_{\max} \sum_{i \text{ below threshold}} K_i}{\sum_i K_i}$$

where $E_{\max}$ is the threshold exposure amount. The quantity $\sum_{i \text{ below threshold}} K_i$ may be calculated as the difference between the total Credit risk charge and Equity risk charge adjusted for those equities which are not subject to Asset Concentration risk, and the Credit risk charge and Equity risk charge for connected groups above the threshold.

709. A separate section is included for the supplementary reporting of property for own use as a subset of the property exposures exceeding the 3% threshold.

710. Data will also be collected to allow the IAIS to calculate the Asset Concentration risk charge using the approach from 2018 Field Testing for the purposes of making a comparison and determining which of the two approaches will be included in ICS Version 2.0 for the monitoring period.

12.4.6.1 Approach from 2018 Field Testing

711. Aggregate amount exceeding the threshold – This figure is the total of:

a) Exposures to each non-affiliated single counterparty (to the Volunteer Group) or group of connected counterparties exceeding the threshold.

b) Exposures to each single real estate property exceeding the threshold.

c) Exposures to each group of very close proximity properties exceeding the threshold.

712. Only the aggregate net exposure amounts by counterparty (or connected counterparties) or property in excess of the Asset Concentration risk threshold, and further segmented by the applicable weighted-average credit quality, should be included in this figure. This column should be filled in, if applicable, for each group of ICS RC and for property.

713. The Asset Concentration risk section of the worksheets *FT19.ICS Risk Charges* also includes columns to capture additional information on:

a) *# of CPs/properties exceeding threshold* – The number of non-affiliated single counterparties or group of connected counterparties, or single or group of very close proximity properties, whose net exposures exceed the thresholds set out in each group of ICS RC in each risk charge category.

b) *# of reinsurance providers in CPs exceeding threshold* – As a subset of the number of counterparties identified in a) above, the number of these counterparties that are also currently reinsurance providers to any entities within the group.

714. A separate section is included for the supplementary reporting of property for own use as a subset of the property exposures exceeding the applicable thresholds.

715. The following table outlines the thresholds and risk charges used in 2018 Field Testing:

Table 33. Threshold and risk charge for each Asset Concentration risk charge category

Asset concentration risk charge category	Applicable threshold (% of total insurance assets)	Incremental capital charge factor
Counterparty-related (weighted average)		
in ICS RC 1 and 2	3%	15%
in ICS RC 3 and 4	3%	25%
in ICS RC 5, 6 and 7	1.5%	50%
Property	3%	25%

12.5 Credit Risk

Relevant Worksheets in Template:	*FT19.ICS Risk Charges.MAV* *FT19.ICS Risk Charges.GAAP+*	*Due 31 July 2019*

716. The Technical Specifications for Credit risk apply both to the MAV and GAAP Plus approaches.

717. Under GAAP Plus, fixed income investments that are included in the AOCI Adjustment to capital resources should be reported on an amortised cost basis for purposes of determining the Credit risk charge. The credit risk factor will be applied to the amortised cost balances in order to remain consistent with the valuation method reflected in capital resources. Volunteer Groups that follow either the US GAAP or Japan GAAP Plus examples and have identified fixed income investments that are included in their AOCI Adjustment to capital resources in the worksheet *FT19.ICS.Balance Sheet* are requested to record these investments in the Credit risk tables on an amortised cost basis. All other investments should continue to be recorded on the same basis as what is reported in the balance sheet, whether that be cost or fair value. A check has been built into the table such that the amount reported as the AOCI Adjustment should equal the difference between fixed income investments reported in the Credit risk tables versus the balance sheet.

718. The Credit risk charge is based on external ratings when there is a rating by a rating agency used by the ICS. The IAIS is monitoring developments at the BCBS, and may revise the structure of the Credit risk requirement if a practicable approach that does not rely on rating agencies emerges. For 2019 Field Testing, Volunteer Groups that have access to NAIC Designations[44] should report their Credit risk exposures by exposure class with NAIC Designations and without NAIC Designations under both the MAV and GAAP Plus approaches. When reporting with NAIC Designations, Volunteer Groups should apply ratings provided by rating agencies (if available) in cases where a Credit risk exposure does not have an assigned NAIC Designation. Those Volunteer Groups that do not have access to NAIC Designations should report the same Credit risk exposures by exposure class under both the MAV and GAAP Plus approaches (with and without NAIC Designations).

719. Volunteer Groups are also asked to provide information on the migration of ICS ratings when changing from not using to using NAIC Designations within the ICS Credit risk calculation. This information should be provided only for Credit risk exposures with NAIC Designations and is not applicable to Volunteer Groups that do not have access to NAIC Designations. An intermediate step is included to collect information on the migration of ratings when NAIC Designations are based on par value. After assessing all Credit risk exposures, Volunteer Groups should input the migration of ratings, going from not using NAIC Designations to applying NAIC Designations based on par value, as well as

[44] The National Association of Insurance Commissioners (NAIC) has developed proprietary technical and analytical products that are used by the states and territories of the US to regulate insurance, including the NAIC Designations, used to assess the credit quality of assets as part of financial solvency monitoring efforts of US state insurance regulators. The NAIC is not a rating agency.

going from not using NAIC Designations to applying NAIC Designations based on carrying value. This same guidance applies to both the MAV and GAAP Plus approaches. The values reported in the migration of ratings from not using NAIC Designations to applying NAIC Designations based on carrying value should be made on the same basis as those reported in the Credit risk exposures by exposure class.

720. The look-through approach set out in Sections 3.3 and 12.2.1 should be applied on a best efforts basis for the purposes of 2019 Field Testing. The approach set out in the *Credit risk* Section requires granular data that may not be readily available for indirect investments. Volunteer Groups may need to make assumptions about rating categories and maturities of the underlying investments of indirect investments. Volunteer Groups should report these assumptions in the Questionnaire.

721. The MAV values of the following items should be entered in the Credit risk section of the worksheets *FT19.ICS Risk Charges*:

a) On-balance sheet assets, broken down by exposure class and ICS RC; and

b) The credit equivalent amounts (see below) of off-balance sheet credit exposures.

722. The Credit risk charge is the sum of each credit exposure, determined by applying specified stress factors based on exposure class, rating category and maturity to the net exposure amounts, then taking into consideration management actions. Section 12.5.1 below provides instructions on how to classify credit exposures by exposure class, rating category, and maturity, and how to account for the presence of qualifying collateral and guarantees.

723. The GAAP Plus exposure amounts for on-balance sheet and off-balance sheet assets should be entered similarly to MAV, using the tables labelled *GAAP Plus*. Under the GAAP Plus jurisdictional examples, invested assets may be reported either on a fair value or amortised cost basis. The basis of measurement reported in the GAAP Plus balance sheet should also be used to report exposure amounts in the Credit risk section of the worksheets *FT19.ICS Risk Charges*. As noted above, fixed income investments that have been included in the AOCI Adjustment should be reported in the Credit risk section at amortised cost for those Volunteer Groups that report an AOCI Adjustment.

12.5.1 Exposure Classes

724. The Credit risk charge applies to all senior debt obligations of specified exposure classes of issuers and borrowers. Preferred shares, hybrid obligations and subordinated debt are excluded from the Credit risk charge, and are instead subject to the Equity risk charge for hybrid debt / preference shares described in Section 12.4.3.

725. Credit exposures to national governments, multilateral development banks and supranational organisations are not subject to the Credit risk charge. Regional governments and municipal authorities and other government entities whose debt is not issued or guaranteed by the national government, are classified as public sector entities. Exposures to commercial undertakings owned but

not guaranteed by governments or municipal authorities should be classified in the corporates category and not in the public sector entities category.

726. The corporates category includes exposures to banks and securities dealers, but excludes exposures to reinsurers, which are reported separately in the *Reinsurance Exposures* table. Rated commercial mortgages are included in the corporates exposure class.

727. The class of securitisation exposures reported in the *Securitisations* table includes all holdings of asset-backed securities and mortgage-backed securities. It also includes any other assets where the cash flow from an underlying pool of exposures is used to service payments by a special purpose vehicle to bondholders. If any of the assets in the pool of exposures underlying a securitisation exposure is itself a securitisation, then the exposure must be reported as a re-securitisation in the *Re-securitisations* table.

728. Residential mortgages, commercial mortgages, and miscellaneous assets should be reported in their respective tables. These exposures are not broken down by rating category. The category short-term obligations of regulated banks only includes demand deposits and other obligations that have an original maturity of less than three months, and that are drawn on a bank subject to the solvency requirements of the Basel Framework. All other bank exposures should be included in the corporates exposure class in the *Corporates* table.

729. Assets that are held for unit-linked business or in separate accounts and for which all credit risk on the assets fully flows through to policyholders may be excluded from the Credit risk charge. However, insurers must calculate a Credit risk charge for the increase in related liabilities (eg due to decreased future fee income) that would result if separate account assets experience the losses due to credit risk specified in this section. Report the total amount of *Separate account assets excluded from credit risk* and the *Credit risk charges for separate account liabilities* in Table T132 *Separate account* of the Template. A non-paid-up financial instrument that qualifies for inclusion in capital resources is subject to the same credit risk charge as a direct credit exposure to the contingent capital provider.

12.5.2 Definition of Rating Categories

730. Volunteer Groups should refer to Section 3.6 for information on ICS RC. Further, Volunteer Groups may use any ratings by a rating agency currently recognised by their home insurance regulator for local capital determination purposes, subject to clear instructions provided by the home regulator on how to map those credit agency ratings to the ICS RC and explicit acceptance of the use of those ratings by the IAIS. Similar to 2018 Field Testing, the IAIS will recognise ratings issued by credit agencies licensed with China Banking and Insurance Regulatory Commission (CBIRC). The table below provides a mapping of those ratings, which was established after determining that all of the ICS recognition criteria had been met with the exception of the regular publication of default statistics. The default data submission is currently made available to CBIRC only. The average 3-year cumulative default rates (CDRs) used in the mapping are based on the default statistics of the total public trading market from

2008 to 2015. The mapping is on an aggregate basis rather than separately for each agency, because it is very uncommon to differentiate the ratings issued by the above agencies in the China market.

Table 34. Mapping of Chinese domestic credit ratings to ICS RC

ICS RC	Chinese ratings
1	
2	
3	AAA
4	
5	AA/A1, A/A2
6	BBB/A3, BB, B
7	CCC and lower

731. If a Volunteer Group wishes to use ratings produced by any other rating agency, the agency must be regulated or recognised by a suitable government authority in all of the jurisdictions in which the agency issues ratings that the Volunteer Group wishes to use. In addition, the rating agency must have published publicly available default and transition statistics extending back at least seven years, and must satisfy all of the following six criteria:

a) Objectivity: The rating agency's methodology for assigning credit assessments must be rigorous, systematic, and subject to some form of validation based on historical experience. Moreover, assessments must be subject to ongoing review and be responsive to changes in financial condition. The agency must have an assessment methodology for each market segment, including rigorous back testing that has been applied for at least one year and preferably, three years.

b) Independence: A rating agency should be independent and should not be subject to political or economic pressures that may influence the rating. The assessment process should be as free as possible from any constraints that could arise in situations where the composition of the board of directors or the shareholder structure of the assessment institution may be seen as creating a conflict of interest.

c) International access/Transparency: The individual assessments, the key elements underlining the assessments, and whether the issuer participated in the assessment process should be publicly available on a non-selective basis. In addition, the general procedures, methodologies and assumptions for arriving at assessments used by the rating agency should be publicly available.

d) Disclosure: A rating agency should disclose the following information: its code of conduct; the general nature of its compensation arrangements with assessed entities; its assessment methodologies, including the definition of default, the time horizon, and the meaning of each

rating; the actual default rates experienced in each assessment category; and the transitions of the assessments, eg the likelihood of AA ratings becoming A over time.

e) Resources: A rating agency should have sufficient resources to carry out high quality credit assessments. These resources should allow for substantial ongoing contact with senior and operational levels within the entities assessed in order to add value to the credit assessments. Such assessments should be based on methodologies that combine qualitative and quantitative approaches.

f) Credibility: To some extent, credibility is derived from the criteria above. In addition, the reliance on a rating agency's external credit assessments by independent parties (investors, insurers, trading partners) is evidence of the credibility of its assessments. The credibility of a rating agency is also underpinned by the existence of internal procedures to prevent the misuse of confidential information. In order to be eligible for recognition, an agency does not have to assess firms in more than one country.

732. The mapping of the agency's ratings to ICS rating grades will be based on the average of the three-year CDRs associated with the agency's ratings, as follows:

Table 35. Mapping of ratings by other rating agencies

ICS RC	Average 3-year CDR based on over 20 years of published data	Average 3-year CDR based on between 7 and 20 years of published data
1		
2	0 ≤ CDR ≤ 0.15%	
3	0.15% < CDR ≤ 0.35%	0 ≤ CDR ≤ 0.15%
4	0.35% < CDR ≤ 1.20%	0.15% < CDR ≤ 0.35%
5	1.20% < CDR ≤ 10.00%	0.35% < CDR ≤ 1.20%
6	10.00% < CDR ≤ 25.00%	1.20% < CDR ≤ 10.00%
7	CDR > 25%	CDR > 10%

733. If a Volunteer Group is using one or more rating agencies (not recognised as an ECAI) for which it is performing its own mapping to ICS RC based on the three-year CDR, for each rating agency it must indicate in the Questionnaire:

a) The name of the rating agency;

b) The name of the national authority that regulates or has recognised the rating agency, along with a summary of how the authority regulates, or the criteria that the authority uses for recognising rating agencies;

c) The rating agency's definition of default, including a link to where the definition is posted;

d) The rating agency's average three-year CDR for each rating category, the number of years of default data on which this average is based, the number of credits for each rating on which the average is based, and a link to where this information is posted and available for public viewing; and

e) Which agency ratings the Volunteer Group has mapped to which ICS RC.

12.5.3 Instructions around the Use of Ratings

734. A Volunteer Group should choose the rating agencies it intends to rely on and then use their ratings consistently for each type of credit exposure. Volunteer Groups should not cherry pick the assessments provided by different rating agencies.

735. Any rating used to determine an ICS RC must be publicly available, ie the rating must be published in an accessible form and included in the rating agency's transition matrix. Ratings that are made available only to the parties to a transaction do not satisfy this requirement.

736. If a Volunteer Group is relying on multiple rating agencies and there is only one rating for a particular security, that assessment should be used to determine the ICS RC. If there are two ratings from the rating agencies used by a Volunteer Group and they differ, the Volunteer Group should use the ICS RC corresponding to the lower of the two ratings. If there are three or more ratings for a security from a Volunteer Group's chosen rating agencies, the Volunteer Group should exclude one of the ratings that corresponds to the highest ICS RC, and then use the rating that corresponds to the highest rating category of those that remain (ie the Volunteer Group should use the second-highest rating from those that were initially available, allowing for multiple occurrences of the highest rating. For example, if ratings are AA, AA and A, one AA is ignored, and the ICS category is based on the highest remaining, in this case AA, rating).

737. Where a Volunteer Group holds a particular security that has one or more issue-specific rating, the ICS RC for the security will be based on these ratings. Where a Volunteer Group's investment is not in a specifically rated security, the following principles apply:

a) In circumstances where the borrower has a specific rating for an issued debt security, but the Volunteer Group's investment is not in this particular security, an ICS RC of 4 or better on the rated security may only be applied to the Volunteer Group's unrated investment if it ranks *pari passu* or senior to the rated security in all respects. If not, the credit rating cannot be used and the Volunteer Group's investment must be treated as an unrated obligation.

b) In circumstances where the borrower has an issuer rating, this assessment typically applies to senior unsecured claims on that issuer. Consequently, only senior securities issued by that issuer will benefit from an investment-grade (ICS RC 4 or better) issuer assessment; other unassessed securities issued by that issuer will be treated as unrated. If either the issuer or one of its issues has an ICS RC of 5 or lower, this rating should be used to determine the ICS RC for an unrated claim on the issuer.

c) Short-term assessments are deemed to be issue specific. They can only be used to derive rating categories for securities issued by a rated facility. They cannot be generalised to other short-term securities, and in no event can a short-term rating be used to support a rating category assignment for an unrated long-term security.

d) Where the rating category for an unrated exposure is based on the rating of an equivalent exposure to the borrower, a foreign currency rating should be used only for exposures denominated in that foreign currency. Domestic currency ratings, if separate, should only be used to determine the rating category for securities denominated in the domestic currency.

738. The following additional conditions apply to the use of ratings:

a) External assessments for one entity within a corporate group may not be used to determine the rating category for other entities within the same group.

b) No rating may be inferred for an unrated entity based on assets that the entity possesses. The use of internal ratings is not allowed due to a lack of uniformity of methodology and calibration and the lack of a method that would ensure a uniform mapping of ratings.

c) In order to avoid the double counting of credit enhancement factors, Volunteer Groups may not recognise collateral or guarantees if these credit enhancements have already been reflected in the issue-specific rating.

d) A Volunteer Group may not recognise a rating if the rating is at least partly based on unfunded support (eg guarantees, credit enhancement or liquidity facilities) provided by the Volunteer Group itself or one of its affiliates.

e) Any assessment used must take into account and reflect the entire amount of Credit risk exposure an insurer has with regard to all payments owed to it. In particular, if a Volunteer Group is owed both principal and interest, the assessment must fully take into account and reflect the Credit risk associated with repayment of both principal and interest.

12.5.4 Exposures in Default

739. Any asset for which there is reasonable doubt about the timely collection of the full amount of principal or interest, should be reported in the row for defaulted exposures within the asset's exposure class. This row should also include any asset that is contractually more than 90 days in arrears.

740. The exposure amount for a defaulted asset should be reported net of all balance sheet write-downs and specific provisions that have been recorded for the asset.

12.5.5 Redistribution of Exposures for Credit Risk Mitigation

741. Eligible Credit risk mitigation (ie collateral and guarantees) is recognised by substituting the Credit risk factor of the collateral or guarantor for that of the underlying exposure. If an exposure is eligible according to the criteria in the sections below (as well as Section 12.2.2 on *Risk Mitigation*) for recognition of Credit risk mitigation, the effect of the Credit risk mitigation will be to transfer the exposure from the class of the borrower to that of the collateral or the guarantor. This is done in the Template by including the negative amount of the exposure in column [Redistribution for Collateral and Guarantees] of the row corresponding to the class of the underlying exposure, and including the positive amount of the exposure in column [Redistribution for Collateral and Guarantees] of the row corresponding to the class of the collateral or of the guarantor. The total entry in each row of column [Redistribution for Collateral and Guarantees] is the net sum of the (positive) exposures redistributed into and (negative) exposures redistributed out of the exposure class. The sum of all entries in column [Redistribution for Collateral and Guarantees] taken over all exposure classes should be zero.

12.5.6 Distribution of Exposures by Maturity

742. Volunteer Groups should calculate the effective maturity for each credit exposure in a particular rating category and include it in the cell for the corresponding maturity bucket. The effective maturity should be classified by exposure (eg for each asset or each counterparty exposure). Volunteer Groups should aggregate all exposures to a group within each rating category before calculating the maturity for the exposures. When an exposure is redistributed into another rating category due to the presence of an eligible guarantee or collateral, effective maturity should be calculated based on the term of the underlying exposure, not the term of the guarantee or the collateral.

743. Effective maturity is calculated as follows:

a) For an instrument subject to a determined cash flow schedule, effective maturity is defined as:

$$Effective\ Maturity = \frac{\sum_t t * CF_t}{\sum_t CF_t}$$

where CF_t denotes the cash flows (principal, interest payments and fees) contractually payable by the borrower in period t.

b) If a Volunteer Group cannot calculate the effective maturity of the contracted payments as noted above, it is allowed to use a more conservative measure, such as the maximum remaining time (in years) that the borrower is permitted to take to fully discharge its contractual obligation (principal, interest, and fees) under the terms of loan agreement. Normally, this will correspond to the nominal maturity of the instrument.

c) For OTC derivatives subject to a master netting agreement, the weighted average maturity of the transactions should be used when applying the explicit maturity adjustment. Further, the notional amount of each transaction should be used for weighting the maturity.

12.5.7 Reinsurance Exposures

744. Volunteer Groups can use AM Best credit ratings only for purposes of calculating the risk charge on reinsurance exposures. The mapping of AM Best insurer financial strength ratings to the ICS ratings categories is as follows:

Table 36. Mapping of AM Best ratings to ICS RC

ICS RC	AM Best
1	
2	A+
3	A
4	B+
5	B
6	C+
7	C and lower

745. Reinsurance exposures include all positive on-balance sheet reinsurance assets and receivables (negative exposures should not be included as they reduce reported credit exposures), which should be reported in column [Balance Sheet Assets]. Amounts in column *Balance Sheet Assets* should be net of cessions to mandatory insurance pools that are backed by either a governmental entity or jointly by the insurance market. Cessions to these mandatory pools should instead be reported separately. Reinsurance exposures also include all credit that a Volunteer Group recognises in its ICS risk charges due to the presence of reinsurance, which should be reported in column *Reduction in ICS risk charges* of the Credit risk section of the worksheets *FT19.ICS Risk Charges*. When a Volunteer Group reduces its ICS risk charges on account of reinsurance, the Credit risk charge is applied on the capital reduction.

746. In the case of catastrophe scenarios and life insurance stresses, the impact of the scenarios and stresses (before management actions) should be calculated on a gross and net of reinsurance basis. The difference between the gross and net of reinsurance basis should then be allocated to Credit risk categories based on the profile of the reinsurers that have provided cover. This calculation needs to occur at the Catastrophe risk charge and Life insurance risk charge level (ie after diversification of the components of those risk charges).

747. Modified coinsurance and funds withheld arrangements are subject to a risk charge even if there is no on-balance sheet reinsurance asset or the reinsurance asset is fully offset by payables.

748. For funds withheld and similar arrangements, a Volunteer Group may treat payables and other liabilities due to a reinsurer in the same manner as collateral provided that the arrangement meets the following conditions:

a) The Volunteer Group has executed a written, bilateral netting contract or agreement with the reinsurer from which the asset is due that creates a single legal obligation. The result of such an agreement must be that the Volunteer Group would have only one obligation for payment or one claim to receive funds based on the net sum of the liabilities and amounts due in the event the reinsurer failed to perform due to any of the following: default, bankruptcy, liquidation or similar circumstances.

b) The Volunteer Group must have a written and reasoned legal opinion that, in the event of any legal challenge, the relevant courts or administrative authorities would find the amount owed under the netting agreement to be the net amount under the laws of all relevant jurisdictions. In reaching this conclusion, the legal opinion must address the validity and enforceability of the entire netting agreement under its terms.

    i. The laws of all relevant jurisdictions are:

        a. The law of the jurisdiction where the reinsurer is incorporated and, if the foreign branch of a reinsurer is involved, the laws of the jurisdiction in which the branch is located;

        b. The law governing the individual insurance transaction; and

        c. The law governing any contracts or agreements required to effect the netting arrangement.

    ii. A legal opinion must be generally recognised as such by the legal community in the Volunteer Group's home country or by a memorandum of law that addresses all relevant issues in a reasoned manner.

c) The Volunteer Group must have procedures in place to update legal opinions as necessary to ensure continuing enforceability of the netting arrangement in light of possible changes in relevant law.

12.5.8 Securities Financing Transactions

749. Volunteer Groups should include exposures arising from on-balance sheet securities financing transactions in column *Balance Sheet Assets*, and exposures arising from off-balance sheet securities financing transactions (full notional amount) in column *Other Off-Balance Sheet*. The rating category for a securities financing transaction is the lower of that of the counterparty to the transaction, or that of the securities lent. Volunteer Groups may recognise collateral received under securities financing transactions according to the same criteria as for collateral received under regular lending transactions.

12.5.9 Credit Risk Stress Factors

750. The following tables contain the ICS Credit risk stress factors for the exposure classes by ICS RC and maturity[45]:

Table 37. Credit risk stress factors for public sector entities

Rating Category	Maturity: 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14+
1 or 2	0.1%	0.4%	0.5%	0.6%	0.7%	0.8%	0.9%	1.0%	1.0%	1.1%	1.1%	1.2%	1.2%	1.2%	1.3%
3	0.4%	1.0%	1.3%	1.5%	1.8%	2.0%	2.2%	2.4%	2.5%	2.7%	2.8%	2.9%	3.0%	3.0%	3.1%
4	1.0%	2.2%	2.6%	3.0%	3.3%	3.6%	3.9%	4.1%	4.2%	4.4%	4.5%	4.6%	4.7%	4.8%	4.9%
5	2.5%	5.1%	6.0%	6.6%	7.0%	7.3%	7.5%	7.6%	7.6%	7.7%	7.8%	7.8%	7.9%	7.9%	7.9%
6	6.3%	10.8%	11.8%	12.3%	12.5%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%
7	22.0%	24.7%	25.2%	25.3%	25.3%	25.3%	25.3%	25.3%	25.3%	25.3%	25.3%	25.3%	25.3%	25.3%	25.3%
Unrated	2.5%	5.1%	6.0%	6.6%	7.0%	7.3%	7.5%	7.6%	7.6%	7.7%	7.8%	7.8%	7.9%	7.9%	7.9%
In Default	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%

Table 38. Credit risk stress factors for corporates and reinsurance

Rating Category	Maturity: 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14+
1 or 2	0.2%	0.7%	0.9%	1.2%	1.4%	1.6%	1.7%	1.9%	2.0%	2.1%	2.2%	2.3%	2.4%	2.4%	2.5%
3	0.6%	1.3%	1.6%	1.8%	2.1%	2.3%	2.6%	2.8%	3.0%	3.2%	3.3%	3.4%	3.5%	3.6%	3.7%
4	1.4%	3.0%	3.6%	4.1%	4.5%	4.9%	5.1%	5.3%	5.4%	5.6%	5.7%	5.8%	5.9%	6.0%	6.0%
5	3.6%	7.1%	8.3%	9.0%	9.4%	9.7%	9.8%	9.8%	9.8%	9.8%	9.8%	9.8%	9.8%	9.8%	9.8%
6	8.9%	14.4%	15.3%	15.6%	15.6%	15.6%	15.6%	15.6%	15.6%	15.6%	15.6%	15.6%	15.6%	15.6%	15.6%
7	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%
Unrated	6.3%	10.7%	11.8%	12.3%	12.5%	12.6%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%
In Default	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%

Table 39. Credit risk stress factors for securitisations

Rating Category	Maturity: 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14+
1 or 2	0.2%	0.7%	0.9%	1.2%	1.4%	1.6%	1.7%	1.9%	2.0%	2.1%	2.2%	2.3%	2.4%	2.4%	2.5%
3	0.6%	1.3%	1.6%	1.8%	2.1%	2.3%	2.6%	2.8%	3.0%	3.2%	3.3%	3.4%	3.5%	3.6%	3.7%
4	1.4%	3.0%	3.6%	4.1%	4.5%	4.9%	5.1%	5.3%	5.4%	5.6%	5.7%	5.8%	5.9%	6.0%	6.0%
5	10.8%	21.3%	24.9%	27.0%	28.2%	29.1%	29.4%	29.4%	29.4%	29.4%	29.4%	29.4%	29.4%	29.4%	29.4%
6	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
7	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Unrated	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

[45] These stress factors were developed using the Basel single risk factor IRB model of default risk, combined with the model for credit deterioration risk presented in the 2002 paper "The Distribution of Loan Portfolio Value" by O. A. Vasicek.

In Default	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Table 40. Credit risk stress factors for re-securitisations

Rating Category	Maturity: 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14+
1 or 2	0.4%	1.4%	1.8%	2.4%	2.8%	3.2%	3.4%	3.8%	4.0%	4.2%	4.4%	4.6%	4.8%	4.8%	5.0%
3	1.2%	2.6%	3.2%	3.6%	4.2%	4.6%	5.2%	5.6%	6.0%	6.4%	6.6%	6.8%	7.0%	7.2%	7.4%
4	2.8%	6.0%	7.2%	8.2%	9.0%	9.8%	10.2%	10.6%	10.8%	11.2%	11.4%	11.6%	11.8%	12.0%	12.0%
5	21.6%	42.6%	49.8%	54.0%	56.4%	58.2%	58.8%	58.8%	58.8%	58.8%	58.8%	58.8%	58.8%	58.8%	58.8%
6	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
7	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Unrated	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
In Default	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

751. The Credit risk stress factor for policy loans (which are to be reported in the *Miscellaneous Assets* table in the Template) is 0%. The stress factor for deposits and other short-term obligations of regulated banks is 0.4%. All other assets (eg outstanding premiums, amounts receivable from agents and brokers) receive a stress factor of 8%, but outstanding premiums can be excluded from the exposure if insurance liabilities are recorded for the contracts relating to the outstanding premiums and the outstanding premiums are unrecorded in line with the release of the insurance liabilities when the contracts expire upon the policyholder's default.

752. In 2019 Field Testing, Volunteer Groups are requested to provide the following granular data for amounts receivable from agents and brokers. The IAIS will use the data collected in its review of the appropriateness of the stress factors applied to these segments for inclusion in ICS Version 2.0 for the monitoring period.

a) Balance receivable but not yet due;

b) Balances past due for 90 days or less, net of all balance sheet write-downs and specific provisions if any;

c) Balances past due for more than 90 days, net of all balance sheet write-downs and specific provisions if any; and

d) The balance-weighted average time in months until due for the balances not yet due in a).

12.5.10 Mortgage Loans

12.5.10.1 Commercial and Agricultural Mortgages where Repayment Depends on Property Income

753. Based on data availability, the risk charge is calculated using one of the three following methods:

a) Tier 1: risk charge determined by loan-to-value (LTV) and debt service coverage ratio (DSCR)

b) Tier 2: risk charge determined by LTV only

c) Tier 3: no Credit Quality Differentiator data used

754. For agricultural and commercial Tier 1, the following stress factors are used:

Table 41. Stress factors for agricultural and commercial Tier 1

ICS CM Categories	ICS Stress Factors
CM1	4.8%
CM2	6.0%
CM3	7.8%
CM4	15.8%
CM5	23.5%
CM6	35%
CM7	35%

Where CM1 means Agricultural and Commercial Mortgage Factor 1, CM6 and CM7 are delinquent loans and loans in foreclosure, and the mapping of the ICS CM categories according to LTV and DSCR data is based upon the following matrix:

Table 42. Mapping of ICS CM categories

	Tier 1					
	LTV					
	CM	<60%	60% to 69.9%	70% to 79.9%	80% to 89.9%	90% to 99.9%	>= 100%
DSCR	< 0.6	3	3	3	4	4	5
	0.6 to 0.79	3	3	3	4	4	5
	0.8 to 0.99	3	3	3	4	4	5
	1 to 1.19	2	2	3	3	4	4
	1.2 to 1.39	2	2	3	3	3	3
	1.4 to 1.59	1	2	2	2	3	3
	1.6 to 1.79	1	1	1	2	3	3
	1.8 to 1.99	1	1	1	2	2	2
	>= 2	1	1	1	2	2	2

755. For agricultural and commercial Tier 2, where only LTV data is available, the following stress factors are used:

Table 43. Stress factors for agricultural and commercial Tier 2

ICS CM Categories	ICS Stress Factors	LTV Minimum	LTV Maximum
CM1	4.8%	0%	59%
CM2	6.0%	60%	79%
CM3	7.8%	80%	99%
CM4	15.8%	100%	NA
CM6	35%		
CM7	35%		

756. For agricultural and commercial Tier 3, where LTV and DSCR data is not available, a flat 8% stress factor is used.

12.5.10.2 Commercial and Agricultural Mortgages where Repayment Does not Depend on Property Income

757. When the LTV ratio of the mortgage is above 60%, the risk factor is that of a regular credit exposure to the borrower. When the LTV ratio of the mortgage is below 60%, the risk factor is the lower of 3.6% or the risk factor for a regular credit exposure to the borrower.

12.5.10.3 Residential Mortgages

758. For performing residential mortgage loans for which repayment depends on income generated by the underlying property, the factors applied are based on the mortgage's LTV ratio, as specified in the following table:

Table 44. Factors for residential mortgages for which repayment depends on income generated by the underlying property

LTV ≤ 60%	4.2%
60% < LTV ≤ 80%	5.4%
LTV > 80%	7.2%

759. For performing residential mortgage loans for which repayment does not depend on income generated by the underlying property, the factors applied are based on the mortgage's LTV ratio, as specified in the following table:

Table 45. Factors for residential mortgages for which repayment does not depend on income generated by the underlying property

LTV ≤ 40%	1.5%
40% < LTV ≤ 60%	1.8%
60% < LTV ≤ 80%	2.1%

80% < LTV ≤ 90%	2.7%
90% < LTV ≤ 100%	3.3%
LTV > 100%	4.5%

760. For non-performing mortgage loans, the factor is 35%.

12.5.11 Criteria for Recognition of Collateral

761. A collateralised transaction is one in which:

a) A Volunteer Group has a credit exposure or potential credit exposure; and

b) That credit exposure or potential credit exposure is hedged in whole or in part by collateral posted by a counterparty or by a third party on behalf of the counterparty.

762. Relief will be granted in respect of any form of collateral provided the following criteria are met:

a) The effects of collateral are not double counted. Therefore, Volunteer Groups cannot recognise collateral on claims for which an issue-specific rating is used that already reflects that collateral. All criteria around the use of ratings remain applicable to collateral.

b) All documentation used in collateralised transactions are binding on all parties and legally enforceable in all relevant jurisdictions. Volunteer Groups have conducted sufficient legal review to verify this and have a well-founded legal basis to reach this conclusion, and undertaken such further review as necessary to ensure continuing enforceability.

c) The legal mechanism by which collateral is pledged or transferred ensures that the Volunteer Group has the right to liquidate or take legal possession of the collateral in a timely manner, in the event of the default, insolvency or bankruptcy (or one or more otherwise-defined credit events set out in the transaction documentation) of the counterparty (and, where applicable, of the custodian holding the collateral). Furthermore, Volunteer Groups have taken all steps necessary to fulfil those requirements under the law applicable to the Volunteer Groups' interest in the collateral for obtaining and maintaining an enforceable security interest, eg by registering it with a registrar, or for exercising a right to net or set off in relation to title transfer collateral.

d) The credit quality of the counterparty and the value of the collateral do not have a material positive correlation. For example, securities issued by the counterparty – or by any related group entity – provide little protection and are therefore ineligible.

e) Volunteer Groups have clear and robust procedures for the timely liquidation of collateral to ensure that any legal conditions required for declaring the default of the counterparty and liquidating the collateral are observed, and that collateral can be liquidated promptly.

f) Where collateral is held by a custodian, Volunteer Groups take reasonable steps to ensure that the custodian segregates the collateral from its own assets.

763. Only the following collateral categories are eligible to be recognised:

a) Securities that are either issued by a sovereign entity or have ICS RC 4 or better.

b) Gold.

c) Mutual funds where:

i. a price is publicly quoted daily; and

ii. the mutual fund is limited to investing in the eligible collateral listed above.

d) Letters of credit.

764. For eligible financial collateral to be recognised, it should be pledged for at least the life of the exposure. The market value of collateral that is denominated in a currency different from that of the credit exposure should be reduced by 20%. The portion of an exposure that is collateralised by eligible financial collateral valued at market is redistributed into the rating category applicable to the collateral instrument, while the remainder of the loan is assigned the rating category appropriate to the counterparty.

765. In 2019 Field Testing, an alternative approach, the haircut approach, is being tested for collateralised non-life reinsurance exposures. Instead of the substitution approach outlined in paragraph 764, the haircut approach reduces the exposure amount to account for collateral held by the ceding insurer. For collateral to be recognised, it must be pledged for at least one year. The adjusted reinsurance exposure is defined by:

Adjusted Reinsurance Exposure

= Reinsurance Assets and Receivables + Capital Requirements – Collateral

where Capital Requirements consists of the risk charges for Insurance risks, Catastrophe risk, Credit risk, Asset Concentration risk, Currency risk, Interest Rate risk, Non-Default Spread risk and Equity risk on the reinsured business and/or its supporting collateral, aggregated using the correlations specified in Section 12.7. The risk charges for Insurance and Catastrophe risks are equal to the reduction in the ICS risk charges that the Volunteer Group has included in column [Reduction in ICS risk charges]. This amount is aggregated with the Credit risk charge and the Market risk charges using 25% correlations. The Asset Concentration, Currency, Interest Rate, Non-Default Spread and Equity risk charges are aggregated to obtain the Market risk charge using the correlations specified in Table 50. The Credit and Market risk charges are specified as follows:

- The Credit risk charge is calculated for all of the assets held as collateral.

- The Asset Concentration risk charge is the granularity adjustment for all of the assets held as collateral, calculated on a standalone basis (ie in isolation from the ceding insurer's own asset portfolio)

- The Currency risk charge is calculated on a standalone basis for the reinsured liabilities in combination with the assets held as collateral. For the purpose of this calculation, the base currency is taken to be the currency in which the ceded liabilities are denominated, and no percentage of ceded liabilities may be carved out from the assets held as collateral.

- The Interest Rate and Non-Default Spread risk charges are calculated on a standalone basis for the ceded liabilities in combination with the assets held as collateral.

- The Equity risk charge is calculated for all of the assets held as collateral.

The resulting Credit risk charge for collateralised non-life reinsurance is equal to the adjusted reinsurance exposure multiplied by the Credit risk factor applicable to the reinsurer.

12.5.12 Criteria for Recognition of Guarantees and Credit Derivatives

766. Where guarantees or credit derivatives are direct, explicit, irrevocable and unconditional, and Volunteer Groups fulfil certain minimum operational conditions relating to risk management processes, they will be allowed to take account of such credit protection in determining the ICS RC. The capital treatment is founded on the substitution approach, whereby the protected portion of a counterparty exposure is assigned the rating category of the guarantor or protection provider, while the uncovered portion retains the rating category of the underlying counterparty. Thus only guarantees issued by or protection provided by entities with a higher rating category than the underlying counterparty may lead to reduced risk charges.

12.5.12.1 Operational Requirements

767. The effects of credit protection should not be double counted. Therefore, no recognition is given to credit protection on claims for which an issue-specific rating is used that already reflects that protection. All criteria around the use of ratings remain applicable to guarantees and credit derivatives.

768. With the possible exception of credit protection provided by sovereigns as specified in paragraph 784, a guarantee, counter-guarantee or credit derivative must represent a direct claim on the protection provider and must explicitly refer to a specific exposure or pool of exposures, so that the extent of the cover is clearly defined and incontrovertible. Other than non-payment by a protection purchaser of money due in respect of the credit protection contract it must be irrevocable; there must be no clause in the contract that would allow the protection provider unilaterally to cancel the credit cover or that would increase the effective cost of cover as a result of deteriorating credit quality in the hedged exposure. It must also be unconditional: there should be no clause in the protection contract outside the direct control of the Volunteer Group that could prevent the

protection provider from being obliged to pay out in a timely manner in the event that the original counterparty fails to make the payment(s) due.

769. All documentation used for documenting guarantees and credit derivatives should be binding on all parties and legally enforceable in all relevant jurisdictions. Volunteer Groups should have conducted sufficient legal review to verify this and have a well-founded legal basis to reach this conclusion, and undertake such further review as necessary to ensure continuing enforceability.

770. A guarantee is recognised if the following conditions are satisfied:

a) On the qualifying default/non-payment of the counterparty, the Volunteer Group should in a timely manner pursue the guarantor for any monies outstanding under the documentation governing the transaction. The guarantor should make one lump sum payment of all monies under such documentation to the Volunteer Group, or the guarantor should assume the future payment obligations of the counterparty covered by the guarantee. The Volunteer Group has the right to receive any such payments from the guarantor without first having to take legal action in order to pursue the counterparty for payment.

b) The guarantee is an explicitly documented obligation assumed by the guarantor.

c) Except as noted in the following sentence, the guarantee covers all types of payments the underlying obligor is expected to make under the documentation governing the transaction, for example notional amount, margin payments etc. Where a guarantee covers payment of principal only, interest and other uncovered payments should be treated as an unsecured amount.

771. In addition to the conditions above, a credit derivative contract is recognised if the following conditions are satisfied:

a) The credit events specified by the contracting parties cover at a minimum:

i. The failure to pay the amounts due under the terms of the underlying obligation that are in effect at the time of such failure (with a grace period that is closely in line with the grace period in the underlying obligation);

ii. The bankruptcy, insolvency or inability of the obligor to pay its debts, or its failure or admission in writing of its inability generally to pay its debts as they become due, and analogous events; and

iii. The restructuring of the underlying obligation involving forgiveness or postponement of principal, interest or fees that results in a credit loss event (ie charge-off, specific provision or other similar debit to the profit and loss account). Refer to the exception below when restructuring is not specified as a credit event.

b) If the credit derivative covers obligations that do not include the underlying obligation, paragraph g) below governs whether the asset mismatch is permissible.

c) The credit derivative shall not terminate prior to the expiration of any grace period required for a default on the underlying obligation to occur as a result of a failure to pay.

d) Credit derivatives allowing for cash settlement are recognised for capital purposes insofar as a robust valuation process is in place in order to estimate loss reliably. There is a clearly specified period for obtaining post-credit event valuations of the underlying obligation. If the reference obligation specified in the credit derivative for purposes of cash settlement is different than the underlying obligation, paragraph g) below governs whether the asset mismatch is permissible.

e) If the protection purchaser's right/ability to transfer the underlying obligation to the protection provider is required for settlement, the terms of the underlying obligation must provide that any required consent to such transfer should not be unreasonably withheld.

f) The identity of the parties responsible for determining whether a credit event has occurred is clearly defined. This determination must not be the sole responsibility of the protection seller. The protection buyer has the right/ability to inform the protection provider of the occurrence of a credit event.

g) A mismatch between the underlying obligation and the reference obligation under the credit derivative (ie the obligation used for purposes of determining cash settlement value or the deliverable obligation) is permissible if:

   i. The reference obligation ranks *pari passu* with or is junior to the underlying obligation; and

   ii. The underlying obligation and reference obligation share the same obligor (ie the same legal entity) and legally enforceable cross-default or cross-acceleration clauses are in place.

h) A mismatch between the underlying obligation and the obligation used for purposes of determining whether a credit event has occurred is permissible if:

   i. The latter obligation ranks *pari passu* with or is junior to the underlying obligation; and

   ii. The underlying obligation and reference obligation share the same obligor (ie the same legal entity) and legally enforceable cross-default or cross-acceleration clauses are in place.

772. When the restructuring of the underlying obligation is not covered by the credit derivative, but the other requirements above are met, partial recognition of the credit derivative will be allowed, up to a maximum of 60% of the lower of:

a) The amount of the credit derivative; and

b) The amount of the underlying obligation.

773. Only credit default swaps and total return swaps that provide credit protection equivalent to guarantees are eligible for recognition. Where a Volunteer Group buys credit protection through a total return swap and records the net payments received on the swap as net income, but does not record offsetting deterioration in the value of the asset that is protected (either through reductions in fair value or by increasing provisions), the credit protection will not be recognised.

774. Other types of credit derivatives are not eligible for recognition.

12.5.12.2 Eligible Guarantors

775. Volunteer Groups may recognise credit protection given by the following entities:

a) Sovereigns;

b) Externally rated public sector entities, banks and securities firms with a higher rating category than that of the counterparty; and

c) Other entities, including credit protection provided by parent, subsidiaries and affiliate companies of an obligor when they have a higher rating category than that of the obligor.

776. However, a Volunteer Group should not recognise a guarantee or credit protection on an exposure to a third party when the guarantee or credit protection is provided by a related party (parent, subsidiary or affiliate) of the Volunteer Group. This treatment follows the principle that guarantees within a corporate group are not a substitute for capital.

12.5.12.3 Capital Treatment

777. The protected portion of a counterparty exposure is assigned the rating category of the protection provider. The uncovered portion of the exposure is assigned the factor of the underlying counterparty.

778. Where the amount guaranteed or covered with credit protection is less than the amount of the exposure, and the secured and unsecured portions are of equal seniority (ie the Volunteer Group and the guarantor share losses on a pro-rata basis), capital relief will be afforded on a proportional basis, so that the protected portion of the exposure will receive the treatment applicable to eligible guarantees and credit derivatives, and the remainder will be treated as unsecured. Where a Volunteer Group transfers a portion of the risk of an exposure in one or more tranches to protection sellers and retains some level of risk, and the risk transferred and the risk retained are of different seniority, the Volunteer Group may obtain credit protection for the senior tranches (eg second-loss position) or the junior tranches (eg first-loss position). In this case, all tranches should be reported as securitisation

exposures based on the ratings of the guarantors. If a tranche does not carry a rating, it should be reported as an unrated securitisation exposure even if the underlying exposure is rated.

779. Materiality thresholds on amounts due below which no payment is made in the event of loss are equivalent to retained first-loss positions, and should be reported as unrated securitisation exposures.

12.5.12.4 Currency Mismatches

780. Where the credit protection is denominated in a currency different from that in which the exposure is denominated, the amount of the exposure deemed to be protected will be 80% of the nominal amount of the credit protection, converted at current exchange rates.

12.5.12.5 Maturity Mismatches

781. A maturity mismatch occurs when the residual maturity of the credit protection is less than that of the underlying exposure. If there is a maturity mismatch and the credit protection has an original maturity less than one year, the protection should not be recognised. As a result, the maturity of protection for exposures with original maturities less than one year should be matched to be recognised. Additionally, credit protection with a residual maturity of three months or less should not be recognised if there is a maturity mismatch. Credit protection will be partially recognised in other cases where there is a maturity mismatch.

782. The maturity of the underlying exposure and the maturity of the credit protection should both be measured conservatively. The effective maturity of the underlying exposure is gauged as the longest possible remaining time before the counterparty is scheduled to fulfil its obligation, taking into account any applicable grace period. For the credit protection, embedded options that may reduce the term of the protection are taken into account so that the shortest possible effective maturity is used. Where a call is at the discretion of the protection seller, the maturity will always be at the first call date. If the call is at the discretion of the Volunteer Group buying protection but the terms of the arrangement at origination contain a positive incentive for the Volunteer Group to call the transaction before contractual maturity, the remaining time to the first call date will be deemed to be the effective maturity. For example, where there is a step-up cost in conjunction with a call feature or where the effective cost of cover increases over time even if credit quality remains the same or improves, the effective maturity will be the remaining time to the first call.

783. When there is a maturity mismatch, the following adjustment will be applied:

$$P_a = P * \frac{t - 0.25}{T - 0.25}$$

where

- P_a is the value of the credit protection adjusted for maturity mismatch
- P is the nominal amount of the credit protection, adjusted for currency mismatch if applicable
- T is the lower of 5 and the residual maturity of the exposure expressed in years

- t is the lower of T and the residual maturity of the credit protection arrangement expressed in years

12.5.12.6 Sovereign Counter-guarantees

784. Some claims may be covered by a guarantee that is indirectly counter-guaranteed by a sovereign. Such claims may be treated as covered by a sovereign guarantee provided that:

a) The sovereign counter-guarantee covers all credit risk elements of the claim;

b) Both the original guarantee and the counter-guarantee meet all the operational requirements for guarantees, except that the counter-guarantee need not be direct and explicit to the original claim; and

c) The cover is robust, and there is no historical evidence suggesting that the coverage of the counter-guarantee is less than effectively equivalent to that of a direct sovereign guarantee.

12.5.12.7 Other Items

785. In the case where a Volunteer Group has multiple types of risk mitigation arrangements covering a single exposure (eg both collateral and a guarantee partially cover an exposure), it should subdivide the exposure into portions covered by each type of risk mitigation arrangement (eg portion covered by collateral, portion covered by guarantee) and the rating category for each portion must be determined separately. When a credit protection provided by a single protection provider has different maturities, it should be subdivided into separate protections as well.

12.5.13 Credit Equivalent Amount for OTC Derivatives

786. Volunteer Groups should calculate the credit equivalent amount of exposures to OTC derivatives counterparties and report them in column *OTC Derivatives*. The credit equivalent amount is calculated using the current exposure method from Annex 4, section VII of the Basel Framework. Under the current exposure method, Volunteer Groups should calculate the current replacement cost by marking contracts to market, thus capturing the current exposure without any need for estimation, and then adding a factor (the add-on) to reflect the potential future exposure over the remaining life of the contract. In order to calculate the credit equivalent amount of these instruments under this current exposure method, Volunteer Groups should sum:

a) The total replacement cost (obtained by marking to market) of all its contracts with positive value; and

b) An amount for potential future credit exposure calculated on the basis of the total notional principal amount of its book, split by residual maturity as follows:

Table 46. Calculation of potential future credit exposure

Residual Maturity	Interest Rate	Exchange Rate and Gold	Equity	Precious Metals Except Gold	Other Commodities
One year or less	0.0%	1.0%	6.0%	7.0%	10.0%
Over one year to five years	0.5%	5.0%	8.0%	7.0%	12.0%
Over five years	1.5%	7.5%	10.0%	8.0%	15.0%

Notes:

1. Credit derivatives are not subject to the current exposure method. Credit protection that is received should be treated according to the instructions for guarantees and credit derivatives, while credit protection that is sold should be treated as an off-balance sheet direct credit substitute subject to a 100% credit conversion factor.
2. For contracts with multiple exchanges of principal, the factors should be multiplied by the number of remaining payments in the contract.
3. For contracts that are structured to settle outstanding exposure following specified payment dates and where the terms are reset so that the market value of the contract is zero on these specified dates, the residual maturity is considered to be the time until the next reset date. In the case of interest rate contracts with remaining maturities of more than one year and that meet the above criteria, the add-on factor is subject to a floor of 0.5%.
4. Contracts not covered by any of the columns of this matrix are to be treated as other commodities.
5. No potential credit exposure is calculated for single currency floating/floating interest rate swaps; the credit exposure on these contracts is evaluated solely on the basis of their mark-to-market value.
6. The add-ons are based on effective rather than stated notional amounts. In the event that the stated notional amount is leveraged or enhanced by the structure of the transaction, Volunteer Groups should use the actual or effective notional amount when determining potential future exposure. For example, a stated notional amount of $1 million with payments calculated at two times LIBOR would have an effective notional amount of $2 million.
7. Potential credit exposure is to be calculated for all OTC contracts (with the exception of single currency floating/floating interest rate swaps), regardless of whether the replacement cost is positive or negative.

787. Volunteer Groups may net contracts that are subject to novation or any other legally valid form of netting. Novation refers to a written bilateral contract between two counterparties under which any obligation to each other to deliver a given currency on a given date is automatically

amalgamated with all other obligations for the same currency and value date, legally substituting one single amount for the previous gross obligations.

788. Volunteer Groups may net transactions under either novation or another form of bilateral netting provided the following conditions are satisfied:

a) The Volunteer Group has executed a written, bilateral netting contract or agreement with each counterparty that creates a single legal obligation, covering all included bilateral transactions subject to netting. The result of such an arrangement is that the Volunteer Group only has one obligation for payment or one claim to receive funds based on the net sum of the positive and negative mark-to-market values of all the transactions with that counterparty in the event that counterparty fails to perform due to any of the following: default, bankruptcy, liquidation or similar circumstances.

b) The Volunteer Group has written and reasoned legal opinions that, in the event of any legal challenge, the relevant courts or administrative authorities would find the exposure under the netting agreement to be the net amount under the laws of all relevant jurisdictions. In reaching this conclusion, legal opinions must address the validity and enforceability of the entire netting agreement under its terms.

    i. The laws of all relevant jurisdictions are:

        a. The law of the jurisdictions where the counterparties are incorporated and, if the foreign branch of a counterparty is involved, the laws of the jurisdiction in which the branch is located;

        b. The law governing the individual transactions; and

        c. The law governing any contracts or agreements required to effect netting.

    ii. A legal opinion is generally recognised as such by the legal community in the Volunteer Group's home country or by a memorandum of law that addresses all relevant issues in a reasoned manner.

c) The Volunteer Group has internal procedures to verify that, prior to recognizing a transaction as being subject to netting for capital purposes, the transaction is covered by legal opinions that meet the above criteria.

d) The Volunteer Group has procedures in place to update legal opinions as necessary to ensure continuing enforceability of the netting arrangements in light of possible changes in relevant law.

e) The Volunteer Group maintains all required documentation in its files.

789. Any contract containing a walkaway clause will not be eligible to qualify for netting for the purpose of calculating the Credit risk charge. A walkaway clause is a provision within the contract that permits a non-defaulting counterparty to make only limited payments, or no payments, to the defaulter.

790. Credit exposure on bilaterally netted forwards, swaps, purchased options and similar derivatives transactions should be calculated as the sum of the net mark-to-market replacement cost, if positive, plus an add-on based on the notional principal of the individual underlying contracts. However, for purposes of calculating potential future credit exposures of contracts subject to legally enforceable netting agreements in which notional principal is equivalent to cash flows, notional principal is defined as the net receipts falling due on each value date in each currency.

791. The reason that these contracts are treated as a single contract is that offsetting contracts in the same currency maturing on the same date will have lower potential future exposure as well as lower current exposure. For multilateral netting schemes, the current exposure (ie replacement cost) is a function of the loss allocation rules of the clearing house.

792. The calculation of the gross add-ons should be based on the legal cash flow obligations in all currencies. This is calculated by netting all receivable and payable amounts in the same currency for each value date. The netted cash flow obligations should be converted to the reporting currency using the current forward rates for each value date. Once converted the amounts receivable for the value date should be added together and the gross add-on should be calculated by multiplying the receivable amount by the appropriate add-on factor.

793. The future credit exposure for netted transactions (ANet) equals the sum of:

a) 40% of the add-on as presently calculated (AGross); and

b) 60% of the add-on multiplied by the ratio of net current replacement cost to positive current replacement cost (NGR) where:

$$NGR = \frac{level\ of\ net\ replacement\ cost}{level\ of\ positive\ replace\ cost\ for\ transactions\ subect\ to\ legally\ enforceable\ netting\ arrangements}$$

794. The calculation of NGR can be made on a counterparty by counterparty basis or on an aggregate basis for all transactions subject to legally enforceable netting agreements. On a counterparty by counterparty basis a unique NGR should be calculated for each counterparty. On an aggregate basis, one NGR should be calculated and applied to all counterparties.

12.5.14 Credit Equivalent Amount for Other Off-balance Sheet Exposures

795. Off-balance sheet exposures that are not arising from OTC derivatives should be reported in column *Other Off-Balance Sheet*. Off-balance-sheet items should be converted into credit exposure equivalents through the use of credit conversion factors (CCFs) applied to the item's notional amounts:

a) Commitments with an original maturity up to one year and commitments with an original maturity over one year receive a CCF of 20% and 50%, respectively. However, any commitments that are unconditionally cancellable at any time by the Volunteer Group without prior notice, or that effectively provide for automatic cancellation due to deterioration in a borrower's creditworthiness, receive a 0% CCF.

b) Direct credit substitutes, eg credit derivatives sold, general guarantees of indebtedness (including standby letters of credit serving as financial guarantees for loans and securities) and acceptances (including endorsements with the character of acceptances) receive a CCF of 100%. If a Volunteer Group has guaranteed, sold a credit derivative for, or otherwise assumed the credit risk of a debt security, the risk charge should be the same as if the Volunteer Group were to hold the underlying security directly. Such exposures should be reported in column *Other Off-Balance Sheet* of the Template, in the row corresponding to the guaranteed security.

c) Sale and repurchase agreements and asset sales with recourse, where the credit risk remains with the Volunteer Group, receive a CCF of 100%.

d) Forward asset purchases, forward deposits and partly-paid shares and securities, which represent commitments with certain drawdown, receive a CCF of 100%.

e) Transaction-related contingent items (eg performance bonds, bid bonds, warranties and standby letters of credit related to particular transactions) receive a CCF of 50%.

f) Note issuance facilities (NIFs) and revolving underwriting facilities (RUFs) receive a CCF of 50%.

g) Short-term self-liquidating trade letters of credit that a Volunteer Group either issues or confirms arising from the movement of goods (eg documentary credits collateralised by the underlying shipment) receive a 20% CCF.

h) Where there is an undertaking to provide a commitment on an off-balance sheet item, Volunteer Groups are to apply the lower of the two applicable CCFs.

i) All off-balance sheet securitisation exposures receive a CCF of 100%.

12.5.15 Data Collection on Use of NAIC Designations

796. For 2019 Field Testing purposes, the IAIS will collect data from those Volunteer Groups able to access NAIC Designations. Volunteer Groups that have access to NAIC Designations should use the following mapping table.

Table 47. Mapping of NAIC Designations to ICS RC

ICS RC	NAIC Designations
1	
2	
3	1
4	2
5	3
6	4
7	5

12.6 Operational Risk

Relevant Worksheets in Template:	*FT19.ICS Risk Charges.MAV* *FT19.ICS Risk Charges.GAAP+* *FT19.BCR+HLA*	*Due 31 July 2019*

797. Operational risk is the risk of adverse change in the value of capital resources due to operational events including inadequate or failed internal processes, people and systems, or from external events. Operational risk includes legal and conduct risk, but excludes strategic and reputational risk.

798. In 2019 Field Testing, the factor for Life (risk) was increased from 0.40% to 0.45% and Life (non-risk) was reduced from 0.45% to 0.40% to better reflect expected risk of the exposures.

12.6.1 Line of Business Segmentation

799. All data items should be split into the following line of business segments:

a) Non-life – insurance products that do not relate to life or similar to life health insurance, often referred to as property and casualty or general insurance. Products include auto / motor, property, workers' compensation/employer's liability, other liability, and credit / surety / pecuniary.

b) Life (risk) – Insurance products that relate to life or similar to life health insurance where the insurer bears investment risk. Products include individual life, group life, group pension and annuities (with a life aspect).

c) Life (non-risk) – products where the policyholder bears the investment risk. It includes segmented funds and accumulation annuities. For the purposes of 2019 Field Testing, life (non-risk) will be compared to products labelled as savings without guarantees or living benefits in the ICS balance sheet.

12.6.2 Geographical Segmentation

800. All data items should be split into the proposed geographical segments:

a) EEA and Switzerland

b) US and Canada

c) China

d) Japan

e) Other developed markets

f) Other emerging markets

12.6.3 Data Required

801. The design and calibration included in 2019 Field Testing is subject to refinements based on further analysis and evidence. As such, additional information is being collected for supplementary testing. The following information will help with completion of the Operational risk section of the worksheets *FT19.ICS Risk Charge*s.

802. Gross written premium (GWP) includes all business (new and renewal) written during the specified financial year before any allowance for reinsurance or other related recoverables. For single premium policies, premiums should be included in full as written during the year. For other insurance policies, written premiums should include premiums due to the Volunteer Group during the specified time period (financial year) on all business inforce. A check-sum is provided, which compares the GWP for life (both risk and non-risk) and non-life to the equivalent entry in the worksheet *FT19.BCR+HLA*. These should be equal.

803. Gross current estimates should be reported before any allowance for reinsurance or other related recoverables. A check-sum is provided to compare the gross current estimate for life (both risk and non-risk) and non-life to the equivalent entries on the ICS balance sheet. These should be equal.

804. To calculate the growth risk component of Operational risk, enter the GWP for the two most recent financial years for non-life and life (risk). The figures should be before the effect of ceded reinsurance and on a consolidated basis. For a Volunteer Group with a balance date of 31 December, the two most recent financial years are 1 January 2017 to 31 December 2017 and 1 January 2018 to 31 December 2018.

805. For non-life, if prior year net written premiums are being entered as the proxy for GWP most recent financial year as the exposure for Operational risk stemming from premiums, then reported premiums should be consistent with those used in the calculation of the non-life Premium risk charge.

12.6.4 Operational Risk Charge

806. The Operational risk charge is calculated as follows:

$$\begin{aligned} Op\ risk\ charge\ = \max & \left[non_life_op_risk_{\ premium}, non_life_op_risk_{\ liabilities}\right] \\ & + non_life_op_risk_{growth} \\ & + max\left[life_(risk)_op_risk_{premium},\ life\ _(risk)_op_risk_{liabilities}\right] \\ & + life_(risk)_op_risk_{growth} + life_(non_risk)_op_risk_{liabilities} \end{aligned}$$

807. For 2019 Field Testing purposes, the Operational risk components are computed as factors multiplied by risk exposures. The same factors are applied across geographical segments.

808. The exposures and factors for Operational risk are set in the following table.

Table 48. Operational risk exposures and factors

	Premium	Growth	Liabilities
Risk from Non-life Operations			
Exposure	GWP most recent financial year	GWP most recent financial year exceeding the growth threshold (20%) compared to the previous year	Gross current estimate
Factor	2.75%	2.75%	2.75%
Risk from Life Operations			
Exposure	**Life (risk):** GWP most recent financial year	**Life (risk):** GWP most recent financial year exceeding the growth threshold (20%) compared to the previous year	**Life (risk):** Gross current estimate **Life (non-risk):** Gross current estimate
Factor	**Life (risk):** 4%	**Life (risk):** 4%	**Life (risk):** 0.45% **Life (non-risk):** 0.40%

12.6.5 Benchmarking

809. For 2019 Field Testing analysis purposes, some benchmark calculations are included. These will be calculated automatically and will not be used in determining the ICS capital requirement. They will provide a comparison of the Operational risk charge – in total and also separately for life and non-life operations - to the size of the ICS capital requirement, assets, liabilities and GWP. The following columns will be calculated to make these comparisons:

a) Factor-based Operational Risk – This is the same as the Operational risk charge.

b) ICS Capital Requirement Benchmarks – This is the ICS capital requirement, excluding Operational risk, multiplied by a factor. There are two columns – one with a factor of 5% and one with a factor of 10%. The amounts for life and non-life are notional amounts and do not reflect the full diversification between these operations that the ICS itself allows. These are calculated by allocating the underlying risk charges between life and non-life operations and then aggregating using the ICS correlation matrices.

c) Asset/GWP Benchmark – This is a simplified measure of Operational risk based on the measures of group size used in the definition of an IAIG – assets and GWP. Assets for life and non-life operations are based on an allocation using the amount of insurance liabilities. A factor of 0.35% is applied to assets and 1.6% is applied to GWP. This is intended to approximate, for an average IAIG, the amount of the Factor Based Operational Risk though it may be higher/lower for individual Volunteer Groups.

12.7 Aggregation / Diversification of ICS Risk Charges

810. The Technical Specifications for Aggregation and Diversification apply both to the MAV and GAAP Plus approaches. This section has been written from the perspective of the MAV approach; while somewhat different valuation data might be used for GAAP Plus, the two approaches included in 2019 Field Testing are fundamentally the same for Aggregation and Diversification.

811. The aggregation of individual risk charges reflects some degree of diversification between the individual risks, as a consequence of the dependency specified between the risks.

812. The individual risk charges are aggregated in multiple steps using correlation matrices. This will be done automatically in the Template – Volunteer Groups do not have to enter any data with respect to aggregation and diversification in the Template. The correlation matrices used are unchanged from 2018 Field Testing.

813. The Life risks correlation matrix for 2019 Field Testing is:

Table 49. Life risks correlation matrix

	Mortality	Longevity	Morbidity/ Disability	Lapse	Expense
Mortality	100.0%	-25.0%	25.0%	0%	25.0%
Longevity	-25.0%	100.0%	0%	25.0%	25.0%
Morbidity/ Disability	25.0%	0%	100.0%	0%	50.0%
Lapse	0%	25.0%	0%	100.0%	50.0%
Expense	25.0%	25.0%	50.0%	50.0%	100.0%

814. The Market risks correlation matrix for 2019 Field Testing is:

Table 50. Market risks correlation matrix

	Interest rate	NDSR Up	NDSR Down	Equity	Real Estate	Currency	Asset concentration
Interest rate	100%	25%	25%	25%	25%	25%	0%
NDSR Up	25%	100%	100%	75%	50%	25%	0%
NDSR Down	25%	100%	100%	0%	0%	25%	0%
Equity	25%	75%	0%	100%	50%	25%	0%

Real estate	25%	50%	0%	50%	100%	25%	0%
Currency	25%	25%	25%	25%	25%	100%	0%
Asset concentration	0%	0%	0%	0%	0%	0%	100%

815. The global correlation matrix for 2019 Field Testing is:

Table 51. Correlation matrix across risks

	Non-life	Catastrophe	Life	Market	Credit
Non-life	100.0%	25.0%	0.0%	25.0%	25.0%
Catastrophe	25.0%	100.0%	25.0%	25.0%	25.0%
Life	0.0%	25.0%	100.0%	25.0%	25.0%
Market	25.0%	25.0%	25.0%	100.0%	25.0%
Credit	25.0%	25.0%	25.0%	25.0%	100.0%

816. The aggregation approach used within individual risk charges (eg IRR, Non-life risk) can be found in each section.

13 ICS Tax Treatment

Relevant Worksheets in Template:	*FT19.ICS Summary* *FT19.Future Taxable Income*	*Due Date: 31 July 2019*

817. The Technical Specifications for tax apply to both the MAV and GAAP Plus approaches. Specifications provide for a calculation and utilisation assessment of the following items related to tax:

a) Deferred tax assets (DTAs) and deferred tax liabilities (DTLs) on the jurisdictional audited GAAP balance sheet.

b) DTAs and DTLs arising from differences in valuation between the GAAP balance sheet and the ICS balance sheet (ie MAV and GAAP Plus).

c) DTAs on MOCE.

d) Tax effect on the insurance capital requirement.

818. In 2019 Field Testing, the specifications of DTAs on MOCE outline placeholder calculations and instructions that may be revised for ICS Version 2.0 for the monitoring period. The objective for 2019 Field Testing for DTAs on MOCE is mainly to gather additional data to enable the IAIS to make informed decisions on the open design elements.

13.1 Utilisation Assessment of Deferred Tax Assets on the GAAP Balance Sheet:

819. Deferred tax balances as reported on audited GAAP financial statements generally follow jurisdictional GAAP for purposes of assessing utilisation of any deferred tax asset. Under IFRS and US GAAP, that would include the application of a probable (IFRS) or more likely than not (US GAAP) assessment of utilisation. Under both standards the utilisation assessment is generally recognised to be a greater than 50% probability that the DTA would be utilisable. There may be Volunteer Groups that report under more stringent utilisation assessment approaches.

820. Deferred tax assets as recognised on the GAAP balance sheet are considered to be utilisable for the purpose of the ICS.

13.2 Top-down Approach

821. In principle, taxable income and losses can be offset across legal entities only to the extent that such a treatment is recognised by relevant tax authorities. As a global standard, the ICS needs to define a standardised way to handle deferred taxes notwithstanding the potentially diverse tax reality among different jurisdictions covered. The approach for 2019 Field Testing is a Top-down approach utilising a group effective tax rate (ETR).

822. The group ETR is calculated as a weighted average statutory effective tax rate, weighted using the previous three-year average of GAAP earnings before tax on a sub-group/entity level basis. The scope of the weighted average calculation should be limited to insurance-related activities, and GAAP earnings before tax should be floored at zero.

823. Statutory effective tax rates that have been enacted or substantially enacted as of the reporting date should be used for the ETR calculation. For example, a tax authority announces tax rate changes that would have a material impact for future periods. In such a case, the newly announced statutory effective tax rate should be used in the ETR calculation.

Example of the ETR calculation

An insurance group consists of the following entities located in different jurisdictions:

- Entity A: Insurance entity in country X
- Entity B: Insurance entity in country Y
- Entity C: Reinsurance entity in country Z
- Entity D: Banking entity in country Z

		GAAP Earnings before tax		
Group entities	Statutory effective tax rate	FY2016	FY2017	FY2018
Entity A	30%	500	700	-200
Entity B	25%	1,000	-100	900
Entity C	20%	2,000	500	1,500
Entity D	20%	200	500	300

- Entity A experienced GAAP losses before tax in FY2018 and Entity B in FY2017. These amounts should be floored at zero.
- Entity D conducts non-insurance related activities, and should be excluded from the weighted average statutory effective tax rate calculation.

The weighted average group statutory tax rate for this insurance group should be:

$$\frac{30\% * (500 + 700 + 0) + 25\% * (1{,}000 + 0 + 900) + 20\% * (2{,}000 + 500 + 1{,}500)}{7{,}100}$$

$$= 23.03\%$$

824. The Top-down approach is applied to:

a) DTAs and DTLs arising from differences in valuation between the jurisdictional audited GAAP balance sheet and the ICS balance sheet including DTAs on MOCE; and

b) The tax effect on the ICS capital requirement.

13.3 Adjustments Arising from the Differences in Valuation between Audited GAAP and ICS Balance Sheets (DTA/DTL Recognised by ICS Adjustment)

825. Volunteer Groups should prepare MAV and GAAP Plus balance sheets based on the instructions provided in Section 5 *ICS Balance Sheet*. Differences in valuation are recognised through reclassifications and adjustments of asset and liability valuations from the jurisdictional audited GAAP balance sheet to the MAV and GAAP Plus balance sheets. The associated deferred tax adjustment is the change in value multiplied by the ETR as defined by paragraph 822.

826. Deferred taxes arising from ICS adjustments before the utilisation assessment, defined by paragraph 828, should be offset if the following criteria are met:

a) An entity that has a legally enforceable right to offset current tax assets against current tax liabilities; and

b) Deferred taxes relate to income taxes levied by the same taxation authority on either:

- The same taxable entity; or,
- Different taxable entities that intend either to settle current tax liabilities and assets on a net basis, or to realise the assets and settle the liabilities simultaneously, in each future period in which significant amounts of deferred taxes are expected to be settled or recovered.

827. If Volunteer Groups have practical difficulties applying the specifications above, simplifications may be used to offset deferred taxes arising from ICS adjustments. The simplification approach should be described in the Questionnaire.

828. Any deferred tax assets recognised as a result of the ICS adjustment are subject to an utilisation assessment. The utilisation assessment of any incremental deferred tax assets on the ICS MAV and/or GAAP Plus balance sheets is a simplified formula where no additional net DTA may be recognised. Thus DTAs resulting from the ICS adjustment are capped at any net GAAP DTL plus gross DTLs resulting from the ICS adjustment according to the following calculation:

Add:

a) Gross jurisdictional audited GAAP deferred tax liabilities

b) Gross DTL recognised by the ICS adjustment

Subtract:

a) Gross jurisdictional audited GAAP deferred tax assets

b) DTL associated with assets subject to deduction from capital resources (see paragraph 829 below)

If the calculation is negative, the increase of deferred tax assets resulting from the revaluation from GAAP to MAV and/or GAAP Plus should be zero.

829. Certain assets from Tier 1 capital resources are deducted because of uncertainty regarding the asset valuation. The deducted amount should be calculated net of associated DTLs. Thus, the DTLs associated with those assets have already been reflected in the value of Tier 1 capital resources. To avoid double-counting, all DTLs associated with these assets, which are deducted from Tier 1 capital resources, should be deducted from the DTL balance before assessing the utilisation of the stress tax effect.

13.4 Deferred Tax Impact on MOCE

830. It has not yet been determined whether MOCE will be considered a permanent or temporary tax difference. As such, different options regarding the recognition of DTAs on MOCE are being considered in 2019 Field Testing.

831. The Template automatically calculates DTAs on MOCE using a central scenario. Other information is collected to allow an assessment of other options. For the central scenario, the utilisation assessment of DTAs on MOCE applies a 50% deduction using the following steps:

a) Calculate DTLs on the ICS balance sheet less DTAs other than MOCE to determine any remaining DTL (See Section 13.3 above).

b) Calculate the DTA derived from MOCE, before the deduction, as the minimum of the notional DTAs on MOCE (MOCE * ETR) and the remaining DTLs.

c) Apply a 50% deduction to the DTA on MOCE to obtain the utilisable DTA.

For example, an insurance group has the following items:

- MOCE: 250
- Group effective tax rate: 40%
- DTLs on ICS balance sheet: 120
- DTAs other than MOCE: 40
- Notional DTAs on MOCE: 100 (250 * 40%)

Step 1: Calculate the remaining DTLs

$$DTLs\ on\ ICS\ balance\ sheet - DTAs\ other\ than\ MOCE = Remaining\ DTLs$$
$$120 - 40 = 80$$

Step 2: Calculate the DTAs on MOCE before the deduction

$$\min(remaining\ DTLs, notional\ DTAs\ on\ MOCE) = DTAs\ on\ MOCE\ before\ deduction$$
$$\min(80,100) = 80$$

Step 3: Apply the deduction to the DTAs on MOCE

$$DTAs\ on\ MOCE\ before\ deduction * (1 - 50\%) = 40$$

832. DTAs on MOCE are offset with DTLs related to insurance liabilities prior to the utilisation assessment of the tax effect on the capital requirement.

13.5 Tax Effect on the Insurance Capital Requirement (Post Diversification and Management Actions, but Pre-tax)

833. Under a stressed condition, if a Volunteer Group has enough carry back taxable or future taxable income to net against taxable losses generated from the stress, the tax expense would be reduced.

834. The insurance capital requirement is deemed as a net operating loss, and the tax effect on the insurance capital requirement is calculated as follows:

$$Insurance\ capital\ requirement * Group\ effective\ tax\ rate$$

835. The following three sources of taxable income are included as part of the utilisation assessment of the tax effect on the insurance capital requirement to cover taxable losses from the prescribed stress:

a) Tax loss carry backs

b) DTLs

c) Post-stress future taxable income projections stemming from insurance business

836. Tax loss carry backs allow a sub-group/entity to offset current net operating losses against profits in previous years (number of years allowed differs between jurisdictions).

837. Tax loss carry backs are not available in all jurisdictions, and the ICS capital requirement is calculated as a group consolidated capital requirement. To address this issue, tax loss carry backs are recognised in the utilisation assessment of the tax effect on the insurance capital requirement using the following calculation:

a) Identify the tax loss carry back capacity on a tax sub-group/entity level basis including any fiscal unity for corporate tax as of the ICS reporting date.

b) Identify the notional tax effect on the insurance capital requirement (ie $the\ insurance\ capital\ requirement * ETR$) and then allocate between tax sub-groups/entities using a weighted average based on GAAP/SAP insurance liabilities.

c) Determine the minimum of the tax loss carry back capacity (as defined in a)) and the allocated notional tax effect on the insurance capital requirement (as defined in b)), and then apply a 15% deduction to the amount summed across tax sub-groups/entities.

838. DTLs belonging to an individual entity or sub-group, and future taxable income from DTLs cannot be used across sub-groups/entities to offset DTAs or net operating losses. In addition, DTLs may not change to taxable income when a stress loss is realised. Furthermore, DTLs often decline sharply under stress conditions as DTLs primarily result from unrealised investment gains and the GAAP/SAP risk margin of insurance liabilities. To address these issues, DTLs are capped at 20% of the insurance capital requirement.

839. Projecting taxable income following prescribed stress conditions at a group level would be operationally difficult. Therefore, it was necessary to develop a proxy for projected post-stress taxable income.

840. The maximum time horizon which Volunteer Groups should be able to reasonably project post-stress future taxable income was determined to be five years. The approach for 2019 Field Testing uses the cumulative historical five years of GAAP earnings before tax as a proxy for a future taxable income projection.

841. A 50% deduction is applied to adjust the historical GAAP income to a proxy for post-stress future taxable income and for imprecision of the calculation. Volunteer Groups may have made significant changes to their business during the historical five year period (eg mergers, acquisitions or dispositions). For significant changes, Volunteer Groups should adjust their historical five years of GAAP earnings before tax to recognise merged, acquired or sold entities.

842. The utilisation assessment of DTAs on the ICS balance sheet assumes a certain level of income that would be available to absorb any DTAs that rely on future taxable income. In order to

prevent any double counting of projected taxable income, any DTAs recognised on the ICS balance sheet should be subtracted from the proxy for post-stress future taxable income.

843. As a result, the tax effect on the insurance capital requirement is calculated using the following formula:

$$\min(a + b + c - d, notional\ tax\ effect\ on\ the\ insurance\ capital\ requirement)$$

a) $\sum_{Tax\ sub-group/entities} \min\begin{pmatrix} Tax\ loss\ carry\ back\ capacity, \\ Allocated\ notional\ tax\ effect\ on\ insurance\ capital\ requirement \end{pmatrix} * (1 - 15\%)$

b) $+ \min(DTL\ on\ ICS\ BS, insurance\ capital\ requirement * 20\%)$

c) + 50% of total historical five years GAAP earnings before tax on the consolidated financial statement with required adjustments for mergers, acquisitions (M&A) and disposition * Group effective tax rate

d) − DTA balance on the ICS balance sheet

844. The utilisable stress tax effect should be deducted from the insurance capital requirement.

For example, a Volunteer Group has the following components: Group entities for insurance related activities are located in US, UK, Korea, and Japan. This group does not apply a fiscal unity.

- A significant subsidiary was acquired during FY2.
- Insurance capital requirement: 10,000
- Group effective tax rate: 30%
- Notional tax effect on the insurance capital requirement: 3,000 (10,000 * 30%)
- DTA on ICS balance sheet: 300, DTL on ICS balance sheet: 850
- Total of the last five years GAAP earnings before tax: 8,000
- Earnings before tax of the acquired subsidiary in FY1: 100

<u>Utilisation assessment of the tax effect on the insurance capital requirement:</u>

a) Tax loss carry backs

	US	UK	Korea	Japan	Total
GAAP insurance liabilities	8,000	2,000	6,000	4,000	20,000
Allocated notional tax effect on insurance capital requirement	1,200	300	900	600	3,000

Maximum tax loss carry backs	100	1,000	N/A	N/A	1,100
Capped tax loss carry backs before haircut	100	300	N/A	N/A	400

Tax loss carry backs for the utilisation assessment should be 340 [=400*(1-15%)]

b) DTL

Cap at 20% of the insurance capital requirement: 2,000 (=10,000*20%)

DTLs for the utilisation assessment should be 850 [=min (850, 2,000)]

c) Post-stress future taxable income projection from insurance business

Total of the last five years of GAAP earnings before tax: 8,000

Earnings before tax of the acquired subsidiary in FY1: 100

Post-stress future taxable income projection from insurance business for the utilisation assessment should be 1,215 [= (8,000+100)*30%*50%]

Utilisation assessment for the insurance capital requirement of the tax effect of the group: Tax loss carry backs (340) + DTL (850) + Future taxable income from insurance business (1,215) – DTA on ICS balance sheet (300) = 2,105

Utilisable tax effect on the insurance capital requirement should be 2,105 [=Min (2,105, 3,000)]

13.6 Supplemental Data Collection on Post-Stress Future Taxable Income Projection

845. For 2019 Field Testing, historical GAAP income with a 50% deduction is used as a proxy for post-stress future taxable income for several reasons including lack of data availability at an appropriate level, difficulty of reflecting post-shock impacts on projections and the difficulty for supervisors to validate and examine complex tax projections.

846. A supplemental data collection is being conducted in 2019 Field Testing to assess whether future taxable income projections or GAAP earnings before tax projections could be used in the utilisation assessment of the tax effect on the capital requirement. These figures will be compared to the results of the approach for 2019 Field Testing and any difficulties in providing the data should be reported in the Questionnaire. The following projections will be collected through this supplemental data collection. Data should be reported in the Template on the worksheet *FT19.Future Taxable Income*.

a) Group future taxable income projections to be provided:

- Unadjusted projections (no guardrails).
- Projections using specified guardrails (see paragraph 851).
- Projections using specified guardrails and risk-free rate investment returns (see paragraph 852).

b) Group future GAAP earnings before tax projections to be provided:

- Unadjusted projection (no guardrails).
- Projections using specified guardrails (see in paragraph 851).
- Projections using specified guardrails and risk-free rate investment returns (see paragraph 852).

847. Future taxable income projections are generally estimated on a tax sub-group/entity level basis. However, the tax effect on the ICS capital requirement is calculated at a group level. In addition, future taxable income projections are estimated on a pre-stress basis, therefore there is a need to develop a reasonable approach to be able to aggregate projections up to the group level and to apply certain prescribed deductions and guardrails that contemplate these limitations. In order to perform an assessment certain data is being collected, but equally important is the additional qualitative information that is being requested in the Questionnaire to assess the limitations and difficulties associated with providing the data.

848. The group future taxable income projections with/without the guardrails should follow the following principles

a) The starting point for the data collection for projected taxable income should be up to five years of tax sub-group/entity level projections that are estimated and used for tax planning and/or to assess tax positions and deferred tax asset utilisation under jurisdictional GAAP reporting.

b) The tax sub-group/entities included should only be those that are related to insurance activities as defined in Annex 3.

c) The sub-group/entity level projections (both unadjusted and with guardrails applied) should be aggregated to a group level. Any intercompany transactions should be eliminated and foreign currency translation applied where applicable. Practical expedients may be used but should be described in the Questionnaire.

849. The supplemental data collection also includes the collection of up to five years of projected GAAP earnings before tax that is used for GAAP or management reporting. Projected GAAP earnings before tax with/without guardrails should follow the principle in paragraph 848.

850. For this data collection the assumptions used by Volunteer Groups to calculate taxable income and GAAP earnings before tax projections should be consistent with the guardrails defined below.

851. For future taxable income projections with guardrails, the following guardrails should be used:

a) New business sales time horizon should not exceed five years or go beyond the business plan whichever is shorter. New business is defined as all premiums outside of the contract boundaries of the current estimates in the balance sheet.

b) Five years of future income from insurance contracts underwritten within the time-horizon defined in a) are captured as the future income projection. However, if jurisdictional tax law defines expiration of tax loss carry forward caused by a stress event, only future income projections which would be realised before the expiration should be included.

c) Any assumptions regarding anticipated new business and in-force policies should not exceed the most recent three-year historical average.

d) Projected investment returns on excess assets over insurance liabilities should not exceed the most recent three-year historical average.

e) If insurance liabilities on tax balance sheets or GAAP balance sheets incorporate future profits including margins, the future profits should not be double-counted in the taxable income projections, and GAAP earnings before tax projections.

f) Volunteer Groups should ensure that future income projection methods are consistent year over year and demonstrate when the fiscal profits and losses will be generated.

g) Regarding future management actions, the going concern principle should be observed, but decisions such as recapitalisation and new hedging strategies should not be considered.

852. Additional data is also being requested to project future income with the guardrails using risk-free rate investment returns. The same guardrails as in paragraph 851 should be applied; however, guardrail d) in paragraph 851 should be replaced as follows:

- Projected investment returns on excess assets over insurance liabilities should be calculated using MAV base yield curves by currencies.

853. The Template includes sections to report the breakdown of future taxable income projections with/without guardrails using the following income sources:

a) Tax projected income from new business

b) Tax projected income from investment returns on excess assets

c) Tax projected income from other income sources

14 Baseline Jurisdictional Legal-Entity Capital Requirements

Relevant Worksheets in Template:	*FT19.Baseline.Jurisdictional*	*Due 31 July 2019*

854. Volunteer Groups should report their existing local capital requirements for each insurance legal entity (subsidiary) in the group (consistent with the balance sheet). Immaterial entities in a jurisdiction may be reported on an aggregated basis (materiality should be based on the definition of material entity in paragraph 855. It is important that this reporting is at the legal entity level rather than a sub-group consolidation within a jurisdiction. This baseline information will be used in further analysis of options in dealing with Currency risk and capital resources, and to assess how to deal with fungibility of capital issues in ComFrame (including the possibility of some quantitative adjustment to the ICS).

855. A material entity is one which contributes significantly to the total group risks. Materiality in this case relates to the materiality of the risks posed to the financial entities in the group, not the size of the operations of the related entity. In considering what might significantly contribute to group risks, consider whether the related entity's gross assets are more than 5% of the group's gross assets and whether its revenue or profits are more than 5% of the group's revenue or profits.

14.1 Country

856. The country column has drop down lists in each cell listing all countries according to the World Bank list of countries (http://data.worldbank.org/country) with Chinese Taipei and the Falkland Islands added. Please select one country per subsidiary. It is expected that some Volunteer Groups will have multiple subsidiaries in some jurisdictions.

14.2 Legal Entity Identification

857. Please provide the name of the legal entity, as well as the ISO 17442 Legal Entity Identifier, if available. If reporting an aggregated amount per country for multiple immaterial subsidiaries, please indicate "Multiple Immaterial Entities" as the legal entity name.

14.3 Assets and Liabilities in the Jurisdiction

858. Record the assets and liabilities held in each subsidiary according to the requirements of local regulatory reporting (ie no need to adjust MAV or GAAP Plus) with one exception (see below). Please do not report on the basis of local GAAP unless that is the basis of local regulatory reporting. Details of intra-group assets and liabilities (for instance, intra-group reinsurance recoverables, intra-group loans etc.) should also be provided.

859. The IAIS will not specify how particular items are to be treated as assets, liabilities or equity under the capital resources column. These must be reported according to the requirements of local regulatory reporting.

860. If local regulatory reporting of insurance liabilities is on a net basis, please attempt, on a best efforts basis, to record insurance liabilities as a gross amount instead so that the IAIS can assess the extent of intra-group reinsurance arrangements.

861. Information on the proportion of assets and liabilities within an entity that arise due to intra-group transactions are also requested. For this purpose, intra-group transactions take the form of direct and indirect claims with other legal entities within the scope of the group. Examples of intra-group assets are:

a) Reinsurance recoverables from other legal entities within the group

b) Shareholdings in other legal entities within the group

c) Loans provided to other legal entities within the group

d) Receivables for sale of assets to other legal entities within the group

e) Receivables for services provided to other legal entities within the group

862. Examples of intra-group liabilities are:

a) Reinsurance claims payable to other legal entities within the group

b) Borrowings from other legal entities in the group

c) Amounts payable for the purchase of assets from other legal entities within the group

d) Dividends payable to other legal entities that are shareholders of the legal entity

e) Liabilities for services received from other legal entities

f) Liabilities arising out of transactions with a central treasury operation performed by another legal entity within the group

14.4 Local Capital Requirement

863. Record the local capital requirement at a PCR level (see ICP 17) imposed by the respective jurisdictional insurance supervisor. If an agreed change in local capital requirements will be in-force by end 2019, Volunteer Groups should report on that basis.

864. For example, the PCR should be reported on the following basis:

a) For Australian subsidiaries, the PCR is the target capital as set by the insurer/group in accordance with APRA requirements. Effectively, this would be "Target capital under ICAAP". PCR is not a set multiple of MCR.

b) For Bermudian subsidiaries, the Legal Entity PCR in Bermuda for medium and large commercial insurers is called the “Enhanced Capital Requirement” (ECR) and is calibrated to Tail-VaR at 99% confidence level over a one-year time horizon.

c) For Brazilian subsidiaries, the PCR is reported as the Brazilian MCR (in Portuguese, CMR – Capital Mínimo Requerido).

d) For Canadian life subsidiaries, the PCR is 100% of the LICAT Solvency Buffer. For Canadian P&C subsidiaries, the PCR is the MCT capital requirement at target level.

e) For Chilean subsidiaries, the PCR is 100% of the total capital requirement which is the maximum between minimum capital, maximum debt ratios and a solvency margin.

f) For Chinese subsidiaries, the PCR is 100% of the C-ROSS total capital.

g) For Chinese Taipei subsidiaries, the PCR is 200% of the RBC ratio.

h) Subsidiaries based in the European Union should use the Solvency II Solo SCR as the PCR.

i) For Hong Kong subsidiaries, under the current rule-based capital regime, if applied similar to the concept of PCR, the regime's PCR would be 150% of MCR for life insurers and 200% of MCR for non-life insurers.

j) For Indian subsidiaries, the PCR is a factor-based solvency approach, based on a Solvency I type model, to maintain an excess of the value of assets over the amount of liabilities of not less than 50% of the amount of minimum capital subject to the control level of a solvency ratio of 150%.

k) For Japanese subsidiaries, the PCR is the solvency margin ratio of 200%.

l) For Korean subsidiaries, the PCR is the risk-based solvency margin ratio of 100%.

m) For Malaysian subsidiaries, the PCR is the individual target capital level calculated by individual entities based on policy requirements set by the Bank Negara Malaysia.

n) For Mexican subsidiaries, the PCR is the solvency capital requirement (SCR) based on a Solvency II type model, using both Value at Risk (VaR) methodologies, considering the time horizon of one year at a confidence level of 99.5%, and Probable Maximum Loss (PML) methodologies for catastrophic risks.

o) For Singaporean subsidiaries, the PCR is 120% of total risk requirement (ie capital requirement).

p) For South African subsidiaries, the PCR is 100% of the SAM SCR.

q) For Swiss subsidiaries, the Legal Entity PCR under the "Swiss Solvency Test" (SST) is 100% of the target capital, which is calibrated to Tail-VaR at 99% confidence level over a one-year time horizon.

r) For US subsidiaries, the RBC Company Action Level of each insurer should be re-calibrated to the point at which regulatory action can be taken in any state based on RBC alone, ie, the point at which the trend test begins which is one and a half times company action level.

14.5 Local Capital Resources

865. Record the available capital resources recognised by the respective jurisdictional insurance supervisor. The total qualifying capital resources should be the result of the sum of equity items from the balance sheet, plus any debt that is recognised as qualifying capital resources (eg subordinated debt), less any deductions from capital resources (or inadmissible assets). If an agreed change in local capital resources will be in-force by end 2019, Volunteer Groups should report on that basis.

866. In addition, three components of capital resources are requested (these three components are components of local capital resources and are not expected to sum to total local capital resources):

a) The amount of capital resources represented by equity on the regulatory balance sheet of the subsidiary. This is automatically determined in the Template as the difference between assets and liabilities reported on the regulatory balance sheet.

b) Any financial instruments that are issued from the subsidiary that are not issued intra-group and are recognised as available capital resources by the jurisdictional insurance supervisor. These may also be recorded as non-controlling interests for ICS capital resources. However, the ICS capital resources criteria may not be the same as the criteria for available capital resources applied by the jurisdictional insurance supervisor. Where there are available capital resources issued to third parties that are recognised by the jurisdictional insurance supervisor but not under 2019 Field Testing (see Section 9 on *Qualifying Capital Resources*) please provide details in the Questionnaire, including a cross-reference to where these instruments are shown on the worksheet *FT19.Financial Instruments*.

c) Available capital resources that are not financial instruments. Please record the amount of balance sheet items recognised by the jurisdictional insurance supervisor as available capital resources that are not financial instruments. This will include items like the retained earnings, accumulated other comprehensive income and certain reserves. (This is not intended to be a balancing item, ie the three components need not sum to total capital resources).

15 Baseline Supplementary Internal Model Data

Relevant Worksheets in Template:	*FT19.Baseline.Internal Model*	*Due 31 July 2019*

867. As an additional reference point in considering the overall calibration of the ICS and its components, the IAIS requests Volunteer Groups to provide internal model results structured in the same way as the ICS. Results should be undiversified at the risk level and reported on a pre-tax basis. This is a voluntary submission.

868. Internal models may not be structured in the same way as the ICS. However, to facilitate the analysis, Volunteer Groups should approximate the results in a way similar to the structure of the ICS and its components (ie 99.5% VaR over a one-year time horizon). Furthermore, as Volunteer Groups use various risk measures, time horizons, confidence levels and assumptions within their internal models, it is requested that Volunteer Groups provide the specifications of their internal model (risk measure, time horizon, confidence level) as well as their internal model results using these specifications. In the Questionnaire, Volunteer Groups should explain differences in definition of risks, issues in restructuring internal model results, details about their own internal model specifications (assumptions, distribution and parameters used), methods used for the aggregation of internal results. When answering these questions, please give an indication of the materiality of structural differences such as differences in definition of risks.

869. As the purpose of this part of 2019 Field Testing is to support the analysis of the calibration of the ICS and its components, Volunteer Groups may partially (for certain risks, not for a part of the Group) fill in this worksheet, if that is all that is possible. The cells are deliberately not aggregated to a total capital requirement to allow for input of individual items. Results should be reported on the same group level as used for the rest of the Template.

870. This request applies to internal models that have been approved by group-wide supervisors for the purpose of calculating regulatory capital requirements and internal models for internal risk management purposes that are not subject to regulatory approval. Volunteer Groups should specify whether their internal model has been approved by their group-wide supervisor. If the option "Other" is chosen in any of the dropdown menus, additional information should be provided in the Questionnaire.

15.1 Calibration

871. In order for this data to assist the IAIS in considering the calibration of the ICS, the results reported should use the same target criteria and time horizon as set out for the calculation of the ICS, ie 99.5% VaR over a one-year time horizon. Where Volunteer Groups' internal models are not targeting this risk measure but Volunteer Groups are able to approximate the results, the basis of the results should be reported in the Questionnaire. In addition, further quantile information (90% VaR, 95% VaR, 99% VaR) over a one-year time horizon is requested.

872. In addition to internal models results with the ICS specifications, Volunteer Groups are requested to submit actual internal model results using their own internal model specifications: risk measure, time horizon, confidence levels and assumptions used (eg a Volunteer Group uses for its Equity risk charge calculation an internal model approved by a supervisory authority with a 99.9% VaR over a one-day time horizon).

15.2 Economic Balance Sheet Items

873. Volunteer Groups should complete the economic balance sheet table only if a full internal model is used to measure all quantifiable risks. There is no need to complete this part of the worksheet if partial internal models are used. Details on the valuation basis including the approach to discounting liabilities should be provided in the Questionnaire.

15.3 Internal Model Risk Charges

874. Risk charges are requested using the same structure as the ICS (including the same definitions for each of the risks). Where it is only possible to report risk charges at a high level of aggregation, eg market risk as compared to interest rate risk etc., report only that figure. Where the Volunteer Group has the ability to approximate the more granular risk charges in a credible way, please complete the additional granular data request.

875. There are two automatically computed columns in order to facilitate comparison of ICS and internal model results. These columns show: the ICS risk charges for different risk categories and a percentage difference between the ICS and internal model risk charges. If the ICS and internal model risk charges differ, Volunteer Groups should provide additional information in the Questionnaire. More details regarding the differences between internal model and ICS risk charges may be provided by submitting supplementary files (maximum size of all supplementary documents is 10MB) with following name convention:

IAIS2019_FT(IM)_<countryID>_<companyID>_ v<versionNumber>_<short descriptive name> .pdf

15.4 Correlation Matrix for Sum of Risk Charges Used in Internal Models

876. The correlation matrix that is used to aggregate risk charges in order to consider diversification effects is requested for major risk categories. Where it is only possible to report a few bilateral correlations, please provide this information.

877. If a single correlation matrix is not used (as illustrated in the worksheet *FT19.Baseline.Internal Model*) to determine the total capital requirement, please explain in the Questionnaire how risk charges are aggregated in order to consider diversification effects and how this differs from the above mentioned correlation matrix.

878. If a more granular correlation matrix is used (in comparison to a correlation matrix used in the worksheet *FT19.Baseline.*Internal *Model*), more information should be provided in the Questionnaire.

16 Supplementary Data Collection (Segmentation of Investments)

Relevant Worksheets in Template:	*FT19.Investment Segmentation*	*Due 31 July 2019*

879. For 2019 Field Testing, the IAIS is collecting data on a number of specified investment segments for which there may be sufficient rationale to apply a different treatment/ calibration. The segments are: strategic equity, private equity, privately placed debt, fixed-income investments qualifying as capital resources for a financial institution issuer, and infrastructure investments.

880. For most of the specified investment segments, the IAIS is particularly interested in receiving data on the subset of such investments that meet the specified criteria. Given the principle-based nature of some of the specified criteria, the Questionnaire will collect information from Volunteer Groups about applying the criteria. Additionally, the IAIS is interested in Volunteer Groups' views of accessible data sources that may be useful for possibly developing appropriate risk charge calibrations for the proposed investment segments – Volunteer Groups are encouraged to provide such information within the Questionnaire.

881. For purposes of this supplementary data collection:

- Volunteer Groups should report their investments according to the MAV approach.
- The IAIS has attempted to design the specified investment segments as mutually exclusive, should Volunteer Groups identify material segment overlaps, this should be identified (including impacts where possible) within the Questionnaire.
- A look-through approach should be applied to investment funds held, for which the Volunteer Group has investment risks and which could contain investments falling within the definitions of the specified investment segments. If the Volunteer Group is unable to apply a look-through approach to such investment fund, this should be identified (including impacts where possible) within the Questionnaire.

16.1 Strategic Equity

882. The IAIS would like to capture data from Volunteer Groups on the both the population of its unconsolidated equity investments in affiliates, joint ventures etc., and the subset of such investments which meet specified criteria for determining if they can be considered as strategic.

883. The aim of the criteria is to identify the subset of those specific equity investments which may have less volatile valuations due to their strategic nature and the ability of the Volunteer Group to influence the strategy of the firm for which the equity investment is held.

884. Consequently, a strategic equity investment is defined as those equity investments for which the Volunteer Group can demonstrate all of the following:

- The value of the strategic equity investment is less volatile than the value of other equities as a result of both the nature of the investment and the influence exercised by the Volunteer Group. Under this criterion, the expectation is that Volunteer Groups are monitoring the value development of the investment over time, and comparing it to the value development of non-strategic investments of a similar category. Where dividends are being received these should be continuous in value. Volunteer Groups should also be able to establish that the reduced volatility of the equity investment's value is linked to the influence exercised over the investment, and that this link will persist for at least the following 12 months;

- The nature of the investment is strategic, taking into account all relevant factors, including:

    - Existence of a clear decisive strategy, as well as ability, to continue holding the investment for a long period.

    - Existence of a durable link, which may be established by the existence of a stable relationship between two firms over time which results in a close economic bond, the sharing of risks and benefits between them or exposure to risks from one to the other. Such a link may be demonstrated in the form of the relationship between the two firms, which may include ownership, joint products or distribution lines, cross-selling, the creation of joint ventures or other long-term operational or financial links.

    - Consistency of such strategy with the main policies guiding or limiting the actions of the Volunteer Group.

16.2 Private Equity

885. The IAIS would like to capture data from Volunteer Groups on the both the population of its unlisted equities and the subset of such investments that meet specified criteria for determining if they can be considered as having a better risk profile.

886. The aim of the criteria is to identify the subset of unlisted equity investments which may be less risky due to their nature and as a result of being subject to active management by an experienced team of investment professionals following framed processes and requesting extensive information from the investees.

887. Consequently, the subset of unlisted equities to be reported under private equity investments are those for which the Volunteer Group can demonstrate all of the following:

- There is active engagement and management of the equity investment by the investor, such as might be expected under a contractual framework for a venture capital equity investment.

- The diversification is sufficient, such that the expected correlation of returns between the equity investment and other assets is not high.

- The transparency offered to the investor is sufficient, such that the investor is able to obtain information on the investee that is at least similar to what would be available for a listed equity and that situation is expected to continue over the life of the unlisted equity investment.

16.3 Privately Placed Debt

888. The IAIS would like to capture data on the both the population of Volunteer Groups' privately placed debt and the subset of such investments that are unrated (not rated by a credit ratings provider recognised under the ICS criteria) and meet specified criteria for determining if they can be considered as having a better risk profile than other unrated investments.

889. The aim of the criteria is to identify the subset of unrated privately placed debt investments which may be less risky due to the existence of sufficient credit quality features with respect to the investee and the investment. Specifically, the subset of such unrated investments to be reported under privately placed debt investments are those for which the Volunteer Group can demonstrate all of the following:

- The financial state of the debtor is sufficiently strong, according to its financial statements, which may be evidenced by analysis of key financial data and ratios (such as leverage, revenues, etc.);

- The features of the debt instrument are sufficiently protecting the investor in case of default, which may be evidenced by the financial covenants, collateral arrangements as well as ranking of the debt within the credit hierarchy in case of default; and

- The transparency offered to the investor during the lifetime of the instrument is sufficient, meaning the investor has access to information relevant for adequately assessing the security.

890. For this segment, the IAIS would also like to capture Volunteer Group's credit assessment data, where available, on privately placed debt, specifically:

a) External credit assessments provided by firms not explicitly recognised for ICS purposes (for purposes of this data collection, also include applicable NAIC designations); and

b) Internal ratings of the privately placed debt as mapped to the ICS RC.

16.4 Fixed-income Investments Qualifying as Regulatory Capital for a Financial Institution Issuer

891. The IAIS would like to capture data on investments in fixed-income instruments that have maturity dates and qualify as regulatory capital for a financial institution issuer (for example, investments in bank subordinated debt). In addition to the amount of such investments, data is also being requested from Volunteer Groups on the investment ratings and duration.

16.5 Infrastructure Investments

892. The IAIS would like to collect data from Volunteer Groups on investments in infrastructure debt and equity, including the subset of such investments that meet specified criteria, to determine whether they can be considered as having a better risk profile than similar non-infrastructure investments. The data collection regarding infrastructure investments also includes a separate identification of:

a) Non-rated debt exposures

b) Debt securities and loans in emerging market and developing economies (EMDEs)

c) Exposures depending on public sector involvement (PPP)

d) Construction vs. operational projects

e) Loans vs. bonds

893. For the purposes of this data collection exercise, the following definitions apply:

a) Infrastructure assets means physical assets, structures or facilities, systems and networks that provide or support essential public services.

b) Infrastructure corporate means an entity or corporate group which derives most revenues from owning, financing, developing, or operating infrastructure assets – typically involved in the operational phase of a project, but may sometimes derive a meaningful part of their revenues from non-infrastructure activities. Loans to an infrastructure corporate are normally unsecured.

c) Infrastructure projects are typically set up for the construction phase of a new project. Apart from the borrowers' different legal and financing structures, the main difference from infrastructure corporates is that lenders to infrastructure projects usually benefit from the project risk being collateralised.

d) Infrastructure investments are those debt or equity investments in infrastructure corporates or projects which support owning, financing, developing, or operating infrastructure assets.

e) EMDEs should be identified on the basis of the World Bank classification of countries[46]: all countries not classified as high income should be considered as EMDE.

[46] Please refer to the following table, as of June 2017: http://databank.worldbank.org/data/download/site-content/CLASS.xls. The methodology for classification is described on the webpage: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups

894. This data collection also includes the reporting of collateral arrangements used to secure investments in infrastructure, as well as the subsequent redistribution between the credit rating categories. The redistribution should be following the instructions for Credit risk (see Section 12.5.5).

895. The following table is provided to assist Volunteer Groups in identifying infrastructure investments:

Table 52. Infrastructure investments

General title	What is infrastructure	What is not infrastructure	What typically makes the infrastructure investment safer
Water utilities	Water supply / distribution, Waste water collection / treatment	Fixing water pipe leakages	Regulation relating to long-term concessions or pricing or return-on-assets or profit margin.
Waste management utilities	Facilities dedicated to waste management and recycling.	Using spare parts from scrapped vehicles for other vehicles.	Long-term concessions usually with the involvement of a local government or council.
Electricity and gas utilities	Generation / transmission / distribution / storage / district heating	Batteries used in electric cars Insulation of houses.	Regulation relating to long-term concessions, or pricing, or return-on-assets or profit margin.
Transportation	Airports / ports / roadways / railway network	Car, aircraft, boat manufacture Spare parts for aircrafts, etc.	Long-term concessions or agreements usually with the involvement of a local government or council. Demand for such services.
Telecom	Core telecom infrastructure such as broadband equipment, optical fibres, radio masts, etc. without which telecom services cannot reach the public.	Production and selling of phone instruments with or without a contract with the end consumer. Facilities for private use.	Long-term contracts, mostly business-to-business.

Social infrastructure	Infrastructure for public use supported by a government or a similar authority. (eg Courts, public libraries, prisons, juvenile facilities, refugee camps, social housing for poor population, government owned hospitals, national museums etc.).	Privately owned universities, hospitals, museums etc. Assets belonging to individual charities or organisations (eg YMCA)	The infrastructure facility is consistent with the social policies of the relevant government.

896. The aim of the criteria is to identify the subset of debt and equity infrastructure investments with infrastructure corporates and infrastructure projects which may be less risky due to their nature and the existence of sufficient investment protection features.

16.5.1 Infrastructure Corporates

897. The subset of infrastructure investments to be reported under infrastructure corporates are those for which the Volunteer Group can demonstrate all of the following:

- The revenues generated by the infrastructure assets are predictable. This may be evidenced by availability-based revenues or arrangements that are subject to rate-of-return regulations. Alternative factors that can result in predictable revenues are:
    - Arrangements that provide a high degree of contractual or regulatory certainty about repayment from future revenues by mitigating demand and/or price risk through concessions.
    - Offtake contracts, such as take-or-pay contracts, or similar.
    - Resilient demand
    - A low risk of substitution and barriers to entry
- The revenues generated by the infrastructure assets are diversified in terms of activities, location, or payers. Alternatively, the revenues are subject to a rate-of return regulation; and
- The debt has either an investment grade rating by a credit rating agency recognised under the ICS criteria, or:
    - The corporate should be of good credit standing or replaceable without a significant loss to investors;

- Capital structure of the infrastructure corporate allows debt service under conservative assumptions based on an analysis of the relevant financial ratios; and
- Infrastructure corporate has been active in its lines of business for at least three years, or in the case of an acquired business it has been in operations for at least three years.

16.5.2 Infrastructure Projects

898. The subset of infrastructure investments to be reported for infrastructure projects are those for which the Volunteer Group can demonstrate all of the following:

- The cash flows for investors are predictable. This may be evidenced by availability-based revenues or arrangements that are subject to rate-of-return regulations. Alternative factors that can result in predictable revenues are
  - Arrangements that provide a high degree of contractual or regulatory certainty about repayment from future revenues by mitigating demand and/or price risk through concessions.
  - Offtake contracts, such as take-or-pay contracts, or similar.
  - Resilient demand.
  - A low risk of substitution and barriers to entry
- The infrastructure project can meet its financial obligations under sustained stressed conditions that are relevant for the risk of the project; and
- The infrastructure project is governed by a regulatory or contractual framework that provides debt and equity investors with a high degree of protection, including the following:
  - Where the revenues of the infrastructure project are not funded by payments from a large number of users, the contractual framework includes provisions that effectively protect investors against losses resulting from the termination of the project by the contracted purchaser of the goods or services and the contracted purchaser should be of good credit standing or replaceable without a significant loss to debt and equity investors;
  - The infrastructure project has sufficient reserve funds or other financial arrangements to cover its contingency funding and working capital requirements; and
  - For debt investments, the contractual framework provides a strong security package, which may include security in project assets and contracts, step-in rights, equity pledges, restrictions on the use of net operating cash flows, restrictions on permitted investments and activities as well as on the issuance of new debt.

899. For equity and unrated debt investments in infrastructure projects, the following additional criteria apply:

- The risks faced in the construction phase of the project are significantly mitigated. Relevant features include: good expertise and a track record of the sponsor of successfully overseeing infrastructure projects; established incentives for the sponsor to protect the interests of other investors; limited exposure of investors to the default of the sponsor; established safeguards to ensure completion of the project according to the agreed specification, budget or completion date; the use of tested technology and design;

- The financial risks faced by the infrastructure project are significantly mitigated. Relevant features include: the capital structure of the infrastructure project allows it to service its debt; the refinancing risk for the infrastructure project is low; the infrastructure project uses derivatives only for risk mitigation purposes; the investment instrument is senior to all other claims other than statutory claims and claims from derivatives counterparties; and

- Where operating risks are material, they are properly managed.

17 Supplementary Data Collection (Dynamic Hedging)

Relevant Worksheets in Template:	*FT19.Dynamic Hedging*	*Due 31 July 2019*

900. The risk mitigating properties of dynamic hedging programmes are currently not recognised in the ICS. However, the IAIS did commit to consider the recognition of dynamic hedging in the ICS following the release of ICS Version 1.0 for extended field testing. To aid this work a separate worksheet has been provided to collect information on the potential impact of recognising dynamic hedging programmes. This is a voluntary submission.

901. Volunteer Groups are requested to provide the information related to their dynamic hedging programmes. This is intended to include details of the methodology used to value or calculate risk charges for regulatory purposes or as part of internal economic capital models.

902. The worksheet *FT19.Dynamic Hedging* provides space for quantification of the risk charges calculated for these products, as well as the equivalent risk charges calibrated for the ICS for comparison purposes.

903. The data provided should be as comparable as possible to the ICS, so the risk charges should be defined to be consistent with those used in the ICS. Therefore, where practicable:

a) The results should be split into similarly defined sets of risks as the ICS eg equity risk, currency risk, interest rate risk, etc.

b) The results should be restated to be comparable to a 99.5% VaR over a one-year time horizon.

c) The calculation should be based on similar cash flow projections eg having consistent contract boundaries and recognition criteria.

904. Where Volunteers Groups apply different methodologies between product types or groups of policies then separate data should be provided for each group to allow for a comparison, where possible.

905. The Questionnaire should be used to provide more detail on the approach used, including:

a) The types of products for which dynamic hedging is being employed;

b) Which risks are being hedged;

c) The mechanisms used to execute the dynamic hedging programmes;

d) For internal economic capital models, how the post-hedge requirement is assessed; and

e) How these models are currently assessed and the capital requirement calibrated within local supervisory regimes.

906. This data will be used to better understand the current global practices for managing products that apply dynamic hedging techniques and how these are treated within local regulatory frameworks. It will also inform discussion on how the ICS could be refined in the future.

907. Therefore Volunteers Groups should provide as much detail as possible to help inform the IAIS on approaches currently employed, how these differ from the current ICS methodology and the rationale for measuring risks in this way.

908. Volunteer Groups are encouraged to provide additional information in the Questionnaire that would be useful for the IAIS' work on dynamic hedging.

Annex 1 Insurance Line of Business Segmentation Definitions

Introduction

This Annex provides definitions of each segment of insurance liabilities for the purposes of filling out the worksheet *FT19.ICS.Balance Sheet*. This worksheet applies to the BCR, HLA and ICS.

Some general points which are broadly applicable:

- Insurance products should generally be classified by their principal class of their coverage. This is particularly the case when other types of insurance provided may not be material or when it is too difficult to unbundle products. Where relevant, the unbundling of products should be carried out on a best efforts basis.
- Unless specifically stated to the contrary, assumed reinsurance is included in the same segments as directly written business. Note there are several separate non-life segments for non-proportional reinsurance written).
- Unless specifically stated to the contrary, products that are either open to new business or closed to new business (runoff) are included in the same segment.
- The focus of descriptions is on the substance of products rather than their names (as specific terms having varying meanings across jurisdictions). To support comparability of data collected, please use the definitions/descriptions provided (eg Annex 3) for terms that may be in common use.

Detail of Insurance line of business segments

Label	Segment	Definition
Life Insurance – Traditional (L_T)		
L_T01	Protection – Life	Policies which: • Provide a defined benefit upon the insured person's death, provided that the death occurs within a certain specified time period. • Are not 'participating' (See L_T06). • Have no or small (immaterial) surrender values. Notes: 1 The dominant insurance risk insured against for these products is mortality risk. When risks insured against include both mortality and morbidity/disability these products should be reported in their separate segments if possible or, if necessary, in the single segment in which the primary risk insured against resides. 2 If there are material surrender values then the business is reported under L_T03. 3 Both individual and group insurance products are included in this segment. 4 Group insurance products with some form of profit sharing arrangement between the group (eg an employer) and the insurer are to be included in this segment.
L_T02	Protection – Accident & health	Policies which: • Provide the policyholder with a benefit upon a health (or health related) or accident event to the insured person, provided that the event occurs within a certain specified time period • Are not 'participating' (See L_T06). • Have no or small (immaterial) surrender values. Notes:

Label	Segment	Definition
		1 The dominant insurance risks insured against for these products are morbidity or disability risks. When risks insured against include both mortality and morbidity/accident these products should be reported in their separate segments if possible or, if necessary, in the single segment in which the primary risk insured against resides. 2 Benefits payable may be capped and/or have deductibles applied. Benefits may be either defined indemnity (with benefits payable specified in advance of insured events occurring) or on a reimbursement basis reflecting costs incurred relating to the insured event. 3 This segment thus includes Critical Illness and Income Protection products 4 Long-term care (LTC) products commonly would be included in this segment. LTC cover typically includes indemnity for the long-term medical and related care of an incapacitated policyholder or beneficiary usually until their death. 5 If there are material surrender values then the business is reported under L_T07 since dominant risks insured against are morbidity or disability risks, not mortality risks. 6 Both individual and group insurance products are included in this segment. 7 Group insurance products with some form of profit sharing arrangement between the group (eg an employer) and the insurer are to be included in this segment. 8 Death benefits attached to products in this segment which are not materially in excess of minimum regulatory obligations do not affect the classification of the product into this segment.
L_T03	Protection - Other	Policies which: • Provide a defined benefit upon the insured person's death, provided that the death occurs within a certain specified time period. • Are not 'participating' (See L_T06). • Have material surrender values that are contractually specified and that do not depend on investment performance or other experience. Notes: 1 Products that should be reported in this segment include, but are not limited to 2 Non-participating Whole-of-Life and Endowment products.

Label	Segment	Definition
		3 Other products, such as 'level term' insurances and single premium insurances. 4 Both individual and group insurance products are included in this segment.
L_T04	Savings without guarantees or living benefits	A savings product: • Has the primary purpose of increasing the wealth of the policyholder by the insurer investing in various assets. • Has benefit payments that are not contingent on the life expectancy or health of the beneficiary. • Typically has an account value that fluctuates based on investment performance, and that is commonly disclosed to the policyholder. Notes: 1 Unitised investment products provide returns to policyholder through unit prices directly reflecting Investment performance the underlying assets of the insurer which are separately identified for these products. Non-unitised investment products provide returns to policyholders through discretionary means (with methodologies contractually defined) such as crediting rates which may not directly reflect the movement in the underlying value of the assets held by the insurer to support these products. 2 A product which has underlying assets separately identified for those products can be termed a 'separate account' product. The identification of the underlying assets may be notional or more formal (for example, through statutory funds). In all cases changes to the underlying assets must be managed through a formal process and all premiums and withdrawals for the product flow in and out of the underlying assets. 3 Products include in this segment must reflect both positive and negative investment performance in a consistent manner. If a product has features such as a commitment that crediting rates will not be negative or unit prices will not decline (either in general or only on withdrawal) then these products are to be reported in a Non-Traditional product segment. 4 Both unitised and non-unitised investment products (without investment or other guarantees) are included in this segment 5 A Variable Annuity (VA) is an Investment product, intended for the long-term, under which the insurer agrees to make periodic payments (either for a fixed term or life) to the beneficiary. Payments may commence immediately or be deferred. VAs may be purchased with either a single payment or multiple payments. In both the accumulation and pay-out phases of a VA, a number of investment options are typically available to the policyholder. VAs may, but are not necessarily, be administered as unitised investment products. VAs are tax advantaged, with earnings on withdrawals taxed at ordinary rates after withdrawal. VAs have a death benefit, typically at least the amount of purchase payments, in the accumulation period. For the purpose of this data

Label	Segment	Definition
		collection, VAs with no guarantees other than such death benefits are considered to be without guarantees and are to be included here. VAs may also have a variety of other guarantees, often termed living benefits, attached to them. VAs with any guarantees other than the death benefit noted previously are to be included as Non-Traditional Life products. 6 Investment products which are structured as 'participating' products should be included under L_T06. 7 Death benefits attached to products in this segment which are not materially in excess of minimum regulatory obligations do not affect the classification of the product into this segment.
L_T05	Annuities	All types of annuity products are included: • This includes Life annuities (reflecting payments to beneficiaries being made until death, with or without reversions), Term annuities (with or without residual values) and Deferred annuities (that is, annuity payments are deferred into the future, and includes premiums that may be paid in a single amount of over time). • The product reflects the underlying experience at a group level not at experience at an individual level. • The products provide guarantees on the regular payments made (includes both indexed and level (not indexed) payment streams) Notes: 1 This includes annuity products stemming from either life or non-life insurance contracts (including, for example structured settlements from all sources). 2 Benefits in a payment stream from policies due to the occurrence of an insured event (such as an income protection policy) should be included under L_T02, as the payment of such benefits would be paid until recovery or death whichever comes first. 3 Products (typically retirement income products) which reflect the experience of an individual (including investment choice and the possibility of discretionary withdrawals) and do not have guarantees (in particular, guarantees related to mortality) are not considered annuities and are to be reported as Savings products (guided be whether there are any guarantees provided) since they do not directly mitigate mortality risk. 4 Death benefits attached to products in this segment which are not materially in excess of minimum regulatory obligations do not affect the classification of the product into this segment. 5 Annuity products which are structured as 'participating' products but are substantively intended to provide annuity benefits, are to be included in this segment.

Label	Segment	Definition
L_T06	Participating products	A participating policy is such that: • The policyholder shares with the insurer the 'profit' made by the insurer (typically on an annual basis, and terminal bonuses may also be attributed). • The 'profit' sharing process is typically implemented through the attribution of bonuses to policyholders. Such policies are often also known as 'with profits' policies. • The components of the 'profit' shared typically (but not necessarily) include investment 'profits' from gains from the performance of the underlying investment portfolio that supports the policies, mortality gains, expense gains, and lapse gains. Notes: 1 Participating products may be whole-of-life policies (which provide insurance cover on the life insured for his/her entire life, or up to a specified high termination age, such as 100). Such policies typically generate significant liabilities and surrender values. 2 Participating products may be endowment policies (which provide a defined benefit within a certain period or at a certain age (of the life insured) after which the policy matures. At the time of maturity, a lump sum is paid to the beneficiary. 3 Both whole-of-life and endowment polices typically include an investment component, which accumulates a cash value that the policy owner can withdraw or borrow against. 4 Investment products where the benefits structured as participating products, with discretionary benefits, are included in this segment. 5 Other products, such as 'level term' insurances and single premium insurances, may also be structured to be participating products. If so, they are to be included in this segment.
L_T07	Other life traditional	Any life insurance products not included in the segments above and not included in the Life Non-Traditional segments below. Notes:

Label	Segment	Definition
		1 All products in this segment should be non-participating. 2 A brief description of products included in this segment is to be provided in the Questionnaire, including a summary of their relative contribution to the insurance data reported.
Life insurance - Non-Traditional (NT) (L_NT)		
L_NT01	Separate accounts with guarantees	Any separate accounts business where a guarantee is also provided. This includes, but it not limited to: • Products that give the policyholder opportunities to potentially benefit from investment options that essentially create put options for their benefit (see L_NT03). • Annuity or Variable Annuity – Guaranteed Minimum Income Benefit (GMIB) or Guaranteed Minimum Accumulation Benefit (GMAB) • Guaranteed minimum annuitisation rate • Guaranteed Minimum Withdrawal Benefit (GMWB) • Contingent Deferred Annuity • Unit-linked accounts with guaranteed account values or non-negative returns • Unit-linked accounts or variable annuities that provide guarantees for any form of living benefit. Two specific subsets of this segment are requested in L_NT02 and L_NT03 Notes: 1 The value to be included for this segment is the combination of the separate account value and guarantee value.

Label	Segment	Definition
		2 The term 'separate account' product is specified in L_T04 3 Such product may be Variable Annuities, but are not limited to Variable Annuities.
L_NT02	of which guarantee	The full value of all guarantees in relation to the separate accounts reported under L_NT01 are included here. Notes: 1 The values reported for this segment are included in the values reported in L_NT01 as this segment is a subsegment of L_NT01
L_NT03	Separate accounts with portfolio choice and guarantee	Products that give the policyholder opportunities to potentially benefit from investment options that essentially create put options for their benefit. This includes, but is not limited to: • Products with investment options that provide the policyholder the right to choose to invest premiums in different markets (eg the equities market), at the commencement of or throughout the contract, in conjunction with a guaranteed minimum performance of the account. • Products that give the policyholder a considerable long-term performance promise and a tangible short-term liquidity promise, which cannot be matched simultaneously by a portfolio of existing cash and market securities. Notes: 1 The values reported for this segment are included in the values reported in L_NT01 as this segment is a subsegment of L_NT01 2 In this segment the primary direct focus of products is on investment performance. 3 The term 'separate account' product is specified in L_T04. 4 Such products may be Variable Annuities, but are not limited to Variable Annuities.
L_NT04	Guaranteed Investment Contracts	Guaranteed Investment Contracts (GICs) Notes:

Label	Segment	Definition
		1 This includes GIC products for which the insurer bears or substantially provides the guarantees directly or indirectly (for example, through an independent third party) 2 Variable Annuity products should not be reported in this segment.
L_NT05	Synthetic GICs	Synthetic GIC products where the insurer bears (or substantially bears) market value/return risk Notes: 1 This includes 'stable value wraps' products. 2 Variable Annuity products should not be reported in this segment.
L_NT06	Other life Non-Traditional	Any other life Non-Traditional insurance products other than the above and not included in life Traditional insurance segments above. Notes: 1 A brief description of products included in this segment is to be provided in the Questionnaire, including a summary of their relative contribution to the insurance data reported.
Non-life Insurance – Traditional (NL_T)		
NL_T01	Motor	This includes: • Motor property damage: Damage to own and third-party motor vehicles (and related property damage) through accident, theft, fire and weather events, excluding liability for personal injury • Motor bodily insurances: Insurances relating to the injury or death of third parties due to or related to motor vehicles and accidents involving them. This may also extend to include the driver involved. Notes:

Label	Segment	Definition
		• This segment covers both private, commercial and other uses of motor vehicles
NL_T02	Property damage	This includes, but is not limited to: • Property: Insurance of house or other property (including house contents) against loss through fire, windstorm etc, insurance of contents against losses due to theft, fire, windstorm, earthquake, impact, damages, water damage, and other natural and man-made perils. Contents insurances may extend to loss or damage to property outside the home or its usual location. • Fire and industrial: Loss or damage and loss of earnings due to damage to commercial buildings and other physical infrastructure due to fire, windstorm and other perils. • Consequential losses: Products covering consequential losses (such as 'loss of profits' or 'business interruption') should also be included in this segment • Construction: This includes 'construction all risks and erection all risks' (CAR/EAR) or similar written in connection with construction projects. This includes the construction and erection of infrastructure projects and buildings. Notes: 1 In essence, this segment refers to insurances for property which is stationary or fixed in place. 2 This segment refers to both private and commercial property insurances.
NL_T03	Accident, protection and health (APH)	This includes, but is not limited to: • Accident and sickness: Accident cover provides benefits if an accident result in bodily injury or death. Benefits are lump sum or periodic (typically for at most 2 years). Sickness cover is often an extension of accident insurance • Other consumer accident: Property damage other than householders or motor vehicle. For example, travel insurance. • Other commercial accident: Commercial property insurance other than Fire and Industrial risk and MAT, and other than commercial long-term liability • Consumer credit: Guarantee of repayments on consumer credit contracts due to involuntary loss of employment • Consumer liability: Private individual's liability for personal injury through personal actions or property

Label	Segment	Definition
		Notes: 1 Products included in this segment are short-term products 2 Products included in this segment typically permit the insurer to not offer to renew the policy. 3 In particular, in the context of accident and health policies offered by non-life insurers, the capacity of the insurer to not offer to renew the policy to specific policyholders indicates such products should be included in this segment (not in L_T02) 4 Both individual and group insurance products are included in this segment.
NL_T04	Non-proportional Motor, Property damage and APH	As above for the NL_T01, NL_T02 and NL_T03 (Motor, Property Damage, and Accident, Protection and Health (APH)) segments, non-proportional reinsurance assumed Notes: 1 This is principally a line of business for inwards reinsurance but some direct business may also fit into this segment. 2 See also Catastrophe Reinsurance definition (NT_T09).
NL_T05	Other liability	This includes, but is not limited to: • Products that provide covers for liabilities matters such as for personal injury, consequences of unsafe workplaces or products, negligent practices or other losses likely to take in excess of one year to settle. Such products include, but are not limited to: ○ Workers' compensation insurance ○ Public liability insurance for bodily injury or damage to property ○ Product liability insurance for bodily injury or damage to property for claims attributed to the use of products. ○ Professional indemnity for a professional person or organisation for claims for losses legal and other) attributed to professional negligence (and related) in the services provided. For example, medical malpractice and directors and officers insurance products ○ Builder warranty for private homes and other buildings following construction. Notes: 1 Products in this segment include those issued to both individuals and organisations, and to both private and commercial policies.

Label	Segment	Definition
NL_T06	Non-proportional Other liability	As above for the NL_T05 (Other liability) segment, non-proportional reinsurance assumed. Notes: 1 This is principally a line of business for inwards reinsurance but some direct business may also fit into this segment.
NL_T07	Marine, Air, Transport (MAT)	This includes: • All damage or loss of river, canal, lake and sea vessels, aircraft, goods in transit, liabilities from use of aircraft, ships and boats. • Loss or damage to property, consequential third party liability for damages to the property of others, and consequential third party liability for personal injury to operators, passengers and other should be included. Notes: 1 In essence, this segment refers to insurances for property which is moving (not stationary, see NL_T02) or to goods and materials that may be being moved with regard to the MAT component. 2 This segment focuses on commercial (not private or personal) insurance products.
NL_T08	Non-proportional MAT	As above for the NL_T07 (MAT) segment, non-proportional reinsurance assumed. Notes: 1 This is principally a line of business for inwards reinsurance but some direct business may also fit into this segment.
NL_T09	Catastrophe Reinsurance	Catastrophe Reinsurance is an inwards reinsurance line of business providing excess of loss protection or proportional protection in respect of aggregate losses arising from a single event or a combination of events. Typically, such business is covering damages to property and is sold with an 'hours' clause and provides protection against natural catastrophe perils such as windstorms, earthquakes and man-made catastrophe such as acts of terrorism. Notes: 1 Property Catastrophe Reinsurance would then be excluded from the definition of Non-proportional property business

Label	Segment	Definition
		2 Catastrophe Reinsurance will also include stop loss treaties when the main coverage is the combination of events. 3 This segment does not cover products in NL_T06 and NL_T08.
NL_T10	Other traditional - short tail	Any non-life products which do not fit into the segments above, does not fit the definition of non-life non-traditional business and where claims are usually made during the term of the policy or shortly (typically, up to 1 year) up to after the policy has expired. This may include, but not be limited to: • Credit (trade credit) insurance: Insurance coverage against debtors failing to make due payments. Notes: 1 A brief description of products included in this segment is to be provided in the Questionnaire, including a summary of their relative contribution to the insurance data reported. 2 Both proportional and non-proportional reinsurance for products in this segment are included in this segment.
NL_T11	Other traditional – medium-tail	Any non-life products which do not fit into the defined segments above, does not fit the definition of non-life non-traditional business and where claims are usually made during the term of the policy or some time (typically between 1 and 5 years) after the policy has expired. Notes: 1 A brief description of products included in this segment is to be provided in the Questionnaire, including a summary of their relative contribution to the insurance data reported. 2 Both proportional and non-proportional reinsurance for products in this segment are included in this segment

Label	Segment	Definition
NL_T12	Other traditional - long-tail	Any non-life products which do not fit into the defined segments above, does not fit the definition of non-life non-traditional business and where claims may be made many years (typically 5 or more years) after the coverage period of the insurance has expired. Notes: 1 A brief description of products included in this segment is to be provided in the Questionnaire, including a summary of their relative contribution to the insurance data reported. 2 Both proportional and non-proportional reinsurance for products in this segment are included in this segment
Non-life Insurance - Non-Traditional (NL_NT)		
NL_NT01	Mortgage Insurance	Indemnity to credit providers for losses due to the failure of a borrower to repay a loan secured by a mortgage over property Notes: 1 This includes both residential and non-residential property. 2 Both proportional and non-proportional reinsurance for products in this segment are included in this segment
NL_NT02	Commercial credit insurance including suretyship	Indemnity for financial losses due to the failure of a commercial entity to repay outstanding credit contracts or failure to perform contracted services or deliver contracted products other than short-term trade credit and suretyship insurance. Notes: 1 By 'short-term' coverage at issue of one year or less is meant. Such short-term policies should be reported under NL_T10. 2 Financial guarantee business should be captured in this category including insurance of public finance bonds, structured finance, and all other type of bonds. 3 Both proportional and non-proportional reinsurance for products in this segment are included in this segment

Label	Segment	Definition
NL_NT03	Other Non-life Non-Traditional insurance	Any other non-life non-traditional insurance products other than the above and not included in non-life traditional insurance segments above. This includes, but is not limited to: • Financing or monetising Insurance-linked securities (ILS, for example catastrophe bonds). For example, embedded Value/Present Value of Future Profit securitisations, ILS with financial risk as material trigger condition. Notes: 1 A brief description of products included in this segment is to be provided in the Questionnaire, including a summary of their relative contribution to the insurance data reported. 2 Both proportional and non-proportional reinsurance for products in this segment are included in this segment

Annex 2 Mapping of Jurisdictional Segments to Field Testing Line of Business Segmentation

Australia

Mapping to IAIS	Code	Segment Level 1	Segment Level 2	Description
Life Insurance				
L_T06	L1	Conventional Participating		Includes whole of life policies and endowment policies (participating).
L_T06	L2	Participating Investment Account		Investment account business within the meaning of section 14 of the *Life Insurance Act 1995* that pays participating benefits within the meaning of Section 15 of the Act (participating).
L_T05	L3	Annuity with Longevity Risk		Annuities providing periodic payments that are dependent of the continuance of human life (non-participating).
L_T01	L4	Individual Lump Sum Risk		Lump sum risk policies issued on an individual (retail) basis. Includes non-participating conventional policies (non-participating).
L_T02	L5	Individual Disability Income Insurance		Disability income insurance policies issued to individuals (non-participating).
L_T01	L6	Group Lump Sum Risk		Lump sum risk policies issued on a group (wholesale) basis (non-participating).
L_T02	L7	Group Disability Income Insurance		Disability income insurance policies issued on a group (wholelsale) basis (non-participating).

L_T04	L8	Investment Linked		Investment linked policies where policy benefits are associated with the perfomance of the supporting assets (non-participating).
L_NT01 and L_NT03	L9	Non-participating Investment Policy with Discretionary Additions		Investment account business within the meaning of section 14 of the *Life Insurance Act 1995* that pays non-participating benefits within the meaning of section 15 of the Act (non-participating).
L_T04	L10	Other Non-participating Investment Policy		Includes all other non-participating investment products not specifically categorised in 'Investment Linked' or 'Non-participating Investment Policy with Discretionary Additions'. However, do not use this Product Group unless APRA has been consulted beforehand (non-participating).
L_T05	L11	Annuity without Longevity Risk		Annuities providing periodic payments that are not dependent on the continuance of human life (non-participating).
L_T07	L12	Other		Includes all other policies not specifically categorised above. However, do not use this Product Group unless APRA has been consulted beforehand (both participating and non-participating).
Friendly societies - we provide these for completeness, however have not mapped these as friendly societies will not be within a GSII				
NA	F1	Education		
NA	F2	Investment Account		As defined in section 14 of the *Life Insurance Act 1995.*
NA	F3	Annuity & Superannuation		

NA	F4	Defined Benefit Risk		All products classified as defined benefit, including defined benefit funeral products.
NA	F5	Capital Guaranteed Defined Contribution Funeral		Capital guaranteed funeral products that are classified as Defined Contribution.
NA	F6	Investment Linked		As defined in section 14 of the *Life Insurance Act 1995*.
General Insurance		Direct classes of business		
NL_T02 NL_T04 (RI Non-prop)	GI1		Householders	This class covers the common Householders policies, including the following classes/risks: • Contents; • Personal property; • Arson; and • Burglary. Public liability normally attaching to these products is to be separated and included in the Public and Product Liability class of business – item (m). Similarly, Domestic Workers' Compensation attaching to these products is to be separated and included in the Employers' Liability class of business – item (o).

NL_T01 NL_T04 (RI Non-prop)	GI2		Commercial Motor	Motor vehicle insurance (including third party property damage) other than insurance covering vehicles defined below under Domestic Motor. It includes long and medium haul trucks, cranes and special vehicles, and policies covering fleets.
NL_T01 NL_T04 (RI Non-prop)	GI3		Domestic Motor	Motor vehicle insurance (including third party property damage) covering private use motor vehicles including utilities and lorries, motor cycles, private caravans, box and boat trailers, and other vehicles not normally covered by business or commercial policies.
NL_T03 NL_T04 (RI Non-prop)	GI4		Travel	Insurance against losses associated with travel including loss of baggage and personal effects, losses on flight cancellations and overseas medical costs.
NL_T03 NL_T04 (RI Non-prop)	GI5		Fire and Industrial Special Risks	Fire Includes all policies normally classified as 'Fire' and includes: • Sprinkler leakage; • Subsidence; • Windstorm; • Hailstone; • Crop; • Arson; and • loss of profits and any extraneous risk normally covered under fire policies, eg flood. ISR Standard policy wordings exist for this type of policy. All policies that contain such standard wordings or substantially similar wording are to be classified as ISR.
NL_T07 NL_T08 (RI Non-prop)	GI6		Marine	Includes Marine Hull and Marine Liability (including pleasure craft), and Marine Cargo (including sea and inland transit insurance).

NL_T07 NL_T08 (RI Non-prop)	GI7		Aviation	Aviation (including aircraft hull and aircraft liability).
NL_NT01	GI8		Mortgage	Insurance against losses to a lender in the event of borrower default on a loan secured by a mortgage over residential or other property.
NL_T03 NL_T04 (RI Non-prop)	GI9		Consumer Credit	Insurance to protect a consumer's ability to meet the loan repayments on personal loans and credit card finance in the event of death or loss of income due to injury, illness or unemployment.
NL_T03 NL_T04 (RI Non-prop)	GI10		Other Accident	Includes the following types of insurance: • Miscellaneous accident (involving cash in transit, theft, loss of money); • All risks (baggage, sporting equipment, guns); • Engineering when not part of ISR or Fire policy; • Plate glass when not part of packaged policy (eg Householders); • Livestock; • Pluvius; and • Sickness and Accident, which, by the terms of the policy, provides benefits for no more than 3 years.
NL_T10 or NL_T11 or NT_T12	GI11		Other	All other insurance business not specifically mentioned elsewhere. It includes: • Trade Credit; • Extended Warranty (includes insurance by a third party for a period in excess of the manufacturer's or seller's normal warranty); • Kidnap and Ransom; and • Contingency.
NL_T01	GI12		Compulsary Third Party	This class consists only of CTP business.

NL_T05 NL_T06 (RI Non-prop)	GI13		Public and Product Liability	Public Liability covers legal liability to the public in respect of bodily injury or property damage arising out of the operation of the insured's business. Product Liability includes policies that provide for compensation for loss and/or injury caused by, or as a result of, the use of goods and environmental clean-up caused by pollution spills where not covered by Fire and ISR policies. • Includes Builders Warranty Insurance. • Includes public liability attaching to Householders policies.
NL_T05 NL_T06 (RI Non-prop)	GI14		Professional Liability	• PI covers professionals against liability incurred as a result of errors and omissions made in performing professional services that has resulted in economic losses suffered by third parties. • Includes Directors' and Officers' Liability insurance plus legal expense insurance. Cover for legal expenses is generally included in this type of policy.
NL_T05 NL_T06 (RI Non-prop)	GI15		Employers' Liability	Includes: • Workers' Compensation; • Seamen's Compensation; and • Domestic Workers' Compensation.
		Reinsurance classes of business		
As per the direct classes above	GI16		Proportional reinsurance	This refers to either: (i) traditional forms of quota share and/or surplus reinsurance placed on a treaty reinsurance basis; or (ii) reinsurance written on an individual offer and acceptance basis; where the reinsurer and reinsured share, in proportion, the premium and losses of the reinsured.

See above	GI17		Non-proportional reinsurance	This refers to either: (i) traditional forms of excess of loss reinsurance arrangements written on a treaty reinsurance arrangement basis; or (ii) reinsurance written on an individual offer and acceptance basis; where the reinsurer pays losses only above an agreed retention/deductible up to an agreed maximum limit.

Canada

Mapping to IAIS	Code	Segment Level 1	Segment Level 2	Description
L_T01			Term Life Insurance	Group and individual term life including term to 100, accidental death, and all other non-participating life policies with immaterial surrender values.
L_T02			Accident And Health	Group and individual disability, medical, critical illness, long-term care, and all other miscellaneous non-participating health policies with immaterial surrender values
L_T03			Life Insurance With Nonforfeiture Benefits	Group and individual non-participating life products having material surrender values that are contractually specified and do not depend on experience, including whole life, traditional universal life, endowments, and other cash-value policies.
L_T04			Savings Without Guarantees Or Living Benefits	Mutual funds, variable annuities, segregated funds and variable universal life policies with no guarantees or with only death benefit guarantees.

L_T05			Annuities	Non-participating group and individual payout annuities, including deferred, immediate, term certain, indexed and life annuities, and retirement products.
L_T06			Participating Products	All participating insurance, annuity and retirement products that pay meaningful discretionary dividends.
L_T07			Other Traditional Life And Health	Includes accident and health policies having material surrender values.
L_NT01			Separate Accounts With Guarantees	Segregated funds and variable annuities with GMMB, GMIB, GMWB, or any other living benefits, but excluding funds with GMDB only. Variable universal life products with minimum return guarantees or other guaranteed living benefits.
L_NT03			Separate Accounts With Portfolio Choice And Guarantees	The subset of products in L_NT01 where the policyholder has the right to move the account value between different investment funds.
L_NT04			GICs	All GICs including group and individual savings products.
To be mapped to similar IAIS segments as for similar products that are not adjustable			Adjustable Products	Products with adjustable premiums

EU

Mapping to IAIS	Code	Segment Level 1	Segment Level 2	Description	Mapping to IAIS
Life					
L_T02	LoB29	Health Insurance		Health insurance obligations where the underlying business is pursued on a similar technical basis to that of life insurance, other than those included in line of business 33.	
L_T05 L_T06 (a)	LoB30	Insurance with profit participation		Insurance obligations with profit participation other than obligations included in line of business 33 and 34.	(a) For the business with profit participation in the form of Annuities
L_T04 L_NT01 (b)	LoB31	Index-linked and unit-linked insurance		Insurance obligations with index-linked and unit-linked benefits other than those included in lines of business 33 and 34.	(b) For the business with guarantees implies also identifying the subcomponents included in L_NT02 and L_NT03).
L_T01 L_T03 L_T05 L_T07	LoB32	Other life insurance		Other life insurance obligations other than obligations included in lines of business 29 to 31, 33 and 34.	

L_T05	LoB33	Annuities stemming from non-life insurance contracts and relating to health insurance obligations			
L_T05	LoB34	Annuities stemming from non-life insurance contracts and relating to insurance obligations other than health insurance obligations			
L_T02	LoB35	Health reinsurance		Reinsurance obligations which relate to the obligations included in lines of business 29 and 33.	
L_T01 (c)	LoB36	Life reinsurance		Reinsurance obligations which relate to the obligations included in lines of business 30 to 32 and 34.	(c) Expected to be allocated mainly to L_T01, but could be allocated to other L_T lines where relevant.

Non-life					
NL_T03	LoB1 LoB13	Medical expense insurance		Medical expense insurance obligations where the underlying business is not pursued on a similar technical basis to that of life insurance, other than obligations included in the line of business 3.	
NL_T03	LoB2 LoB14	Income protection insurance		Income protection insurance obligations where the underlying business is not pursued on a similar technical basis to that of life insurance, other than obligations included in the line of business 3.	
NL_T05	LoB3 LoB15	Workers' compensation insurance		Health insurance obligations which relate to accidents at work, industrial injury and occupational diseases and where the underlying business is not pursued on a similar technical basis to that of life insurance.	
NL_T01	LoB4 LoB16	Motor vehicle liability insurance		Insurance obligations which cover all liabilities arising out of the use of motor vehicles operating on land (including carrier's liability).	
NL_T01	LoB5 LoB17	Other motor insurance		Insurance obligations which cover all damage to or loss of land vehicles (including railway rolling stock).	

NL_T07	LoB6 LoB18	Marine, aviation and transport insurance		Insurance obligations which cover all damage or loss to sea, lake, river and canal vessels, aircraft, and damage to or loss of goods in transit or baggage irrespective of the form of transport. Insurance obligations which cover liabilities arising out of the use of aircraft, ships, vessels or boats on the sea, lakes, rivers or canals (including carrier's liability).	
NL_T02 NL_T09 (d)	LoB7 LoB19	Fire and other damage to property insurance		Insurance obligations which cover all damage to or loss of property other than those included in the lines of business 5 and 6 due to fire, explosion, natural forces including storm, hail or frost, nuclear energy, land subsidence and any event such as theft.	(d) Regarding the Proportional Reinsurance part.
NL_T05	LoB8 LoB20	General liability insurance		Insurance obligations which cover all liabilities other than those in the lines of business 4 and 6.	
NL_T10 (e) NL_NT02	LoB9 LoB21	Credit and suretyship insurance		Insurance obligations which cover insolvency, export credit, instalment credit, mortgages, agricultural credit and direct and indirect suretyship.	(e) Regarding the short-term business.
NL_T11 (f)	LoB10 LoB22	Legal expenses insurance		Insurance obligations which cover legal expenses and cost of litigation.	(f) Allocated fully to Medium Tail for simplification.
NL_T10	LoB11 LoB23	Assistance		Insurance obligations which cover assistance for persons who get into difficulties while travelling, while away from home or while away from their habitual residence.	

NL_T11 (g)	LoB12 LoB24	Miscellaneous financial loss		Insurance obligations which cover employment risk, insufficiency of income, bad weather, loss of benefit, continuing general expenses, unforeseen trading expenses, loss of market value, loss of rent or revenue, indirect trading losses other than those mentioned above, other financial loss (non-trading) as well as any other risk of non-life insurance not covered by the lines of business 1 to 11.	(g) Allocated fully to Medium Tail for simplification.
NL_T04 NL_T06 (h)	LoB25	Non-proportional health reinsurance		Non-proportional reinsurance obligations relating to insurance obligations included in lines of business 1 to 3.	(h) Regarding the Workers' Compensation component.
NL_T06	LoB26	Non-proportional casualty reinsurance		Non-proportional reinsurance obligations relating to insurance obligations included in lines of business 4 and 8.	
NL_T08	LoB27	Non-proportional marine, aviation and transport reinsurance		Non-proportional reinsurance obligations relating to insurance obligations included in line of business 6.	
NL_T04 (i) NL_T09	LoB28	Non-proportional property reinsurance		Non-proportional reinsurance obligations relating to insurance obligations included in lines of business 5, 7 and 9 to 12.	(i) For any business not fulfilling the definition of NL_T09.

Japan

Mapping to IAIS	Code	Segment Level 1	Segment Level 2	Description
Life				
	L1	Individual Life		Any insurance if insurers offer some protection to an individual should be categorised.
L_T03, L_T06			Whole Life Insurance	This insurance has following features: A) providing death protection over the insured's whole life. B) its accumulated fund can be payable upon surrender. Also it has usually (not always) participating feature.
L_T01, L_T06			Term Insurance	This insurance provides death protection for a set period. Also it has usually (not always) participating feature.
L_T03, L_T06			Endowment Insurance	This insurance enables assets formation over a set period while providing death benefit. That means the same amount of benefit is payable at maturity or at prior death. Also it has usually (not always) participating feature.
L_T02, L_T03, L_T06			Medical Life Insurance	This insurance covers hospitalisation and surgery, etc. Please note cancer incurance should be included in this product.
L_T06			Variable Life	The maturity benefit and surrender value of this insurance vary according to the investment performance of separate account. However the death benefit is guaranteed.
L_T06			Nursing Care Ins.	This Insurance provides benefit to meet specified conditions requiring the insured to be nursed. Also it has usually (not always) participating feature.

Depending on the nature of insurance			Others	Other individual life insurance not listed above should be included.
	L2	Individual Annuity		
L_T05			Fixed Annuity	This insurance provides an arrangement under which the policyholder is guaranteed to receive benefit over a fixed or variable period, commencing either immediately or at some future date.
L_T04, L_NT01, L_NT02, L_NT03			Variable Annuity	This insurance provides an arrangement under which the policyholder receives benefit over a fixed or variable period, commencing either immediately or at some future date under assuming investment risk. Therefore surrender value, maturity benefit and death benefit can rise or fall depending on the investment performance of the separate account. Also there is variable annuity product with guaranteed benefit.
	L3	Group Life		Insurance protecting a group of persons, usually employees of an entity and their dependents. A single insurance contract is issued to their employer or other representative of the group.
L_T01, L_T06			Group Term	This insurance provides a one-year term insurance with death protection for groups. This segment includes general welfare group term insurance which plans for retirement funds payable on employee's death and condolence payments.
L_T06			Group Credit	This insurance is another kind of term insurance that is issued to borrowers for the amount and term of the outstanding debt. It is usually associated with residential mortgage and consumer debt, and provide benefit should the borrowers die before the debt is repaid or expire at the end of the term.

Depending on the nature of insurance			Others	Other group life insurance not listed above should be included.
L_T05	L4	Group Annuity		This insurance provides annuity benefit for groups. Under the insurance, an employee of the group is eligible to receive annuity benefit for whole life or a fixed term depending on the contract.
Depending on the nature of insurance	L5	Others		Any other life insurance not listed above should be included (eg Workers' Asset-Formation Insurance).
Non-life				
NL_T02, NL_T04, NL_T09	NL1	Fire		This insurance covers property damage for either commercial or household caused by fire, windstorm, hail, water damage and earthquake
	NL2	Marine		
NL_T07, NL_T08			Hull	This insurance covers damage of vessel.
NL_T07, NL_T08			Cargo	This insurance covers damage on good and property in transit by vessel.
NL_T07, NL_T08	NL3	Transit		This insurance is called as Inland marine, which covers property being transported by other than vessel or aircraft.
NL_T03, L_T02, L_T07	NL4	Personal Accident		This insurance covers loss by accidental bodily injury. Under this insurance, policyholder is reimbursed based on actual losses occurred or receives a fixed benefit due to a certain accident event. Long-term personal accident insurance and long-term income indemnify insurance should be classified into 'L_T07' under the IAIS segmentation.
NL_T01	NL5	Automobile		This insurance covers personal injury or automobile damage sustained by the insured and liability to third parties for losses caused by the insured. Please note fleet automobile insurance should be included here.

	NL6	Others		
NL_T07, NL_T08			Aviation	This insurance covers aircraft, goods or property in transit by aircraft and launch to the space, and liability arising from the loss of or damage to the goods or property in transit or bodily injury or property loss or damage to third parties.
NL_T10, NL_NT01, NL_NT02			Guarantee Ins.	This insurance covers financial loss caused by the insolvency or payment default of customers to whom credit has been granted.
NL_T02, NL_T04			Machinery	This insurance protects the insured against loss incurred as a result of machinery breakdown.
NL_T05, NL_T06			General Liability	This insurance covers any legal obligations to pay compensation and costs for bodily injury, property loss or damage to third parties.
NL_T02, NL_T04			Contractor's All Risks	This insurance is purchased by contractors to cover damage to property under construction.
NL_T02, NL_T04			Movables All Risks	This insurance covers loss or damage to property other than motor, aircraft and vessel.
NL_T05, NL_T06			Workers' Compensation	This insurance covers no-fault basis compensation payments to employees who sustained bodily injury or occupational disease during or which arises out of the course of their employment, and provides employers with protections against claims which their employees make for bodily injury or occupational disease caused by tort.
NL_T10			Misc. Pecuniary Loss	This insurance provides the insured with tailor-made covers for consequential losses that are not covered by any other classes of insurance.

L_T02			Nursing Care Ins.	This Insurance provides benefit to meet specified conditions requiring the insured to be nursed. Under this insurance, policyholder is reimbursed based on actual cost incurred or receives a fixed benefit for nursing care.
Depending on the nature of insurance			Others	Any other non-life insurance not listed above should be included

Mapping to IAIS	Code	Segment Level 1	Segment Level 2	Description
Life				
L_T01 - Protection - Protection - life		Term life - level term		Term product with level premiums for a specified length of time that becomes annually renewable term after level term period.
L_T01 - Protection - Protection - life		Term life - yearly renewable term		Tem product with annually increasing premiums.
L_T01 - Protection - Protection - life		Group Term		Term product sold to employees of sponsoring groups.
L_T02 - Other Life - Protection - Accident & Health		Waiver of Premium		Disability provision attached to a Group Life policy to help totally disabled employees maintain adequate life insurance protection. Coverage generally stops at a specified age but some provide lifetime coverage a reduced amount after normal retirement age.
L_T02 - Other Life - Protection - Accident & Health		Accidental Death and Dismemberment		Provides insurance payment upon accidental death or dismemberment.
L_T02 - Other Life - Protection - Accident & Health		Long-term care - non-participating		Long-term care - non-participating
L_T02 - Other Life - Protection - Accident & Health		Individual Short-Term Disability Income		Short-term income replacement insurance which usually covers 13 weeks to 2 years of disability.
L_T02 - Other Life - Protection - Accident & Health OR (for par)		Individual Long-Term Disability Income		Provides partial replacement of an employee's lost earnings during an extended period of disability.

L_T06L_T02 - Other Life - Protection - Accident & Health				
L_T02 - Other Life - Protection - Accident & Health		Group Short-Term Disability		Short-term income replacement insurance which usually covers 13 weeks to 2 years of disability.
L_T02 - Other Life - Protection - Accident & Health		Group Long-Term Disability		Provides partial replacement of an employee's lost earnings during an extended period of disability.
L_T02 - Other Life - Protection - Accident & Health		Fixed Indemnity - Critical Illness		Critical Illness - Long-Term (pmt on specified illness/treatment)
L_T02 - Other Life - Protection - Accident & Health		Fixed Indemnity - ICU		Intensive Care - Long-Term (payment on admission to an ICU)
L_T02 - Other Life - Protection - Accident & Health		Fixed Indemnity - Accident		Accident - Long-Term (pmt on covered accident/treatment)
L_T02 - Other Life - Protection - Accident & Health		Fixed Indemnity - Accident & Sickness		Accident, Sickness (long-term); fixed indemnity payment related to accident or illness (includes hospital indemnity in the US)
L_T02 - Other Life - Protection - Accident & Health		Dental		Provides reimbursement for certain costs or fixed indemnity benefits associated with Dental Care
L_T02 - Other Life - Protection - Accident & Health		Vision		Provides reimbursement for certain costs or fixed indemnity benefits associated with Vision Care
L_T02 - Other Life - Protection - Accident & Health		Accident & Health - Expense Reimbursement - Medicare Supplement		Private form of medical insurance for Medicare beneficiaries. Benefits help cover gaps left my Medicare such as deductibles, co-pays and co-insurance.

L_T03 - Other Life - Protection - Other		Whole Life - Limited Payment		Level premium, level death benefit plans with premiums payable to a specified age or for a specified period of time.
L_T03 - Other Life - Protection - Other		Whole Life / Adjustable Life - Non-Participating		Whole Life policy with no policyholder dividends
L_T03 - Other Life - Protection - Other		Whole Life - Single Premium		Whole Life with non-guaranteed interest rate and no policyholder dividends
L_T03 - Other Life - Protection - Other		Endowment		Level premium and level death benefit policies whose death benefit is paid at the earlier of the endowment age/endowment date or the date of death; death benefit during insurance period, survival benefit after expiration of insurance period.
L_T04 - Other Life - Savings without guarantees or living benefits		Group Variable Universal Life		Employee pay Variable Universal Life product sold to employees of sponsoring groups.
L_T04 - Other Life - Savings without guarantees or living benefits		Variable Universal Life		Life insurance policy whose premiums are deposited into a fixed account or various separate account investment funds based on the decisions of the policyholder. Changes in investment fund values are passed to the policyholder and the policy is charged periodic deductions for mortality, rider benefits, and expenses.
L_T04 - Other Life - Savings without guarantees or living benefits		Variable Deferred Annuity - with death benefit only		Deferred annuity whose premiums are deposited into a fixed account or various separate account investment funds based on the decisions of the policyholder. Changes in investment fund values are passed to the policyholder and policy is charged periodic deductions for rider benefits and expenses. GMBD-only guarantee provides minimum death benefit.

L_T04 - Other Life - Savings without guarantees or living benefits		Variable Deferred Annuity - No Guarantee		Deferred annuity whose premiums are deposited into a fixed account or various separate account investment funds based on the decisions of the policyholder. Changes in investment fund values are passed to the policyholder and policy is charged periodic deductions for rider benefits and expenses.
L_T04 - Other Life - Savings without guarantees or living benefits		Indexed Annuities		Performance linked to equity/bond index performance
L_T04 - Other Life - Savings without guarantees or living benefits		Variable Universal Life - Secondary Guarantees		VUL policy that is guaranteed to stay in-force so long as a minimum premium amount is paid on a periodic basis. Guarantee durations are for a specified number of years or to a particular age.
L_T05 - Annuities		Book Value Separate Account		Product established to fund nonqualified annuities for retired executives of corporate employers. Annuities are nonparticipating, life-contingent annuities.
L_T05 - Annuities		Annuity - Immediate, Single Premium		Immediate annuity purchased directly by annuitant. Income payable for lifetime of annuitant or in case of joint and survivorship annuity, so long as either annuitant is living. Payouts are level for majority of policies but there are some with increasing payment amounts.
L_T05 - Annuities		Annuity - Certain		Individual annuity contract with non-life contingent payout period. Includes annuitised lottery.
L_T05 - Annuities		Group Annuity - Single Premium, Charitable Gift		Single premium group annuity contracts purchased by non-profit institutions sponsoring charitable gift annuity programs that specifies fixed periodic payments.

L_T05 - Annuities		Group Annuity - Closeout Contracts		Group annuity benefits purchased for retired and terminated employees or employees covered under terminating or ongoing pension plans. Both immediate and deferred annuities may be purchased by a single premium at issue.
L_T05 - Annuities		Group Annuity - Terminal Funding		Non-participating group annuity that is available for purchasing guaranteed payout annuities for employees upon retirement or termination of employment. May be life contingent or non-life contingent.
L_T05 - Annuities		Structured Settlements		Customised annuities designed to serve as an alternative to a lump-sum payment in a lawsuit initiated because of personal injury, wrongful death, workers' compensation claim or other claim for damages.
L_T05 - Annuities		Group Annuity - Separate Account - Immediate Participation Guarantee		Funds to pay benefits to participants are accumulated in an unallocated Pension Reserve Account that then pays benefits to group annuitants.
L_T05 - Annuities		Group Annuity - Separate Account Participating Contracts		Group annuity benefits purchased for retired and terminated employees or employees covered under terminating or ongoing pension plans. Both immediate and deferred annuities may be purchased by a single premium at issue.
L_T05 - Annuities		General Account Immediate Participation Guarantee		Funds to pay benefits to participants are accumulated in an unallocated Pension Reserve Account that then pays benefits to group annuitants.
L_T05 - Annuities		Survivor Income Contracts		At insured's death monthly benefit is paid to beneficiaries for life or in case of spouse may end upon remarriage.
L_T05 - Annuities		Supplementary Contracts not		Settlement option purchased by policy proceeds that provides for periodic payments and may be commutable.

		Involving Life Contingencies		
L_T05 - Annuities		Supplementary Contracts Involving Life Contingencies		Provides income payable for lifetime of annuitant or if joint, for as long as either annuitant is living. May involve a term certain period.
L_T05 - Annuities		Immediate annuities - with surrender		
L_T06 - Participating products		Group Universal Life		Employee pay Universal Life product sold to employees of sponsoring groups.
L_T06 - Participating products		Deferred Annuity - Flexible Premium		Fixed Account deferred annuity that allows ongoing deposits and provides current guaranteed interest rate(s) for a specified period, typically subject to a contractual minimum interest rate.
L_T06 - Participating products		Deferred Annuity - Single Premium		Fixed Account deferred annuity that provides current guaranteed interest rate(s) for a specified period, typically subject to a contractual minimum interest rate.
L_T06 - Participating products		Universal Life		Life insurance policy whose premiums are deposited into policyholder accumulation funds with periodic deduction of charges for mortality, rider benefits and expenses. Interest is credited to fund based on declared credited rate and there are guarantees related to minimum credited rates and maximum policy charges.
L_T06 - Participating products		Universal Life - General Account - COLI/BOLI		COLI: Life insurance designed to meet the needs of supplemental executive compensation marketplace. Flexible premium. BOLI: Life insurance designed to allow banks to use life insurance to fund certain benefit-related expenses. Both: Provide term insurance and a discretionary fund.

L_T06 - Participating products		Universal Life - Separate Account - COLI/BOLI		COLI: Life insurance designed to meet the needs of supplemental executive compensation marketplace. Flexible premium. BOLI: Life insurance designed to allow banks to use life insurance to fund certain benefit-related expenses. Both: Provide term insurance and a discretionary fund that is housed in a separate account. COLI:Life insurance designed to meet the needs of supplemental executive compensation marketplace. Flexible premium.
L_T06 - Participating products		Whole Life - Participating		Whole Life paying dividends based on underlying portfolio experience
L_T06 - Participating products		Whole Life - Industrial		Participating whole life policies with small face amounts. Premium payments have been waived.
L_T06 - Participating products		Whole Life - Reduced Paid-Up		Participating whole life policy that has gone into non-forfeiture status.
L_T06 - Participating products		Universal Life - participating		Universal Life policy that pays dividends. Includes maximum loan products
L_T06 - Participating products		Long-term care - participating		Long-Term Care - participating
L_T06 - Participating products		Retained Asset Account		Policy settlement option where policy proceeds are deposited into a fund with a guaranteed minimum interest rate and penalty free immediate withdrawals or a fund with a guaranteed interest rate for a specified period at time with a penalty for withdrawals.

L_T06 - Participating products		Universal Life - with secondary guarantees		Universal Life policy that stays in-force so long as a secondary account value is greater than zero. Charges and interest credited rates for the secondary account are guaranteed and the secondary account is not available as a dollar amount upon surrender.
L_NT01 - Other non-traditional - Separate accounts with guarantees		Variable Deferred Annuity - with living benefits		Deferred annuity whose premiums are deposited into a fixed account or various separate account investment funds based on the decisions of the policyholder. Changes in investment fund values are passed to the policyholder and policy is charged periodic deductions for rider benefits and expenses. GMxB guarantee provides minimum accumulation benefit, minimum withdrawal benefit, or minimum income benefit (and perhaps a minimum death benefit also)
L_NT04 - GICs & Synthetic GICs - Guaranteed Investment Contracts		Funding Agreements		Funding Agreements credits with a fixed rate of interest for the life of the contract. Earned interest is capitalised and paid out with principal to the contract holder on the maturity date. Includes the FarmerMac Funding Agreement program (that sells funding agreements collateralised by agricultural mortgage loans to FarmerMac) Includes General Account Life Insurance Funding Accounts, that allow pre-funding of the cost of employee retiree life plan. Funding Agreements credits with a fixed rate of interest for the life of the contract. Earned interest is capitalised and paid out with principal to the contract holder on the maturity date.
L_NT04 - GICs & Synthetic GICs - Guaranteed Investment Contracts		Guaranteed Investment Contracts		A fixed or floating rate contract that provides a guarantee of principal and interest for a stated term with a fixed maturity date(s). Includes the following GIC types: Stable Value, Trust, Municipal, Global
Non-life/P&C				

NL_T01 - Motor		Auto physical damage		Any motor vehicle insurance coverage (including collision, vandalism, fire and theft) that insures against material damage to an insured's vehicle.
NL_T02 - Property - Property damage (divided between NL_T02 and NL_T05)		Homeowners/farm owners		Homeowners: coverage for personal property and/or structure with broad personal liability coverage, for dwelling, appurtenant structures, unscheduled personal property and additional living expenses. Farmowners: similar, for farming and ranching risks; property + liability coverages for personal and business losses, on farm dwellings and contents (eg mobile equipment and livestock), barns, stables, other farm structures and farm inland marine.
NL_T02 - Property - Property damage		Special property		Various, including: fire; allied lines; inland marine; earthquake; burglary and theft. Fire insurance includes the loss to real or personal property from damage caused by the peril of fire or lightning, including business interruption, loss of rents, etc. Allied lines are coverages generally written with property insurance, eg, glass; tornado; windstorm and hail; sprinkler and water damage; explosion, riot, and civil commotion; growing crops; flood; rain; and damage from aircraft and vehicle, etc. Inland marine is coverage for property that may be in transit, held by a bailee, at a fixed location, a movable good that is often at different locations (eg, off road construction equipment), or scheduled property (eg, Homeowners Personal Floater) including items such as live animals and property with antique or collector's value. This line also includes instrumentalities of transportation and communication, such as bridges, tunnels piers, wharves, docks, pipelines, power and phone lines, and radio and television towers.

NL_T03 - Property - Accident, protection and health (APH)		Private passenger auto liability/medical		Coverage for financial loss resulting from legal liability for motor vehicle related injuries (bodily injury and medical payments) or damage to the property of others caused by accidents arising out of the ownership, maintenance or use of a motor vehicle. Does not include coverage for vehicles used in a commercial business.
NL_T03 - Property - Accident, protection and health (APH)		Commercial auto/truck liability/medical		Similar to private passenger auto liability/medical, except for commercial vehicles.
NL_T05 - Casualty - Other liability		Workers' Compensation		Employer's liability for injuries, disability or death to employees without regard to fault, as prescribed by workers' compensation laws or other statutes. Includes employer's liability coverage against common law liability for injuries to employees. Does not include excess workers' compensation.
NL_T05 - Casualty - Other liability (when also property risk, split between T05 and T02)		Commercial multi-peril		Two or more insurance coverages for a commercial enterprise, including various property and liability risks. Frequently includes fire, allied lines (coverages which are generally written with property insurance, eg, glass, tornado, windstorm and hail, sprinkler and water damage, explosion, riot, growing crops, flood and damage from aircraft and vehicle, etc.), various other coverages (eg, differences in conditions) and liability coverage. Includes multi-peril policies (other than farmowners, homeowners and automobile policies) that include coverage for liability other than auto.
NL_T05 - Casualty - Other liability		Medical professional liability - occurrence		For a licensed health care provider or health care facility against legal liability resulting from the death or injury of any person due to the insured's misconduct, negligence, or incompetence in rendering professional services. The insurance covers events occurring during the policy coverage period.

NL_T05 - Casualty - Other liability		Medical professional liability - claims made		Same type of insurance as medical professional liability – occurrence above except that the insurance covers claims presented during the period of coverage. The insurable event does not need to occur during the policy period.
NL_T05 - Casualty - Other liability		Other liability - occurrence		Against legal liability resulting from negligence, carelessness, or a failure to act causing property damage or personal injury to others. Typically, coverage includes liability for the following: construction and alteration; contingent ; contractual; elevators and escalators; errors and omissions; environmental pollution; excess stop loss, excess over insured or self-insured amounts and umbrella; liquor; personal injury; premises and operations; completed operations; nonmedical professional, etc. Also includes indemnification coverage provided to self-insured employers on an excess of loss basis (excess workers' compensation). The insurance covers events occurring during the policy coverage period.
NL_T05 - Casualty - Other liability		Other liability - claims-made		Same types of coverages as other liability – occurrence above except that the insurance covers claims presented during the period of coverage. The insurable event does not need to occur during the policy period.

NL_T05 - Casualty - Other liability		Products liability		Products liability - occurrence: covers events occurring during coverage period Products liability - claims made. - covers claims made during the coverage period. Coverage for the manufacturer, distributor, seller, or lessor of a product against legal liability resulting from a defective condition causing personal injury, or damage, to any individual or entity, associated with the use of the product. Products liability - occurrence: covers events occurring during coverage period Products liability - claims made. - covers claims made during the coverage period. Coverage for the manufacturer, distributor, seller, or lessor of a product against legal liability resulting from a defective condition causing personal injury, or damage, to any individual or entity, associated with the use of the product. Products liability - occurrence: covers events occurring during coverage period Products liability - claims made. - covers claims made during the coverage period. Coverage for the manufacturer, distributor, seller, or lessor of a product against legal liability resulting from a defective condition causing personal injury, or damage, to any individual or entity, associated with the use of the product.
NL_T06 - Casualty - Non-proportional Other liability		Reinsurance - nonproportional assumed property		Nonproportional assumed liability reinsurance in fire allied lines, ocean marine, inland marine, earthquake, group accident and health, credit accident and health, other accident and health, auto physical damage, boiler and machinery, glass, burglary and theft and international (of the foregoing).
NL_T06 - Casualty - Non-proportional Other liability		Reinsurance - nonproportional assumed liability		Nonproportional assumed liability reinsurance in farmowners multiple-peril, homeowners multiple-peril, commercial multiple-peril, medical professional liability, workers' compensation, other liability, products liability, auto liability, aircraft (all perils) and international (of the foregoing).

NL_T07 - Other Non-life - Marine, Aviation and Transport (MAT)		Special liability		Various insurance coverages including ocean marine, aircraft (all perils), and boiler and machinery. Ocean marine is coverage for ocean and inland water transportation exposures; such as goods or cargoes; ships or hulls; earnings; and liability. Aircraft is coverage for aircraft (hull) and their contents; aircraft owner's and aircraft manufacturer's liability to passengers, airports and other third parties. Boiler and machinery is coverage for the failure of boilers, machinery and electrical equipment. Coverage includes the property of the insured, which has been directly damaged by an accident, costs of temporary repairs and expediting expenses and liability for damage to the property of others.
NL_NT01 - Mortgage insurance		Mortgage insurance		Mortgage guaranty is indemnification of a lender from loss if a borrower fails to meet required mortgage payments.
NL_NT02 - Commercial credit insurance including Suretyship		Fidelity/surety		Fidelity is a bond covering an employer's loss resulting from an employee's dishonest act (eg, loss of cash, securities, or valuables). Surety is a three-party agreement where the insurer agrees to pay a second party or make complete an obligation in response to the default, acts, or omissions of a third party.
NL_NT02 - Commercial credit insurance including Suretyship		Financial Guaranty		Financial guaranty is a surety bond, insurance policy, or when issued by an insurer, an indemnity contract and any guaranty similar to the foregoing types, under which loss is payable upon proof of occurrence of financial loss to an insured claimant, oblige or indemnitee as a result of failure to perform a financial obligation.
NL_NT03 - Other non-traditional - Other Non-life Non-Traditional Insurance		Other		Coverages not included elsewhere which includes credit coverages and accident and health.

NL_NT03 - Other non-traditional - Other Non-life Non-Traditional Insurance		Other non-traditional Non-life insurance		
Depends on the underlying product		Reinsurance - nonproportional assumed financial lines		Nonproprotional assumed reinsurance in the following lines: mortgage guaranty, financial guaranty, fidelity, surety, credit, and international (in the foregoing).

Annex 3 Supplementary Definitions of Key Terms

This list is supplementary in nature. It is not meant to be an exhaustive index. Further definitions can be found in the Technical Specifications. Should you require further clarifications of any terms used in beyond what is provided in these Specifications or this Annex, please send a question to IAIS_Field_Testing@bis.org (and cc your Relationship Manager).

Terminology	Meaning
Infrastructure	Infrastructure includes all instruments secured by the assets a particular infrastructure item itself or an entity set up solely for the purpose of owning and operating the infrastructure item (eg a toll road or company set up solely to manage a particular toll road). Amounts should not be included here where there is a general claim on a company or government body related to borrowing to construct an infrastructure item where the terms of the security do not directly relate to the infrastructure assets.
Insurance activities	For the purposes of field testing, insurance activities are: activities of licensed insurers and regulated and unregulated entities that support the insurance activities (for example, subsidiaries that provide claims management or asset management acting mainly for the insurance entities)
Insurance linked securities (ILS)	Insurance Linked Securities (ILS) are securities whose return depends on the occurrence of a specific insurance event. From the July 2012 IAIS Paper "Reinsurance and Financial Stability" the following additional definition can be found: '… a broad category including catastrophe bonds (or cat bonds in short) and various variants of securitisation products in the life insurance sector… does not include derivative products such as CDS, which were developed outside the insurance sector and are not treated as insurance products for regulatory and accounting purposes.' Examples of insurance linked securities include: any investments in catastrophe bonds, longevity swaps, life settlements securitisation, embedded value securitisation, and reserve funding securitisation.
Life annuity	Also sometimes known as a perpetual annuity.
Non-financial activities	For the purposes of field testing, non-financial activities are: any activities conducted by non-financial entities that are not reported under insurance activities, regulated banking activities, unregulated banking activities or securities activities. Financial activities conducted by non-financial entities are to be reported as non-financial activities unless they qualify as shadow banking activities. For example, an entity that manufactures motor vehicles that has a derivative portfolio, would report that activity as nonfinancial activity.
Non-residential mortgage loans	refer to "Residential Mortgage Loans"
Residential mortgage loans	The Template provides for a separation between residential mortgage loans and non-residential mortgage loans. The separation is based on the underlying security for the mortgages rather than the characteristics of the borrower. Therefore, residential mortgage loans will be those secured by

	residential dwellings and non-residential mortgage loans will be those secured by other types of property.
Securities activities	For the purposes of field testing, securities activities are: all activities conducted from subsidiaries that are supervised or regulated by a securities regulator or supervisor. This would include, for example, asset management activity subject to securities regulation (rather than insurance regulation or banking regulation) but excluding the asset management activities captured as part of the insurance activities (see above)
Unregulated banking activities	For the purposes of field testing, 'Unregulated banking activities' are: financial activities that are conducted outside of a regulated insurance company or regulated banking subsidiary. Unregulated banking business is conducted from a subsidiary to which no regulatory capital requirement is applied. All financial activities conducted from unregulated entities should be included in unregulated banking business. For example, aircraft leasing carried out by a non-regulated subsidiary should be reported as related to unregulated banking activities. Activities that classify as shadow banking according to FSB's definition (http://www.financialstabilityboard.org/publications/r_130829c.pdf) should be reported as unregulated banking activities, regardless of their legal form. The FSB definition is based on the assessment of 5 economic functions: · management of collective investment vehicles with features that make them susceptible to runs, · loan provision that is dependent on short-term funding, · intermediation of market activities that is dependent on short-term funding or on secured funding of client assets, · facilitation of credit creation