INTERNATIONAL ASSOCIATION OF INSURANCE SUPERVISORS

Instructions for the May 2017 Quantitative Data Collection Exercise

("the Technical Specifications")

This is an IAIS working document used for 2017 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 2017 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 2016. 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 2016. Subject to previous discussion with the relevant group-wide supervisor, different valuation dates can be used for the purposes of this exercise (e.g. 31 March 2016 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 for quantitative Field Testing	7 May 2017
Issuance of Field Testing Template and Questionnaire	12 June 2017
Period in which Q&As will be published: - Refer to Q&A documents on https://fieldtesting.iaisweb.org	From 19 May 2017 to 24 August 2017
Deadline for the submission of the Field Testing Template and Questionnaire by the group-wide supervisors (GWS).	11 September 2017
Analysis by the Field Testing Analysis Team & discussions of summary results by the IAIS.	September 2017 to Mid-2018
Launch of 2018 Field Testing	Mid-2018

3 Scope of Application

5. The starting point for scope of application should be the consolidated 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.

6. To ensure comparability of results, when reporting Balance Sheet information under both valuation methods (Market Adjusted Valuation ("MAV"), and GAAP with Adjustments ("GAAP Plus") – see respective sections of this document), Volunteer Groups should apply the calculations to the same set of group entities. This may require adjustments to one or both of the valuation approaches to ensure a consistent consolidated approach.

7. The scope of the group should include all related entities within a group which may be a potential source of risk to the insurance operations, including all entities with exposures to non-traditional, non-insurance (NTNI) risks.

8. Non-insurance financial entities must be included in the consolidation. Capital requirements for non-insurance financial entities subject to separate sector specific prudential supervision should be calculated separately according to the sectorial requirements as defined in the Baseline Current Regulatory Reporting section (section 5).

9. Entities in the group can be excluded from the scope only if they are truly immaterial, that is when they do not significantly contribute to the total group risk. It is important to note that 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.

10. Non-financial entities may be excluded from the consolidation if they are completely separate from the financial businesses in the group. This would mean no linkage to the holding company 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 businesses would have no financial or reputational effect on the financial entities, holding companies or ultimate holding company of the group.

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

12. The consolidation approach for entities should be as follows (this is a non-exhaustive list):

a) all insurance entities and insurance holding companies that are subsidiaries of the ultimate holding company should be fully consolidated according to prevailing accounting

consolidation rules. U.S. stat only filers should follow the consolidation rules under the SAP Example of GAAP Plus;

b) any special purpose vehicles over which the ultimate holding company of the insurance group or the financial holding company has a dominant or significant influence should be fully consolidated according to prevailing accounting consolidation rules;

c) joint ventures on a proportional basis according to prevailing accounting practices for joint ventures;

d) on the basis of the equity method - all holdings in related insurance and insurance holding companies, that are not subsidiaries of the ultimate parent and that are not considered under points (a) and (c) above;

e) the market value of holdings in related undertakings other than those referred to in points (a) to (d) above.

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

14. In order to understand the impact of different scopes of consolidation, detailed information regarding the scope of consolidation is also requested. Please see the section on Scope of Group in this document (section 16).

4 General guiding principles

4.1 Substance over form

15. 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 on the part of the preparers of the balance sheet and any material assumptions should be disclosed in the Questionnaire.

4.2 Proportionality / Best effort

16. 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.

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

a) To the volume of the item valued

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

c) To the assessment of risk

18. 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.

4.3 Look-through

19. 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 in a manner consistent with section 13.2.1.

4.4 Use of current estimates

20. 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.

21. 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.

22. The IAIS is testing two different types of consistent and comparable MOCE (CC-MOCE). These are to be separately reported.

23. The main objective of the use of current estimates is to increase the comparability of insurance liabilities' valuation, for the purposes 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 in this area.

4.5 Segmentation

24. The allocation of insurance liabilities to the segments used in 2017 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.

25. The allocation to specified segments applies on a best efforts basis. The Questionnaire should be used to identify important assumptions made in the allocations to the segments in Field Testing.

5 Baseline Current Regulatory Reporting

Relevant Worksheets in Template:	*FT17.Baseline*	*Due 11 September 2017*

26. 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.

27. The *Baseline* worksheet is designed to obtain not only information about existing insurance-based group-wide capital requirements, but also other sectorial capital requirements.

28. Note that in addition, Volunteer Groups are asked to report their existing local capital requirements for each insurance legal entity (subsidiary) in the group in the *FT17.Baseline.Jurisdictional* worksheet. This is covered in a separate section.

5.1 Insurance-related baseline

29. 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 Groups. 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 U.S. life insurers, the Asset Valuation Reserve (AVR) and Interest Maintenance Reserve (IMR), which are to be separately reported as memo accounts in the *Baseline* worksheet of the Template, should also be aggregated and provided.

c) For each of the top-tier U.S insurance entities in an insurance group, the RBC Company Action Level of each insurer would be re-calibrated to the point at which regulatory action can be taken in any state based on RBC alone, i.e., 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 U.S. insurance entity would then be added together to approximate a combined re-calibrated RBC. This would provide a combined company view of the level at which regulatory action is triggered under the U.S. 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 29.a), pursuant to their respective existing capital requirements (as per the table below). For non-regulated entities, such as a U.S.-based holding company, there is no minimum regulatory capital requirement.

d) In addition to capital requirements, firms should aggregate available regulatory capital. For U.S.-domiciled insurers, this will be the statutory capital and surplus of each legal entity top-tier insurer per its year-end 2016 Annual Statement Balance Sheet. For insurers domiciled in other non-U.S. 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-U.S. jurisdictions is provided by the IAIS in the table below. For non-regulated entities, such as a U.S.-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 U.S. life insurance legal entities in the group.

30. 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 1. 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 TailVaR at 99% confidence level over a one year time horizon.
China	The PCR is 100% of the C-ROSS total capital
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
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 (i.e. capital requirement) for all registered insurers. In practice, insurers are expected to have capital management plans in place and hold a target CAR of more than 120%.
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).

31. *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.

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

33. *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.

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

5.2 Securities-related baseline

35. 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.

5.3 Banking-related baseline

36. 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.

[1] http://www.bis.org/bcbs/basel3.htm

37. The method of calculating risk-weighted assets for regulated banking activities should be the method of calculating risk-weighted assets that is used for reporting to the banking supervisor(s).

38. For unregulated banking business, Volunteer Groups are requested to 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.

5.4 Assets under Management

39. 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.

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

41. For both types of asset management business, the last 3 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].

42. 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.

43. 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 3 years of positive gross annual income from asset management business.

[2] http://www.bis.org/publ/bcbs128.pdf

[3] Only relevant where the asset management business is conducted 'off-balance sheet' as it is not included in the capital requirement reported on the Current Regulatory Baseline.

6 Market Adjusted Valuation ("MAV") Approach

Relevant Worksheets in Template:	*FT17.BCR & ICS Balance Sheet* *FT17.Valuation assets* *FT17.OAG Totals* *FT17.OAG Others* *FT17.ALM Portfolio X*	*Due 11 September 2017*

44. 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

45. 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 U.S. mutuals). Section 6.2 provides guidance for various balance sheet items.

46. 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 margin over current estimate. Separate account/Unit-linked liabilities, where the policyholder bears the investment risks, may be valued according to Section 6.7 (Obligations replicable by a portfolio of assets), where appropriate.

b) Financial instruments, both assets and liabilities, including derivatives and mortgages/ loans made[4], 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.

[4] In this context, mortgages/loans made means mortgages/loans that the Volunteer Group has invested in or itself written as the offeror.

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

47. Volunteer Groups should apply the following adjustments to these specific balance sheet items for purposes of the 2017 Field Testing:

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 (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 made: See paragraph 46.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 will 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): deferred taxes (assets/liabilities) should be treated according to the following specification:

   i. Deferred tax Assets/Liabilities should be adjusted consistently with the relevant tax rules, to reflect the potentially new temporal differences between the MAV Balance Sheet and the Tax Balance Sheet. In practice, this means the MAV Balance Sheet reflects the tax effects of the MAV adjustments.

   ii. The adjusted numbers should then form the basis for the application of the criteria for the determination of qualifying capital resources, as well as the determination of the ICS risk charges.

g) Deferred acquisition costs and future acquisition costs (within contract boundaries): Deferred Acquisition Costs which are on the Balance Sheet at the reference date should be adjusted to zero. Future acquisition costs related to future premiums (within contract boundaries) cash flows should be reflected in the value of insurance liabilities.

h) Policy Loans – Policy loans should be reported in the appropriate row under Invested Assets, rather than being netted against insurance liabilities.

i) Other assets: The valuation of these items should be based on the Volunteer Group's reported IFRS or GAAP valuations.

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

k) 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 46.c).[5]

l) Contingent liabilities: Valuation of contingent liabilities should be based on the Volunteer Group's reported IFRS or GAAP valuations. 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.

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

6.3 Methodology for calculation of current estimate

6.3.1 Basis for calculation

48. 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[6].

49. 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.

50. The calculation of the current estimate shall be based upon up-to-date and credible information and realistic assumptions. Implicit or explicit margins are not part of the current estimate.

[5] ICP Standard 14.6: "The value of insurance liabilities and other liabilities does not reflect the insurer's own credit standing."

[6] 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.

The determination of the current estimate has to be objective, comprehensive, and use observable input data where possible.

51. Uncertainty in the 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) claims amounts, including uncertainty in claims 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 the cash flows in order to ensure that the current estimate represents the mean of the distribution of cash flow values.

52. 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.

53. 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

54. The current estimate corresponds to the probability-weighted average of the present values of the future cash flows associated with insurance liabilities discounted using the relevant yield curves to derive a present value.

55. 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 (e.g. consumer price index, medical inflation and salary inflation). Premium adjustment clauses, where relevant, may also need to be considered.

56. 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.

57. The cash flows to be included in the calculation of current estimate should, at least, include:

a) benefit and claim payments

b) direct and indirect expenses incurred (a non-exhaustive list of examples includes: administrative expenses; investment management expenses; claims management expenses; handling 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

6.3.3 Non-Life premium liabilities

58. 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 claims events (taking into account the potential for claims that have very high severity but with a low probability of occurrence);
- Cash flows arising from underwriting and other expenses (both allocated expenses and overheads). Allocated expenses are those expenses which could be directly assignable to the source of expense that will be incurred in servicing insurance and reinsurance liabilities. Overhead expenses comprise all other expenses which the insurer incurs in servicing insurance and reinsurance liabilities;
- Cash flows arising from ongoing administration of the in-force policies, including any commission payments, any premium collection costs and investment related expenses.

59. Acquisition costs should be included in the premium liabilities valuation and not reflected as an asset on the Balance Sheet.

6.3.3.1 Non-Life premium liabilities data collection

60. 2016 Field Testing highlighted significant divergences in the values of Non-Life Premium Liabilities (Provisions) reported by Volunteer Groups (e.g. materially negative figures or zero figures).

61. In 2017 Field Testing, Volunteer Groups are asked to provide more detailed reporting of the components of their premium liability and historical underwriting profitability. If this detail is not possible to provide on a best efforts basis, then one of the two simplifications below should be used to calculate the premium liability.

62. To increase the understanding of how the specifications for premium liabilities are being interpreted, the IAIS will collect data using two supporting tables with more granular quantitative information.

63. The first table is a “breakdown” of the components of the future cash flows underlying the reported Non-Life premium liabilities. These components should be broken down into four categories: premiums, loss plus allocated expenses, acquisition expense, and underwriting/other expenses. Categorization of the cash flows should be done on a ‘best efforts basis’. It is understood that some of the terms may be interpreted in different ways by different Volunteer Groups. Input on such

differences will be sought in the Questionnaire. Any future cash flows that do not fit into any of these categories, should be put in the Other Adjustments column (this is expected to be exceptionally used and note that a positive amount will be deducted from the total premium liability). The second table is for historical combined ratios for the group's Non-Life business. Note that this table is based on actual results and not, as in first table, on future cash flows. Despite these differences, these figures will be useful for comparison purposes. Effort should be made to use a similar categorization of premium/loss/expense in both tables.

6.3.3.2 Simplifications for Non-Life premium liabilities

64. In previous Field Testing exercises, some Volunteer Groups have reported that the application of a full cash flow projection to determine the Non-Life Premium Liabilities (Provision) is disproportionately complex. For 2017 Field Testing, two possible simplifications are proposed to be tested.

65. The first simplification attempts to approximate the concept of 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 claims, underwriting and other expenses as well as acquisition expenses)

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

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

AER – Acquisition expense ratio

66. A second simplification may be used if, for materiality or other reasons, the Volunteer Group would need to further simplify the calculation:

PL = UPR = Premiums Written less Premiums Earned.

6.3.4 Recognition / Derecognition of insurance liabilities

67. Without prejudice to the specifications set in the "contract boundaries" section, 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 started yet.

68. 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 a health coverage starting on 1 March 2017. The contract has been underwritten on 20 December 2016, with no possibility to change the terms of the contracts before the coverage starts. On 31 December 2016, this contract should be recognized in the balance sheet.

6.3.5 Contract boundaries

69. Only contracts existing at the valuation date, and recognised according to the section "recognition / derecognition", should be taken into account. This provision implies that no future business should be taken into account for the calculation of insurance liabilities.

70. 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.

71. 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 66 are deemed applicable. 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 2016, 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 2016, insurance liabilities should include 6 months of future premiums (January – June 2017), along with the related claims and expenses.

6.3.6 Time horizon

72. 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

73. 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.

74. 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. Adjustment should be made to these alternatives 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; or

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, e.g. the relationship between inflation and interest rates.

6.3.8 Possible methodologies

75. The calculation of insurance liabilities is typically based on valuation models. Where this is the case, these models should be comprehensive, transparent, be 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.

76. 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. Following the application of the proportionality principle (section 4.2), in the case of more complex cash flow projections (e.g. 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

77. 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).

78. 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

79. 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 current estimate liabilities. Expected cash flows related to these contracts should reflect expected policyholder behaviour (see section 6.3.11 on Policyholder behaviour). 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.

80. Variable annuities may contain guaranteed living benefits (e.g. 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 rather than observed volatilities).

81. Options and guarantees should be valued using stochastic approaches. However, for the purposes of 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 are asked to use the relevant IAIS specified yield curves with adjustment.

6.3.11 Policyholder behaviour

82. 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.

83. 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.

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

85. 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.

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

87. 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 Discounting section). For instance policyholder behaviour may be linked to the interest rate scenario and associated assumptions.

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

6.3.12 Valuation of future benefits

89. 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.

90. For discretionary amounts such as bonuses or crediting rates, the current estimate should recognise the amounts expected to be paid consistent with expected future experience, the economic scenarios on which the liability valuation is based and policyholders' reasonable expectations[7]. For example, if a reference group of assets are expected to earn a greater amount than the contractual crediting rate and discretionary additional credit rates can be declared, the expected discretionary crediting rate should be taken into account.

91. This projection should be consistent with the yield curve applicable to the contract, with the adjustments (for each option) referred to in the Discounting section (section 6.3.15).

92. 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. A current estimate of cash

[7] In the context of 2017 Field Testing, "discretionary amounts" (Future Discretionary Benefits – FDB) should include those non-guaranteed amounts, on which the Volunteer Group has no discretion, for instance those bonuses linked to a legal or contractual obligation to distribute a portion of the financial / underwriting profits to policyholders.

flows will include the value of cash flows as a result of the exercise of discretionary benefits consistent with the expected policyholder behaviour.

Example

For participating products which 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

93. 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.

94. 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.

95. Assumed future management actions should be consistent with each other. 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

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

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

98. For insurance business not including embedded options and guarantees (in particular insurance liabilities related to Non-Life insurance), there might 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.

99. For 2017 Field Testing, specific simplifications are proposed for the calculation of Non-Life Premium Liabilities, under Section 6.3.3.

6.3.15 Discounting

100. Current estimates of insurance liabilities (and related reinsurance recoverables) should be calculated using the approach specified for the relevant option. Additional information is contained in the FT17 Yield Curves document (provided separately).

6.3.15.1 Determination of Yield Curves for current estimate discounting

101. The approach chosen for this Field Testing does not pre-empt the future development of alternative comparable approaches to discounting the current estimate that may better reflect the long term nature of insurance liabilities and that could be eventually used as part of IAIS capital standards. That applies to both the mechanics of the curve as well as any factors used in the calculation for the purposes of Field Testing. For ICS version 2.0, the IAIS will develop a methodology which will aim to address all the components relevant for the determination of the base yield curve, to ensure consistency among the 35 curves provided.

102. 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).

103. Different methodologies for the design of the adjustment are being explored in 2017 Field Testing through the specified options. The detailed method of determining the adjusted curve is set out below in the description of each option.

104. Concerning the adjustment, in 2017 Field Testing the IAIS is testing different technical solutions under different market conditions to assess their effectiveness in the mitigation of excessive volatility of capital resources. The adjustment is applied to the first segment of the yield curve (see Figure 1 below) until the start of extrapolation. There is then an extrapolation to the Long-Term Forward Rate (LTFR) for each currency which, for 2017 Field Testing, also includes a notional 10 basis points adjustment to reflect credit spread that can be earned in the long term. The 10 basis points have been established as a placeholder which will be revisited once the IAIS develops the methodology for the base yield curve (including the determination of the LTFR).

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

6.3.15.2 Methodology for the determination of "risk free" yield curve

106. For 2017 Field Testing, the methodology used is based on a 3-segment approach (as per 2016 Field Testing):

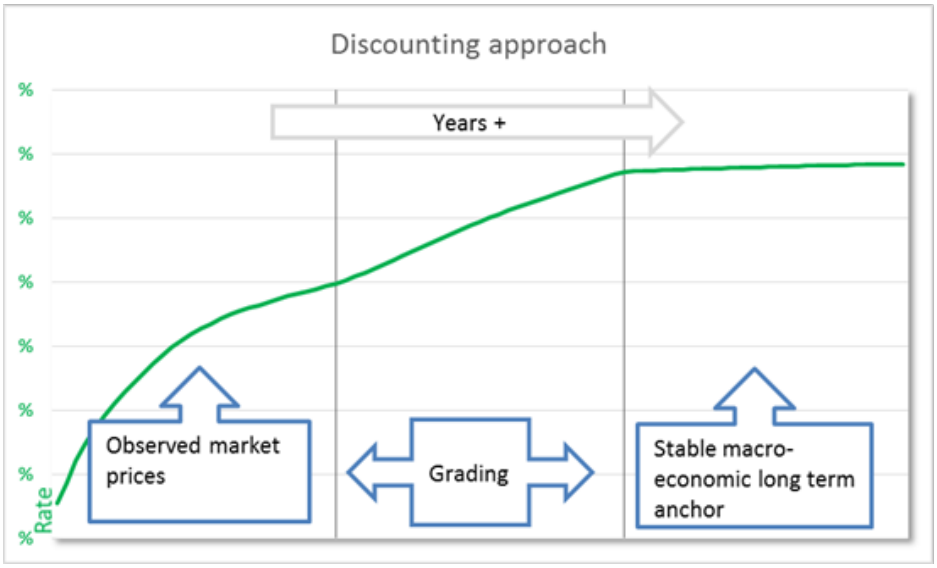
a) Segment 1: based on market information from government bonds or swaps (applying an appropriate adjustment where swaps are used to remove the Credit risk included in the pricing of these instruments);

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

c) Segment 3: based on a stable LTFR.

107. 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.

Figure 1 Discounting Approach



108. For all currencies, the start of the third segment will occur at the maturity of 60 years. At this maturity, the forward rates implicit in each currency's spot curve should have largely converged to a LTFR.

109. The LTFR is currency-specific. These rates were determined following a macroeconomic approach using OECD information[8]:

Table 2. Long Term Forward Rates

Currency		Observed Instrument	Cut-off for extrapolation (in years)	Long term forward rate
AUD	Australia Dollar	Government Bonds	30	4.0%
BRL	Brazil Real	Government Bonds	10	7.3%
CAD	Canada Dollar	Swaps	20	3.5%
CHF	Switzerland Franc	Swaps	20	3.5%
CLP	Chile Peso	Swaps	10	4.5%
CNY	China Yuan Renminbi	Government Bonds	10	6.8%
COP	Colombia Peso	Swaps	10	4.5%
CZK	Czech Republic Koruna	Swaps	15	3.5%
DKK	Denmark Kroner	Swaps	20	3.5%
EUR	Euro	Swaps	20	3.5%

[8] For further details please refer to http://www.oecd.org/eco/outlook/lookingto2060.htm

GBP	United Kingdom Pound	Swaps	30	3.5%
HKD	Hong Kong Dollar	Swaps	15	3.5%
HUF	Hungary Forint	Government Bonds	15	4.5%
IDR	Indonesia Rupiah	Swaps	10	7.3%
ILS	Israeli New Shekel	Swaps	20	3.5%
INR	Indian Rupees	Swaps	10	6.8%
JPY	Japanese Yen	Government Bonds	30	3.5%
KRW	South Korean Won	Government Bonds	20	4.5%
MXN	Mexico Pesos	Government Bonds	20	4.5%
MYR	Malaysia Ringgit	Government Bonds	15	7.3%
NOK	Norway Kroner	Swaps	10	4.0%
NZD	New Zealand Dollars	Swaps	20	3.5%
PEN	Peruvian Nuevo Sol	Swaps	10	4.5%
PHP	Philippine Peso	Swaps	10	7.3%
PLN	Poland Zloty	Government Bonds	10	4.0%
RON	Romania New Leu	Government Bonds	10	3.5%
RUB	Russia Ruble	Swaps	10	6.8%
SAR	Saudi Arabia Riyal	Swaps	15	4.8%
SEK	Sweden Kronor	Swaps	10	3.5%
SGD	Singapore Dollar	Government Bonds	20	3.5%
THB	Thailand Baht	Government Bonds	10	7.3%
TRY	Turkey Lira	Government Bonds	10	6.5%
TWD	Taiwan New Dollar	Government Bonds	10	6.8%
USD	United States Dollar	Government Bonds	30	3.5%
ZAR	South Africa Rand	Government Bonds	30	7.3%

6.3.15.3 Methodology for the determination of the adjustment to the "risk free" yield curve

110. The IAIS specified 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 assets subject to an illiquidity premium. 2017 Field Testing aims to evaluate the effectiveness and impact of three options tailored to mitigate the abovementioned volatility. Additional information will be collected to assess the impact of potential modifications to these options. These options do not necessarily reflect the final design of the adjustment that will be included in the MAV approach.

111. All the options are based on an average spread corrected for Credit risk and any other risks, allowing the isolation of the illiquidity premium. 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.

112. Compared to the options tested for the adjustment in 2016 Field Testing, the options aim to refine and to improve the risk-sensitivity of the adjustment. The refinements include the composition of the asset portfolio assumed to back insurance liabilities and the scope of the Volunteer's Assets which are deemed to give rise to a spread adjustment, as well as the level of such adjustment (application ratio).

113. The options can be summarised as follows:

a) Blended Option ("Blended") is designed as a blend of two options tested in 2016 Field Testing (Options 1 and 2, which relied on Representative Portfolio and weighted average of multiple portfolio ("WAMP") methodologies, respectively), applied to two buckets of insurance and reinsurance liabilities (General Bucket and Top Bucket).

b) High Quality Assets Option ("HQA") is also based on a Representative Portfolio methodology, but it introduces some notable differences in key elements of the approach, such as the application ratio, the scope of assets which are deemed to generate a spread adjustment and the level at which the adjustment is capped

c) Own Assets with Guardrails Option ("OAG") is an adjustment methodology which, as the name indicates, is based on the use of the spreads inherent to the asset portfolio of the Volunteer Group, subject to quantitative and qualitative guardrails.

114. To assess the effectiveness and behaviour of the different options under different market conditions, calculations for all the three options should be performed under both the following scenarios:

a) current market conditions as at the balance date and

b) stressed spread 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 which allows testing of the effectiveness of the different adjustment options. The stress scenario is not specifically linked to any reference date or historical scenario.

115. The following table summarises the three options that Volunteer Groups are requested to calculate, for each of the two scenarios. In total, Volunteer Groups are asked to run 6 different MAV calculations in 2017 Field Testing.

Table 3. Options

	Options		
	Blended	**HQA**	**OAG**
Liability segmentation (buckets)	2	1	1
Portfolio Composition	Representative portfolio per currency / WAMP	Representative portfolio per currency	Volunteer Group's own assets
Default Deduction	Risk Correction	Risk Correction	Risk Correction
Scope of Assets	Only eligible assets	All assets except cash	All assets except cash
Quantitative Guardrail	BBB	AA	BBB
Application Ratio	100% (Top) 80% (General)	100%	100%

116. 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 4 below.

Table 4. Summary of information provided by IAIS and calculations by Volunteer Group (applicable for both scenarios)

	Provided by IAIS	Calculations by Volunteer Group to derive adjusted yield curve
Blended (General)	Risk-free yield curves Adjustment by currency/jurisdiction based on representative portfolio	None
Blended (Top)	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
HQA	Risk-free yield curves Adjustment by currency/jurisdiction based on representative portfolio	None
OAG	Risk-free 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 WAMP

6.4 Specifications for each of the scenarios

6.4.1 Blended Option

117. Under this option, the Volunteer Group is requested to split its liabilities into two buckets, the General Bucket and the Top Bucket, to which different methodologies are applied. This differentiation is due to the fact that some insurance liabilities, in particular very long-term and predictable liabilities, can be managed in a differentiated manner consistent with its long term nature, which enables the Volunteer Group to better match the Asset and Liability cash flows as well as hold Assets with longer durations until maturity.

118. The two buckets are identified as follows:

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

b) General Bucket: all other insurance liabilities which are not eligible for the Top Bucket should be allocated to the General Bucket.

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

a) Only life insurance and disability annuities in payment with no cash benefits on withdrawal are eligible, subject to 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;

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 last point of liquidity 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. For field testing purposes, carry forward of cash should be limited to 10% of the total undiscounted liability cash flows up to the last point of liquidity;

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

e) The portfolio of insurance liabilities include no surrender option for the policy holder or only a surrender option where the surrender value does not exceed the value of the assets covering the insurance liabilities at the time the surrender option is exercised;

f) Insurance liabilities are not split into different parts when assessing eligibility for the Top Bucket (no unbundling).

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

6.4.1.1 General Bucket

121. The adjustment for the General Bucket is provided by the IAIS, based on a representative portfolio that reflects the assets typically held by all 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).

122. The spread is adjusted for Credit risk and any other risk.

123. 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.

124. 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 of spread. For currencies where risk free rates are based on government bond rates, no risk correction is applied.

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

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

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

127. 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. A notional adjustment of 10 bps is added to the LTFR.

6.4.1.1.1 Basis Risk Mitigation mechanisms for the General Bucket

128. To account for specific situations that generate basis risk between individual IAIG 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 which is different from the liabilities which they are backing.

129. 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.

130. 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 by the IAIS in the determination of the currency spread adjustment, but not the weights of the different asset categories considered.

131. 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, AAA, AA, A, BBB and lower, non-eligible (with 0 spread)

to become

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

with i=Sovereign, AAA, AA, A, BBB and lower, non-eligible (with 0 spread)

6.4.1.1.2 Shared currency basis risk mitigation mechanism

132. 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.

133. This relief mechanism operates as follows:

If S_rc_adjusted – S_rc_currency >= 50bps

S_rc = S_rc_crncy + MAX [(S_rc_adjusted – (S_rc_crncy + 50bps));0)]

With
S_rc = spread after risk correction used to discount liabilities

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 to (but keeping the asset category weights unchanged compared to the currency portfolio)

134. An example of the calculation is provided in file 'Basis risk mitigation mechanism examples'.

6.4.1.1.3 Foreign assets basis risk mitigation mechanism

135. 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 which may be earned by the Volunteer Group.

136. To promote sound risk management, only exposures to foreign currency assets where currency risk is deemed to be hedged as per the Risk Mitigation section (section 13.2.2) are considered for the purposes of this relief mechanism.

137. This relief mechanism operates as follows:

If Hedged eligible foreign currency denominated assets/Eligible assets denominated in the currency of the liability ≥5%

Then

S_rc = S_rc_crncy +50%* (S_rc_adjusted – S_rc_crncy)

With

S_rc = spread after risk correction used to discount liabilities

S_rc_crncy = currency spread after risk correction

S_rc_adjusted = modified spread including the extra spreads which can be earned from the hedged assets denominated in foreign currency which 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.

138. An example of the calculation is provided in file 'Basis risk mitigation mechanism examples'.

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

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

6.4.1.2 Top Bucket

141. For the Top Bucket, the IAIS provides multiple indices differentiating between credit qualities and currencies, which should be used to construct an adjustment that reflects the assets held by the Volunteer Group.

142. The calculation of the weighted average of the multiple indices should be performed based on the identified portfolio of assets backing Top Bucket insurance liabilities.

143. For the Top Bucket 100% of the adjusted reference spread is used to discount insurance liabilities.

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

144. The calculation of the spread adjustment is performed according to the following steps:

a) Identify the assets backing Top 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 6.7 (this is therefore not on the basis of the general current estimate methodology).

   ii. Assets backing insurance liabilities that are denominated in a currency that is different than the corresponding liabilities shall be included in the determination of the weights of the different representative portfolios (AAA, AA, …). However, when calculating the WAMP spread, only the representative portfolios in the currency of the liability shall be included in the weighting. In practical terms, this means that assets in different currencies are assumed to generate the same spread adjustment as those assets denominated in the currency of the liabilities.

   iii. Assets rated below investment grade (i.e. below BBB) should be assigned to the weight of the BBB portfolio, which in practice means that the spread generated by such assets is capped at the level of BBB 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 5 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) Calculate the weighted average adjustment for the currency applying these weights to the given adjustments per asset category.

145. The resulting spread is adjusted for Credit risk and any other risk, using the risk corrections provided in the Field Testing Template.

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

$$
\begin{aligned}
&Adjusted\ Spread = \\
&\omega_{gov} \cdot \left(Spread_{gov} - RC_{gov}\right) \\
&+\omega_{AAA} \cdot \left(Spread_{AAA} - RC_{AAA}\right) \\
&+\omega_{AA} \cdot \left(Spread_{AA} - RC_{AA}\right) \\
&+\omega_{A} \cdot \left(Spread_{A} - RC_{A}\right) \\
&+\omega_{BBB} \cdot \left(Spread_{BBB} - RC_{BBB}\right) \\
&+\omega_{non-eligible} \cdot 0
\end{aligned}
$$

Where:

- ω denotes the weight of the corresponding debt instrument;
- $Spread$ denotes the spread of the corresponding debt instrument ; $Spread_{gov}$ = 0 when the corresponding government bond rate is used for the risk free yield curve
- RC denotes the risk correction for Credit risk and any other risk;
- $\omega_{non-eligible}$ denotes the weight of non-elegible assets in the total portfolio of assets for that currency.

147. 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. A notional 10 basis point spread adjustment is added to the LTFR.

148. Investments to be included in the representative portfolio are referenced in the table below:

Table 5. Investments to be 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

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

150. Where assets include call options, they would not be deemed eligible to back liabilities included in the Top Bucket, 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 which enables the matching of cash flows to be maintained).

151. Corporate bonds should be allocated according to their external credit rating. 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 BBB bucket;

b) Sub-investment grade debt instruments should be allocated to the BBB 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 margin over the current estimate (section 6.7 on Obligations replicable by a portfolio of assets does not apply).

152. For currencies other than those specified in the Template, Volunteer Groups should use the average “world” spreads (“All others” in the Template).

153. In the case of currency unions (e.g. 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.

6.4.2 HQA Option

154. The HQA discounting option is designed to test the use of currency-specific representative portfolios. For portfolio composition, it uses representative portfolios per currency. In this option, the application ratio is 100% for the spread adjustment, and the portfolio yield is subject to a risk correction. The liabilities are not bucketed (the same application ratio is used to discount all liabilities.

155. The IAIS provides:

a) Risk-free yield curves

b) Spread adjustment net of defaults for each currency and tenor.

6.4.2.1 HQA option – Currency specific representative portfolio

156. The IAIS determines the spread for the yield curve for each tenor in each currency, 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, such as bonds, loans, securitisations, equities, and properties.

157. The spread adjustment is the weighted average of the sovereign, default-adjusted AAA and default-adjusted AA spreads where the weights are the percentage of each asset type reported in 2016 Field Testing by Volunteer Groups for each currency. The weight applied to the AA spread will be the proportion of assets held by 2016 Volunteer Groups for each currency: securities rated AA and below, unrated securities, including equities, property and other investments.

158. For corporate bonds, a risk correction is applied as for the other ICS discounting options. For currencies where risk free rates are based on government bond rates, there is no risk correction on investments in government bonds.

159. For each tenor (t), and currency (c)

$$
\begin{aligned}
&r_{c,t} = risk\ free\ rate_{c,t} + \\
&\%Sovereign_c \times Sovereign\ Spread_{c,t} + \\
&\%AAA_c \times Default\ Adjusted\ AAA\ Spread_{c,t} + \\
&\%AA\ and\ Below_c \times Default\ Adjusted\ AA\ Spread_{c,t}
\end{aligned}
$$

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

161. The spread adjustment for HQA option is to be applied as a shift across the liquid part of the base yield curve (Segment 1). 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 noting that a notional 10 basis point spread adjustment will be added to the LTFR.

162. If the AAA and AA curves are available for the whole Segment 1 of the yield curve, the spread is the difference, at each point in the yield curve, between the AAA or AA curve, as appropriate, and the risk free curve.

163. Where points on the curve are unavailable and lie between tenors where data is available, linear interpolation is used to determine the spread. For example, if the spread is 50 bps at 5 years, and 80 bps at 10 years, then the interpolated spread for 7-year maturity is 62 bps.

164. Where points on the curve are unavailable that are either before the first available tenor, or after the last one, the spread is determined proportionately based on the nearest available spread. If, for example, the first point on the yield curve is the 5-year maturity with a default-adjusted 50 bps spread, and the risk free yield is 4%, the spread is 12.5% of the risk free yield. The same percentage is applied for the curve points shorter than 5 years, so for example, if 2-year risk free rate is 3%, the spread is 37.5 bps (3% x 112.5%-3%). The same principle applies for the curve points in Segment 1 that are longer than the last known AAA or AA corporate bond yield.

165. All assets (except cash) that are either unrated or rated below AA should be assigned to the AA portfolio, which in practice means that the spread generated by such assets is capped at the level of AA assets.

6.4.2.2 Basis Risk Mitigation mechanisms for HQA

166. To account for specific situations that generate basis risk between individual Volunteer Group Portfolios and the Currency Specific Representative Portfolio for HQA, 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 which is different from the liabilities which they are backing. This is the same approach as for the General Bucket of the Blended option. Therefore, the detail is not repeated here. Please refer to section 6.4.1.

167. 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.

168. 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 by the IAIS in the determination of the currency spread adjustment, but not the weights of the different asset categories considered.

6.4.3 OAG Option

169. Under the Own Assets with Guardrails (OAG) approach, Volunteer Groups have the option to discount a subset or all their insurance liabilities using the relevant risk free IAIS specified yield

curves, adjusted at a liability portfolio level by a spread (the "adjusted lifetime spread") determined using the specific assets held by the Volunteer Group allocated to each liability portfolio and reflects internally approved asset liability management (ALM) processes of the Volunteer Group. For each liability portfolio, a copy of worksheet *FT17.ALM Portfolio X* should be completed. For portfolios where the Volunteer Group does not apply OAG option, it should apply the HQA option and for this purpose *FT17.OAG Others* should be completed.

170. The "adjusted lifetime spreads" represents the combined expected return across all asset classes (i.e. the return net of expected defaults), varying by duration, and is calculated in three stages for each liability portfolio:

I. Determine the spread above risk free rates ("spread") by asset class within each liability portfolio less a risk correction determined by the IAIS, and then calculate the weighted average of these net assets spreads for each liability portfolio.

II. Calculate the spread expected to be earned by future reinvestments

III. Combine the current spread and reinvestment spread to get a lifetime spread at each duration.

6.4.3.1 Stage I: Calculate risk adjusted spread on currently held (own) assets

6.4.3.1.1 (A) Procedure to calculate spread on currently held (own) assets, by asset class within each liability portfolio

171. **Step 1**: Allocate assets to liabilities in liability portfolios determined by the Volunteer IAIS., where the asset/liability portfolio allocation is based on the Volunteer Group's internally approved ALM strategy. The internally approved ALM strategy for this purpose must be subject to regulatory oversight, such as local Supervisor approval, and/or local actuarial/accounting Standards of Practice.

172. Then, for each liability portfolio:

173. **Step 2**: Exclude any cash to determine the total portfolio of own assets backing liabilities in that group.

174. **Step 3**: Identify the eligible own assets in the portfolio, according to Table 6 below and group them by rating class.

175. **Step 4**: Calculate average spread over the risk free rate for assets in each rating class as described below;

a) Identify the promised cash flows from eligible own assets (according to Table 6) for that rating class (i.e. nominal cash flows ignoring expected defaults).

b) Identify the market value of the assets in the rating class (MV). Market value should be determined based on recognized data sources as appropriate e.g. Bloomberg, or alternatively based on the Volunteer Group's audited financial statements.

c) Value the cash flows of eligible own assets allocated to the group of assets using the appropriate IAIS risk free yield curves for each currency (RFV).

d) The average spread over risk free rate for eligible own assets for each group of assets is then calculated as a single adjustment representing the difference between:

- The discount rate that, when used to value the cash flows from eligible own assets, results in a value equal to the MV; and
- The discount rate that, when used to value the cash flows from eligible own assets, results in a value equal to the RFV.

176. **Step 5**: Calculate average spread over risk free in respect of eligible assets with a credit rating below BBB or no rating, and for eligible equity and other alternative long duration assets (according to Table 7), as the corporate BBB spread as determined in step 4 above.

177. Where BBB spread information is not available, e.g. the insurer does not have any eligible own assets (according to Table 6) and local market for these assets is not sufficiently deep and liquid, then calculate the average spread over risk free in respect of eligible equity and other alternative long duration assets, as the average over the last 5 years of excess of the local market major equity index Dividend yields (or other relevant market index yields) over 1-year risk free returns specified by IAIS.

178. Finally, an additional quantitative guardrail restricting the use of equity and other alternative long duration assets to the valuation of long term liabilities is applied as follows.

- Calculate X = sum of undiscounted liability cash flows > 12 years / total undiscounted liability cash flows
- Calculate Y = current market of value equity assets and other alternative long duration assets / total current market value of all eligible assets

Average spread over risk free rate in respect of eligible equity and other alternative long duration assets is determined as above multiplied by a factor, where the factor = minimum (1,X/Y).

6.4.3.1.2 (B) Procedure to calculate weighted average adjusted spread on currently held (own) assets

179. The resulting spread for each group of assets (Stage I(A) above) is adjusted for expected defaults over the lifetime of each asset. To do this, a single risk corrected adjusted spread is calculated for each group of assets allocated to a particular liability portfolio using the weightings of assets by rating in the portfolio and the risk corrections as shown in Table 8.

180. The weighted average adjusted spread for a given group of assets should be computed as follows (note: for non-eligible assets, it is assumed that no spread is earned in excess of the risk free rate):

$$Adjusted\ Spread_{own\ assets} = \sum_{Eligible\ assets\ i} \omega_i \cdot (Spread_i - RC_i) + \omega_{non-eligible} \cdot 0$$

Where:
- ω_i denotes the weight of eligible asset rating class *i* in the total portfolio of assets for that group of assets;
- $Spread_i$ denotes the spread of eligible asset rating class *i* in the total portfolio of assets for that group of assets (as determined in Steps 4 and 5);
- RC_i denotes the single IAIS-specified risk correction for eligible asset rating class *i*, representing losses from expected defaults as shown in Table 2
- $\omega_{non-eligible}$ denotes the total weight of non-eligible assets in the total portfolio of assets for that group of assets;

6.4.3.2 Stage II: Calculate adjusted spread on reinvested assets

181. The average adjusted spread on reinvested fixed income assets is the weighted average (of eligible fixed income assets) of the adjusted spread over risk free in respect of reinvested assets at duration t (time since valuation date).

182. The adjusted spread for reinvested assets at time 0 is based the on Company's existing fixed income asset mix and assumes no future reinvestment in equity and other alternative long duration assets. For Field Testing purposes, this converges to 10bps at 60 years. See Table 9 for further details.

6.4.3.3 Stage III: Calculate adjusted lifetime spread on all assets

183. The average lifetime adjusted spread on all assets should be computed as follows depending on the adjusted asset and liability cash flow ratios at each duration:

- If at any duration the adjusted asset cash flow, including expected non-contractual income from non-fixed income assets e.g. dividend income, real estate rental income etc., is greater than the liability cash flow, then the adjusted spread on own assets is used to determine the discount rate at that duration.

- If the liability cash flow at that duration exceeds the adjusted asset cash flows at that duration, then the discount rate at that duration is derived by blending the adjusted spread on own assets and the adjusted spread on reinvested assets (weighted by the excess of liability cash flows over asset cash flows at that duration).

184. Formulaically

if adjusted cash flow ratio (t) $\geq$ 1 then

adjusted lifetime $spread_{all\ assets}$ (t) = adjusted $spread_{own\ assets}$

else if adjusted cash flow ratio (t) < 1 then

adjusted lifetime $spread_{all\ assets}$ (t) =

adjusted $spread_{own\ assets}$ * adjusted cash flow ratio (t) + adjusted $spread_{reinvested\ assets}$ (t) * (1 - adjusted cash flow ratio (t))

185. The adjusted asset cash flow ratio at time t is given as the sum of:

a) the ratio of fixed income asset cash flows to liability cash flows at time t ("fixed income cash flow ratio")

b) an adjusted ratio of equity & Alternative Long Duration Assets (ALDA) cash flows to liability cash flows t ("adjusted equity & ALDA cash flow ratio"), as shown in Table 10.

186. Fixed income and equity and ALDA cash flows at time t used to calculate the asset/liability ratios are the same as those used to determine the spread on currently held assets in Stage I of this calculation (for Field Testing purposes, equity and ALDA cash flows at time t used to calculate the adjusted equity & ALDA cash flow ratio do not include equity and ALDA sales proceeds).

6.4.3.4 Equity and ALDA guardrail

187. Spread on equities and ALDA = min(1, X/Y) * min(Z, LTAS)

where:

- Z = corporate BBB spread on own assets (as determined in step 4 of Tech Specs), or, if BBB spread information is not available, and local market for these assets is not sufficiently deep and liquid, the average over the last 5 years of excess of the local market major equity index Dividend yields (or other relevant market index yields) over 1-year risk free returns specified by IAIS

- X = sum of undiscounted liability cash flows > 12 years / total undiscounted liability cash flows

- Y = current market of value equity assets and other alternative long duration assets / total current market value of all eligible assets

- LTAS is a long-term average spread on long-term BBB corporate bonds. For the purposes of 2017 Field Testing, the LTAS is 200bps.

Table 6. Assets eligible for derivation of OAG – fixed income*

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	Y
Residential Mortgage Loans	Y
Non-residential Mortgage Loans	Y
Other (non-mortgage) Loans	Y
Infrastructure loans	Y
Other fixed interest assets	Y
Loans to policyholders	Y
Residential Mortgage Backed Securities	Y
Commercial Mortgage Backed Securities	Y
Insurance Linked Securities	N

*also applies to inflation linked analogues

Table 7. Assets eligible for derivation of OAG – equity and alternative long duration assets (ALDA)

Asset Class	Eligible
Equities	Y
Hedge Funds	Y
Private equity	Y
Real estate (for investment purposes)	Y
Infrastructure (equity like)	Y
Other alternative long duration (equity like) assets	Y

Table 8. Risk correction for corporate bonds

	AAA	AA	A	BBB and lower	Other eligible assets
Risk Correction bps	*2.38*	*11.99*	*16.38*	*42.64*	*42.64*

Table 9. Adjusted spread on reinvested assets

Duration (time since valuation date)	Adjusted spread on reinvested assets*
1 to 10	Weighted average adjusted spread on currently held (own) fixed income assets (by asset class)
11 to 60	*Linearly interpolate*
60+	Ultimate reinvestment spread = 10bps**

* this should not exceed the adjusted spread on all own assets, which may occur if there is material proportion of non-eligible assets.
** IAIS long term spread over risk free

Table 10. Adjusted equity and &ALDA cash flow ratio

Adjusted equity & ALDA cash flow ratio at time t =
Minimum (equity & ALDA cash flow ratio at t, Z)

- where Z = equity and ALDA cap, and is determined as follows:

Duration (time since valuation date)	Z = Equity and alternative long duration assets (ALDA) cap
1 to 30	X = sum of undiscounted liability cash flows > 12 years / total undiscounted liability cash flows***
31 to 60	*Linearly interpolate*
60+	0

*** as calculated in Stage I of the calculation

6.5 Stressed spreads scenarios

188. The invested assets, insurance liabilities, reinsurance and related deferred tax balances under the three MAV discounting options (and GAAP Plus discounting options) should be run twice: one time based on end of 2016 spreads and a second time with the prescribed stressed spreads. For the General

Bucket of the Blended option and the HQA option, the stressed yield curves from the yield curve spreadsheet (worksheets Output MAV1 YC Stressed and Output MAV2 YC Stressed respectively) should be used.

189. The following tables set out the stresses that have been applied to the Blended option and HQA option. These are made available for the purposes of the Top Bucket of the Blended option and the OAG option. Sovereign spreads in Table 11 are only applied where the base yield curve has been developed using swaps as a reference instrument.

Table 11. Sovereign spreads – end of 2016 and Stressed Sovereign spreads

Sovereign spreads			**Dec.16**			**Mar.16**			**Stressed sovereign spread**
	gross	minus	net	gross	minus	net	gross	minus	net
World	-3.00	-1.05	-1.95	4.00	-1.60	5.60	-17.00	-7.42	-9.58
CAD	-21.00	-8.62	-12.39	-22.00	-9.01	-12.99	26.00	-10.43	36.43
CHF	-29.00	-8.89	-20.12	-17.00	-9.08	-7.92	-25.00	-8.75	-16.26
DKK	-58.00	-13.64	-44.36	-50.00	-13.08	-36.93	-46.00	-8.79	-37.21
EUR	12.00	12.27	-0.27	19.00	11.60	7.41	199.00	3.24	195.76
EUR:AT	-32.00	-0.83	-31.17	-13.00	-0.71	-12.29	40.00	-1.52	41.52
EUR:BE	-19.00	5.91	-24.91	-6.00	5.81	-11.81	148.00	1.52	146.48
EUR:CY	305.00	150.59	154.41	339.00	159.03	179.97	1325.00	100.52	1224.48
EUR:DE	-57.00	-11.41	-45.59	-37.00	-10.78	-26.22	-78.00	-7.82	-70.18
EUR:ES	59.00	33.05	25.95	77.00	31.12	45.88	250.00	7.91	242.09
EUR:FI	-38.00	-6.23	-31.77	-19.00	-6.04	-12.96	-25.00	-5.19	-19.81
EUR:FR	-15.00	-1.24	-13.76	-8.00	-1.38	-6.62	42.00	-4.06	46.06
EUR:GR	559.00	161.89	397.11	651.00	148.30	502.70	2409.00	66.13	2342.87
EUR:IE	-11.00	47.86	-58.86	13.00	47.36	-34.36	553.00	26.99	526.01
EUR:IT	87.00	33.87	53.14	66.00	31.99	34.01	384.00	11.22	372.78
EUR:NL	-46.00	-6.20	-39.81	-27.00	-5.81	-21.20	-41.00	-5.09	-35.91
EUR:PT	225.00	76.51	148.49	193.00	71.33	121.67	1013.00	27.61	985.39
EUR:SI	26.00	43.08	-17.08	62.00	45.78	16.22	372.00	25.31	346.69
EUR:SK	0.00	17.30	-17.30	6.00	17.33	-11.33	257.00	12.46	244.54
GBP	4.00	-4.28	8.28	17.00	-5.37	22.37	-13.00	-11.65	-1.36
NOK	-33.00	-20.80	-12.21	-31.00	-21.03	-9.97	-56.00	-15.34	-40.67
NZD	-20.00	-10.91	-9.09	-19.00	-12.37	-6.64	-29.00	-24.65	-4.36
SEK	-44.00	-13.57	-30.43	-34.00	-13.37	-20.63	-77.00	-11.54	-65.46

Table 12. Corporate bond spreads – end of 2016 and Stressed Corporate bond spreads

Corporate gross spreads	Dec-16				Mar-16				Stressed			
	AAA	AA	A	BBB	AAA	AA	A	BBB	AAA	AA	A	BBB
Gross World	78	66	98	159	95	89	129	217	195	165	245	398
Gross GBP	69	91	152	197	100	138	197	250	173	228	380	493
Gross EUR	17	22	52	103	39	42	76	136	43	55	130	258
Gross USD	86	83	111	174	98	107	146	243	215	208	278	435
Gross JPY	34.9	44.7	56.5	76.3	34.9	44.7	56.5	76.3	87.3	111.8	141.3	190.8
Gross CNY			137	183			137	183			343	458
Risk correction	*2.38*	*11.99*	*16.38*	*42.64*	*2.38*	*11.99*	*16.38*	*42.64*	*2.45*	*8.04*	*23.70*	*76.29*
World	76	54	82	116	93	77	113	174	193	157	221	321
GBP	67	79	136	154	98	126	181	207	170	219	356	416
EUR	15	10	36	60	37	30	60	93	40	47	106	181
USD	84	71	95	131	96	95	130	200	213	199	254	359
JPY	32.5	32.7	40.1	33.7	32.5	32.7	40.1	33.7	84.8	103.7	117.6	114.5
CNY	0	0	121	140	0	0	121	140	0	0	319	381

190. The stresses are artificially constructed with the aim to define an adverse scenario in order to observe the balance sheet impact under the MAV discounting options: Benchmark, HQA and OAG. The stressed scenario is not specifically linked to any reference date or specific historical scenario. The stressed spreads shown in the table above should be applied to the portion of the balance sheet labeled "related to Insurance Activities" for any interest sensitive assets, insurance liabilities, reinsurance, and deferred taxes. For certain participating contracts, the simplification formula as defined below may be used:

a) On the asset side: the value of debt instruments should be re-evaluated to reflect the change in prescribed spreads under the stressed scenario.

b) On the liability side: the value of future benefits should be re-evaluated to account for the decrease in value of the debt instruments. For this purpose the following simplification may be used:

$$FDB_{stressed} = max(0; FDB_{2016} - \alpha \cdot (MVA_{2016} - MVA_{stressed}))$$

$$With \propto = min(1; \max(0; \frac{Net\ Insurance\ liabilities_{2016}}{Investment_{2016} + Assets\ in\ separate\ accounts_{2016}}))$$

MVA denotes the market value of assets.

The impact related to assets should be reported in the worksheet *FT17.BCR & ICS.Balance Sheet,* table T34 – [Impact of the stress on capital resources], row 1(436) - [Total value of assets related to insurance activities]. The information requested in this row is the same information (in aggregate form) that is required in the new Tables 51 and 52 in the worksheet *FT17.Valuation assets*. The impact on deferred taxes, including any valuation allowance, should also be reported in the same table under row 5 (440) – [Delta deferred taxes]. Stressed insurance liability and reinsurance balances should be reported in the worksheet *FT17.BCR & ICS.Balance Sheet*, table T33 – [Insurance Liabilities under stressed conditions].

6.5.1 Specific guidance for OAG

191. To apply the stressed spread scenario for OAG:

a) Step 1: Revalue assets in OAG portfolio assuming a spread widening on corporate bonds of 250% of the pre-stress spread. Stresses on government bonds should be applied consistent with Table 11 (these stresses are only applied where the risk free rates are determined based on swap instruments. See Table 2)

b) Step 2: Derive new asset weights and spreads

c) Step 3: Derive new OAG Adjusted Lifetime Spreads using the new asset weights and spreads, and re-value liabilities

192. Step 3 is performed using the normal OAG calculations except using the stress spreads as inputs. Note that for eligible fixed income assets (see Table 6) with a credit rating below BBB (or no rating), the stressed BBB spread on own assets held should apply. No changes to equity and ALDA market values or spreads on these assets should be assumed for this scenario.

6.6 Curves not provided by the IAIS

193. The IAIS is not able to provide details to determine adjusted yield curves for all currencies and countries where Volunteer Groups operate. In those cases, the Volunteer Group is asked to derive the curve following the approach set out above by complying with the principles presented in the following section and the methodologies for deriving adjustments set out for each option.

194. 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 bond curves with maturities up to 30 years.

195. 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.

196. To allow comparison, in both cases, the Volunteer Group should provide information about the curves used. Where the Volunteer Group needs to derive an interest rate term structure it should describe the approach used and provide in the Questionnaire a copy of the term structure applied.

6.6.1 Method to derive risk free term structure for Field Testing purposes

197. For yield curves that are not provided by the IAIS, when deriving the basic risk free curve, the Volunteer Group should take into account the following considerations:

a) The risk free interest rate term structure should be determined on the basis of market data as of the balance date.

b) The relevant data should either be swaps or government bonds. Where this information is not available, other financial instruments similar to swaps can be used, subject to appropriate Credit risk adjustments.

c) If the risk free rate is derived by using swaps, an appropriate (flat) basis point adjustment to the swap rates should be applied, by considering where possible the difference between the floating rates of the interest rate swap and the relevant overnight indexed swap rates of the same maturity. The Credit risk of sovereigns could be measured by looking at CDS premiums on government bonds. It is recognised though, that under certain market circumstances the relationship between government bonds and CDS prices can be weak. Therefore, for currencies where risk free rates are based on government bond rates, there should be no adjustment.

d) The rates should be based on financial instruments for which a reliable market value is available. This requires a deep, liquid and transparent market.

e) Where the Credit risk assessment lacks a sufficiently robust basis, the adjustment should be approximated by multiplying the Credit risk adjustment used for USD multiplied by the respective interest rate differential.

f) The interpolation should be done in line with the approaches listed above. However, a simple linear interpolation between the observed spot rates is also acceptable.

6.7 Obligations replicable by a portfolio of assets

198. 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.

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

200. 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.

201. 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:	*FT17.BCR & ICS.Balance Sheet (GAAP Plus sections)*	*Due 11 September 2017*

202. 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 Field Testing Updates for 2017

203. The 2017 specifications for field testing of GAAP Plus are substantially the same as the prior year with the exception of 1) certain design improvements based on Volunteer Group Volunteer comments and observations made during the 2016 Field Testing data analysis, 2) the addition of a GAAP Plus Balance Sheet presented under a specified stress to market spreads scenario and 3) the inclusion of an insurance liability discounting method referred to as the High Quality Asset (HQA) discounting approach. HQA takes into account all investments. The discount rates in each currency are determined by adding a spread to the risk free rates, based on the sovereign, AAA and AA rated bonds. The weaker rated and unrated investments are capped at AA rate. The specification of HQA is the same as for MAV. The HQA curve is subject to the same risk correction as the other discounting options for MAV. This approach was meant to fall within the bounds of anticipated new IFRS and US GAAP accounting rules with respect to discounting. It is also expected to inform on non-discounting related differences in liability valuation between GAAP Plus and MAV.

204. It is anticipated that examples of GAAP Plus, for a number of jurisdictions, will require significant redesign in response to the upcoming changes in IFRS and US GAAP accounting rules impacting both invested assets and insurance contracts. Final rules on insurance contracts were still pending as of the launch of 2017 Field Testing, and the effective dates for implementation of these rules are not expected to occur before 2020. Thus, the 2017 specifications are based on accounting rules currently in effect, i.e., as was the case in 2016 Field Testing. A number of questions have been included in the Questionnaire related to possible redesign of GAAP Plus in future field testing exercises once the revised accounting standards have been published. Updates to GAAP Plus are planned for the next version of the ICS.

205. For 2017 Field Testing, balance sheet data will be collected based on the GAAP Plus jurisdictional examples that follow. In addition, data will be collected to reflect the impact of using the HQA discounting approach. The HQA is being tested in order to isolate differences in insurance liability valuation between GAAP Plus and MAV. In addition it serves to assist in analysing the potential impact to GAAP Plus under proposed accounting rules. See section 9 for detailed specifications on reporting data under the HQA option.

206. 2017 Field Testing also includes a new data request for GAAP Plus Balance Sheet information under a specified stress to market spreads scenario. Data under that scenario will be collected on both the GAAP Plus Balance Sheet and the Balance Sheet derived from the application of the HQA

discounting method. See Section 7.6 for detailed instructions on reporting stress scenario balance sheet data.

207. The valuation approach as specified in the sections 7.2 to 7.5 will be referred to as the benchmark option for GAAP Plus and all risk charges to be calculated on this benchmark option.

208. The HQA option is as specified in sections 7.2 to 7.5 except for the substitution of the HQA discounting approach as specified in 6.4.2. Volunteer Groups are required for risk charge calculations under the HQA option for Interest Rate risk and Longevity risk. Volunteer Groups may also perform risk charge calculations under the HQA option for any other risks that they would consider to result in a material difference from the benchmark option.

7.2 GAAP Plus Valuation Instructions and Examples

209. 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 (which, currently, has jurisdiction-specific variations for insurance contracts) or their local jurisdictional GAAP. The scope of application used is as described in Section 3. Firms that do not report on a consolidated GAAP basis, e.g., U.S. mutual insurers, may provide aggregated statutory data using the corresponding guidance provided in the U.S. SAP example for GAAP Plus (section 7.5.2). 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 in order that each can arrive at a consolidated GAAP Plus Balance Sheet following the application of these Technical Specifications.

210. Under GAAP Plus approaches (e.g. EU or South Africa), where a Volunteer Group 1) prepares a balance sheet based on Solvency II (or similar), 2) uses an aggregation rather than consolidation method, and 3) the preparation of a consolidated balance sheet would result in undue cost and effort; the Volunteer Group may maintain the aggregation approach under GAAP Plus. In such cases, where the aggregation approach requires different valuation bases for insurance liabilities in different components of the aggregated balance sheet, Volunteer Groups need not restate to one single valuation methodology for GAAP Plus purposes. Rather, a Volunteer Group should use the most appropriate GAAP Plus jurisdictional example for each component of insurance liabilities in the aggregated balance sheet and report how this has been calculated in a narrative to be included with the Questionnaire responses.

211. Where a Volunteer Group's GAAP Plus jurisdictional example is based on IFRS 4 *Insurance Contracts* and that approach does not require consistency of accounting policies in the valuation of insurance contracts, insurance liabilities in different components of the Balance Sheet may be valued differently. In such cases, Volunteer Groups may use the local GAAP Balance Sheet as a starting-point and apply the GAAP Plus jurisdictional example that is most appropriate for the valuation methodology used in each component. Volunteer Groups should report how this has been calculated in a narrative to be included with the Questionnaire responses.

212. There are a number of risk charge calculations that include alternate instructions for certain balances under GAAP Plus where, for example, assets are reported at cost or liabilities are discounted

using a book yield approach. These risk charge calculations are for Real Estate risk, Credit risk and Interest Rate risk. Volunteer Groups should follow the risk charge instructions that would be applicable based on the measurement approach taken in the GAAP Plus valuation instructions. This should not depend on the GAAP Plus jurisdictional example that is followed.

213. Under US GAAP, US SAP and Japan GAAP Plus examples there is an adjustment that has been defined to exclude unrealized gains and losses from capital resources on certain fixed income securities that is provided in the Section 10 on Capital Resources. 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 examples would apply.

214. Although an aggregation of liabilities under different jurisdictional GAAPs may be applicable for 2017 Field Testing, the implementation of the IFRS Insurance Contracts Standard (IFRS 17) is expected to eliminate this issue.

215. GAAP Plus valuation data should be reported in the worksheet labelled *FT17.BCR&ICS.Balance Sheet*. See section 8 (BCR & ICS Balance Sheet) for detailed specifications on completing the Balance Sheet columns for balances reported under GAAP and under GAAP Plus.

216. The *FT17.BCR&ICS.BalanceSheet* worksheet also includes requests for information related specifically to GAAP Plus including the calculation of an AOCI Adjustment to Capital Resources that is being collected 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 10.3.2 (on the GAAP Plus AOCI adjustment, under Capital Resources).

217. The *FT17.BCR&ICS.BalanceSheet* also includes tables to perform reconciliations of insurance liabilities between GAAP Plus and MAV, both on the basis of the Benchmark methods (GAAP Plus as specified below, and the Blended option for MAV), and on the basis of the HQA option. Detailed instructions for completing these tables can be found in section 9 (Reconciliation).

218. 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 under the benchmark option or the HQA option as well as explanations for amounts reported in the liabilities reconciliation. Supplemental narratives to further describe methodologies employed, assumptions used, etc., are invited through the Questionnaire.

7.3 GAAP Plus Guidelines

219. These GAAP Plus Guidelines have been developed to create a consistent framework to be applied in the development of the various jurisdictional GAAP examples. This framework should also be applied by any Volunteer Group reporting on a jurisdictional GAAP basis for which an example has not been specified, in order to develop their own GAAP Plus adjustments. Like the MAV approach, the adjustments to be made for the GAAP Plus approach will address only the most significant or material items on the balance sheet, specifically, insurance-related liabilities and invested assets. In addition, the proportionality principle applies (see section 4.2).

220. To the extent possible, adjustments should be based on amounts from the underlying audited GAAP financial reports, or which 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.

221. Invested assets should be 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 224 below).

222. Insurance liabilities (and any reinsurance assets/liabilities) should be 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 should be carried out using existing jurisdictional GAAP to the extent practicable (see ICP 14.7 for additional detailed information on current estimate).

223. Insurance assets and liabilities should be treated consistently such 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. In other cases, this objective is achieved through the adjustment of the yield curves used to discount insurance liabilities.

224. Capital resources and deductions – Aside from the AOCI adjustment that would be applicable for some jurisdictional GAAPs to address the consistent treatment of assets and liabilities and non-economic volatility, all adjustments detailed in the ICS Capital Resources section (section 10.4) would apply equally to GAAP Plus just as they would for MAV.

225. Tax effects – Deferred taxes should follow the same treatment as under MAV, but amounts would likely differ, due to adjusting GAAP to different balance sheet values under GAAP Plus.

7.4 GAAP Plus General Considerations

226. The following general considerations are applicable to all Volunteer Groups regardless of the jurisdictional GAAP used for reporting:

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) are to be calculated using yield curves or rates as specified under applicable jurisdictional GAAP rules or as outlined in the applicable specific GAAP example below.

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 Invested Assets, 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 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 should be removed from the valuation of insurance liabilities where insurance liabilities are not calculated as a whole. Methods to calculate a consistent and comparable MOCE will be evaluated again during 2017 Field Testing (see section 12).

i) Deferred Taxes (Assets/Liabilities): these items should be based on the Volunteer Group's GAAP valuations. However, deferred tax balances should be adjusted consistently with other asset and liability adjustments made for Field Testing purposes. For example, certain other assets/liabilities are subject to adjustment in deriving values which are to be used in determining the Volunteer Group's qualifying capital resources; in such instances, a corresponding adjustment should be made to deferred tax assets/liabilities.

j) Offsets to adjustments (MAV approach offsets in the *FT17.BCR & ICS.Balance Sheet* worksheet would work similarly): Most GAAP Plus adjustments 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. Such amounts are automatically included in the equity portion of the balance sheet based on the corresponding amounts reported by the Volunteer as adjustments to the underlying assets and liabilities. There should be no need to manually make adjustment to the equity section to report offsetting entries for GAAP Plus adjustments except for certain offsets related to reporting non-controlling interest (NCI). See Section 8 Balance Sheet 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.

l) Management Actions: When calculating the value for an insurance liability under GAAP Plus, Volunteer Group's future management actions may be taken into account following similar guidance as provided under the MAV approach (see section 6.3.12).

7.5 GAAP Plus Examples

227. The following provides examples of adjustments for GAAP Plus based on the guidance outlined above and utilizing a number of jurisdictional GAAP examples. The expectation is that similar adjustments would be developed and applied in other jurisdictions that report on a GAAP basis and where specific examples have not been provided herein.

7.5.1 U.S. GAAP Example of GAAP Plus

228. The following guidance pertains to Volunteer Groups who report their audited consolidated financial statements on the basis of U.S. GAAP for the purpose of reporting the GAAP Plus Balance Sheet in 2017 Field Testing.

229. Several design modifications have been made for 2017 Field Testing under U.S. GAAP Plus. The most significant items are as follows:

a) Life insurance liabilities – Overhead expenses (as defined in the MAV approach) will be included in the Gross Premium Valuation (GPV). While acknowledging that overhead expenses are not included in the GPV under U.S. GAAP rules for loss recognition testing, 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, it was decided to revise the definition of GPV under US GAAP Plus to include overhead expenses for purposes of the ICS. It is expected that this would be further refined or adjusted once the FASB issues its new rules on Insurance Contract accounting.

b) AOCI Adjustment – Revisions have been made to the definition of the AOCI adjustment based on feedback received from Volunteer Groups and the results of 2016 Field Testing. See the GAAP Plus AOCI Adjustment under the Qualifying Capital Resources section 10.3.2.

7.5.1.1 U.S. GAAP Example – Invested Assets Adjustment

230. Invested assets including fixed income, equity, derivatives, mortgages/ loans[9], real estate, and other alternative investments are to be reported under GAAP Plus as determined under U.S. GAAP standards for reporting. Therefore no adjustment is required under GAAP Plus.

231. It is expected that under U.S. GAAP the majority of investments will 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 valuation allowance or loan loss reserve.

[9] In this context, mortgages/loans made means mortgages/loans that the Volunteer Group has either originated or purchased as investments.

7.5.1.2 U.S. GAAP Example - Insurance Liability Adjustments

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

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

234. GAAP Plus insurance liability assumptions and calculations should exclude any implicit or explicit margins in the calculations. In addition, no adjustments should be made to take into account the own credit standing of the Volunteer Group.

235. 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 U.S. GAAP Example - Valuation of Non-Life and other short-term insurance liabilities

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

237. Deferred acquisition costs related to Non-Life insurance should be set to zero (expensed) on the Balance Sheet under GAAP Plus (Template will automatically record the offset in Other Asset Adjustment Offset in the equity section). The Premium Liabilities should be reduced by the amount of deferred acquisition costs that are expensed (Template will record the offset in Insurance Liability/Reinsurance Adjustment Offset in the equity adjustment section). There should be no equity impact as a result of these adjustments.

7.5.1.2.2 U.S. GAAP Example - Valuation of life and other long-term insurance liabilities

238. For insurance liabilities that are measured under U.S. 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 U.S. GAAP valuations.

239. For insurance liabilities that are valued using historical, locked-in assumptions (e.g. long-term insurance contracts measured according to ASC 944-30-7, formerly SFAS 60) or valued under a retrospective deposit method approach (e.g. universal life insurance contracts measured according to ASC 944-30-16, formerly SFAS 97) it will be necessary to adjust the liability utilizing the Gross Premium

Valuation (GPV) approach as defined in loss recognition (premium deficiency) testing under U.S. GAAP ASC Topic 944-60.

240. 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, e.g., the current estimate of future premium rate increases (see section 6.3.12 on management actions). Although loss recognition testing under U.S. 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. 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.

7.5.1.2.3 U.S. GAAP Example - Valuation of options and guarantees

241. Insurance contracts may 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. Liabilities related to these options and guarantees should be valued in accordance with applicable U.S. GAAP rules. For options and guarantees that do not meet the definition of a derivative under U.S. 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. For those guarantees/options that are considered to be derivatives under U.S. GAAP, the applicable guidance would be ASC Topic 815 (formerly SFAS 133) and ASC Topic 820 (formerly SFAS 157). Any adjustments made to reflect an exit value (market participant's view, e.g. 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.

7.5.1.3 U.S. GAAP Example – Other Adjustments

242. Deferred expenses related to insurance such as deferred acquisition costs, value of business acquired, sales inducement assets, etc. should be expensed/reversed with an offset that would be automatically generated by the Template.

243. FAS 115 shadow adjustments: Adjustments to reflect in certain balance sheet items 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.

7.5.2 U.S. Mutual Life Insurers (U.S. SAP) Example of GAAP Plus

244. The following guidance pertains to U.S. 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.

245. The general GAAP Plus guidance is applicable to U.S. mutuals. However, and as described below, there are some balances that must be uniquely addressed by a U.S. mutual Volunteer Group in 2017 Field Testing.

7.5.2.1 U.S. SAP Example - Consolidated Financials

246. The Volunteer Group will need to prepare a group-level consolidated balance sheet that includes domestic insurance companies (whose financial statements are prepared in accordance with U.S. SAP); and foreign insurance company subsidiaries, non-insurance subsidiaries and affiliates (whose financial statements are typically prepared in accordance with U.S. GAAP in the case of subsidiaries and affiliates of a U.S.-based insurer or group).

247. Volunteer Groups should prepare a group level, consolidated balance sheet as follows:

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

b) For all non U.S. insurance companies that file audited financial statements on a non-U.S. statutory basis of reporting, aggregate all balances after performing foreign currency translation into the reporting currency of the U.S. 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 Accumulated Other Comprehensive Income (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 in the corresponding value of reported gross assets and liabilities of those subsidiaries to the parent statutory balances[10]. 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 the paragraph above.

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

248. There will be a consolidated Balance Sheet on a mixed valuation basis. This amount should be recorded in worksheet *FT17.BCR & ICS.Balance Sheet*, the column labelled GAAP Valuation — Amounts per Audited Consolidated Financial Statements.

249. The worksheet *FT17.BCR & ICS.Balance Sheet* then requires that balances be split between insurance-related and non-insurance related activities. See Scope of Application Section 3 for further instructions and definitions regarding insurance related and non-insurance related activities.

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

7.5.2.2 U.S. SAP Example – Asset-Related Adjustments

250. Long-term and short-term investments reported under SAP that meet the U.S. GAAP definition of available-for-sale or trading should be adjusted to fair value. This would mainly apply to debt securities, equities and derivatives.

251. Replication (synthetic) assets should be bifurcated, reclassified as debt securities and derivatives and valued as per paragraph 251.

252. Real estate owned should be reported on a gross basis with any related debt balances reclassified as a liability using the Reclassification from GAAP column. 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 own use property.

253. Any life insurance deferred premium assets that exist for SAP when the mean reserve method is used for calculating reserves should be written off. The offset would be automatically calculated and included in the Insurance Liability/Reinsurance Offset Adjustment line under the equity section.

254. Deferred taxes (assets/liabilities) should be based on the Volunteer Group's SAP valuations, adjusted consistently with other asset and liability adjustments made for Field Testing purposes.

255. Non-admitted assets should be reported in the Balance Sheet using valuation methods that are consistent with U.S. GAAP.

7.5.2.3 U.S. SAP Example – Liability-Related Adjustments

256. Insurance liabilities should be based on the Volunteer Group's reported SAP valuations.

a) For products that fall under FAS 60, 97, 120 for U.S. 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 yield curve consistent with U.S. GAAP Plus example.

b) For FAS 97 Investment Contracts, for retirement products, Volunteer Groups should use account value consistent with statutory accounting. 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.

c) For options and guarantee liabilities (variable annuities) that fall under SOP 03-1 and FAS 133/157, adjust to CTE 0 from AG43 models (with appropriate modifications to eliminate conservative PADs/margins) or hedging models if AG 43 is not applicable. Guarantees that fall under FAS 133/157 and are valued as derivatives should also use risk neutral in place of real world scenarios.

d) The asset valuation reserve and interest maintenance reserve should be reclassified using the Reclassification from GAAP column to the equity section of the Balance Sheet as Reserves – Unrestricted as specified under capital resources.

257. Any reinsurance recoverables that are netted against insurance liabilities for SAP should be reclassified as assets for GAAP Plus using the Reclassification from GAAP column.

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

7.5.3 European IFRS (EU GAAP) Example of GAAP Plus

259. The following guidance pertains to European Union (EU) Volunteer Groups who report their audited consolidated financial statements on the basis of International Financial Reporting Standards (IFRS) for the purpose of reporting the GAAP Plus Balance Sheet in 2017 Field Testing.

260. The current status of development of IFRS concerning insurance contracts, as well as its implementation across the EU (significant differences across Member States), raise particular challenges regarding the development of a consistent approach to GAAP Plus. The focus of these specifications is on the implementation of the GAAP Plus Guidelines in a practical and consistent manner across EU Volunteer Groups.

261. Volunteer Groups following the EU GAAP example that prepare an aggregated group balance sheet should take note of paragraph 212 above.

7.5.3.1 EU GAAP Example – Invested Assets Adjustments

262. European insurers value their invested assets using IAS 39, which allows for the use of several valuation methodologies, under specific conditions (and IAS 40 for investment property). 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.

7.5.3.2 EU GAAP Example - Insurance Liability and Reinsurance Recoverable Adjustments

263. There is currently no consistent method under IFRS for valuing insurance contracts in the financial statements of insurance companies. The current standard is an interim standard that allows for a wide degree of flexibility in its implementation. For this reason, current practices are significantly diverse, with IFRS being implemented differently by insurers headquartered in different countries.

264. In order to value insurance liabilities and reinsurance recoverables on a consistent basis following the guidelines outlining GAAP Plus, EU Volunteer Groups should use their Solvency II regulatory valuation as a starting point for deriving their GAAP Plus figures.

265. 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.

7.5.4 Japanese GAAP (J-GAAP) Example of GAAP Plus

266. 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 2017 Field Testing.

267. AOCI Adjustment –See the GAAP Plus AOCI Adjustment under the Qualifying Capital Resources section 10.3.2.

7.5.4.1 J-GAAP Example – Invested Assets Adjustments

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

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

7.5.4.2 J-GAAP Example – Insurance Liability Adjustments

270. The following adjustments aim to economically revalue insurance liabilities under the J-GAAP example of GAAP Plus utilising the Japanese GAAP statutory cash flow test pursuant to the Insurance Business Act in Japan.

271. 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 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 is added to (or deducted from) insurance liabilities. The discounting rate should be consistent with cash flows to be generated on the asset side.

272. 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 current portfolio of assets.

7.5.4.3 J-GAAP Example – Non-Life Insurance Liabilities

273. Non-Life Volunteer Groups should apply full time horizon cash flow analysis and fully reflect its result into the J-GAAP insurance liabilities. Under the full time horizon cash flow analysis, Non-Life insurers are required to 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 the future cash flow in insurance liability, but new business should not be taken into consideration.

7.5.4.4 J-GAAP Example –Liabilities for Options and Guarantees

274. As for the valuation of options and guarantees, a treatment consistent with Market-Adjusted Valuation (MAV) should be applied in the GAAP Plus valuation for the purpose of reporting the GAAP Plus Balance Sheet in 2017 Field Testing. Therefore the scope is not limited to minimum guarantees for variable annuity products as required under Japanese GAAP.

7.5.5 Canadian IFRS (C-GAAP) Example of GAAP Plus

275. The following guidance pertains to Canadian Volunteer Groups who report their audited consolidated financial statements on the basis of IFRS for the purpose of reporting the GAAP Plus Balance Sheet in 2017 Field Testing.

7.5.5.1 C-GAAP Example – Invested Assets Adjustments

276. Canadian insurers measure their invested assets using IAS 39 (and IAS 40 for investment property). Although IAS 39 and IAS 40 allows the use of cost and amortised cost to value invested assets in specific cases, most invested assets on Canadian insurers' balance sheets are measured at fair value. No adjustments for GAAP Plus are proposed for invested assets, including those carried at cost or amortised cost, under the C-GAAP example.

7.5.5.2 C-GAAP Example - Insurance Liability Adjustments

277. Canadian Volunteer Groups currently use the Canadian Asset Valuation Method (CALM), as specified by the Standards of Practice of the Canadian Institute of Actuaries (CIA), to determine their policy liabilities. For the C-GAAP example, the CALM base scenario liability (without margins) plus the margin for asset default (C1) should be used as the basis to adjust life insurance liabilities under GAAP Plus. The C1 margin should be added to the CALM base scenario liability (without margins) to reflect the fact that when higher yielding assets are used to support liabilities, at least part of the extra yield is to compensate for losses in asset values including defaults, and will not ultimately be realised. The C1 margin added should cover all assets supporting the liability, including non-fixed income assets.

7.5.5.3 C-GAAP Example – Non-Life Insurance Liabilities

278. Similar to the approach used for life insurance liabilities, Canadian Volunteer Groups should use the sum of GAAP claim liabilities and premium liabilities as the current estimate liability for the GAAP Plus approach, where the liabilities exclude the margins for claims development and reinsurance recoveries, but include the margin for investment return rates.

7.5.5.4 C-GAAP Example –Liabilities for guarantees on segregated funds products

279. Non-hedged portfolios: Canadian insurers currently value guarantees on separate account products using standards promulgated by the CIA. The valuations performed under these standards involve stochastic simulation, with insurers projecting many (e.g. 5,000 or 10,000) real-world scenarios

based on historical data for equities, bonds, and other separate account assets, and calculating the company's pay-outs under each scenario. The GAAP Balance Sheet liability is determined by taking a confidence level statistic between CTE(60) and CTE(80) from the simulation results.

280. Since the projected scenarios are real world instead of risk neutral, and the model parameters are based on historical data instead of market data, the results produced by the GAAP valuation method do not estimate a market-consistent guarantee value. In order to bring the results closer to a market-consistent value, Volunteer Groups should run their GAAP valuation models using parameters that satisfy the calibration criteria promulgated by OSFI in 2010 for calculating regulatory capital.[11] These calibration criteria were derived to approximate the level produced by a market consistent valuation method, and would therefore have the effects of bringing liability valuations closer to their market consistent values (although in some cases substantial differences may remain) and making the results more comparable to those produced by valuation methods used in other jurisdictions. The confidence level taken from the model output using the revised parameters would be consistent with a confidence level that is appropriate for determining balance sheet liabilities in accordance with GAAP.

281. Hedged Portfolios: In an educational note promulgated more recently by the CIA[12], an adapted risk neutral approach is used for hedged portfolios whereby the liability "will converge towards a risk-neutral liability as more and more aspects of the liability are hedged". If substantially all of the Market risks of a portfolio are being hedged, the resulting liability calculated using this method should approximate a current estimate of the market-consistent guarantee value. Consequently, Volunteer Groups may use reported GAAP liabilities for such portfolios for the GAAP Plus adjustments approach.

7.5.6 Korean IFRS (K-GAAP) Example of GAAP Plus

282. The following guidance pertains to Korean Volunteer Groups who report their audited consolidated financial statements on the basis of Korean IFRS for the purpose of reporting the GAAP Plus Balance Sheet in 2017 Field Testing.

283. Volunteer Groups following the Korean GAAP example in full or in part under the application of IFRS 4 should take note of paragraph 212 above.

7.5.6.1 K-GAAP Example – Invested Assets Adjustments

284. Korean Volunteer Groups should report invested assets at fair value under GAAP Plus to ensure consistency with the valuation of insurance liabilities. Any assets currently reported at amortised cost (e.g. loans, HTM securities, real estate) require an adjustment.

[11] The criteria are contained in the Advisory: *Revised Guidance for Companies that Determine Segregated Fund Guarantee Capital Requirements Using an Approved Model* dated December 2010.
[12] Reflection of Hedging in Segregated Fund Valuation, May 2012.

7.5.6.2 K-GAAP Example - Insurance Liability Adjustments

285. For the K-GAAP example, insurance liabilities (including both life and Non-Life) should be adjusted using the LAT (Liability Adequacy Test) under Korean GAAP. LAT is a method for reconciling the book value of policyholder reserves with a fair value estimate using unlocked assumptions. Volunteer Groups should estimate future net cash flows based on its experience. The fair value of policyholder reserves is calculated by discounting the estimated future net cash flows using the future investment rate of return.

286. For insurance liabilities that are not subject to LAT, Volunteer Groups should use the audited book value (based on locked assumptions). In summary, insurance liabilities of GAAP Plus consist of insurance liabilities subject to LAT (based on unlocked assumptions) and insurance liabilities not subject to LAT (based on locked assumptions). Insurance liabilities subject to LAT represents approximately 95% of all insurance liabilities, thus it is reasonably assumed that most of the insurance liabilities would be adjusted to a current estimate under GAAP Plus.

287. Reinsurance assets (Reinsurance recoverables) should be adjusted on a basis consistent with the determination of insurance liabilities using the LAT under Korean GAAP.

7.5.6.3 K-GAAP Example –Liabilities for Options and Guarantees

288. Guarantee reserves should be calculated using a stochastic method in accordance with the Appendix 24 of the Detailed Regulation on Supervision of I Insurance Business. Guarantee reserves represent options guaranteeing the minimum payment level in variable life products (e.g. GMAB, GMDB, GMWB, GLWB[13]) and other types of insurance products.

289. Dividend payments to policyholders in participating contracts should be included in cash outflows with reasonable assumptions in LAT, and the detailed methodology should be in accordance with the Appendix 26 of the Detailed Regulation on Supervision of I Insurance Business. For the contracts classified as investment contracts, book value (based on locked assumptions) audited under K-GAAP should be used, as these contracts are not subject to LAT according to Appendix 26.

7.5.7 Chinese Taipei IFRS (T-GAAP) Example of GAAP Plus

290. The following guidance pertains to Chinese Taipei Volunteer Groups who report their audited consolidated financial statements on the basis of local jurisdictional GAAP for the purpose of reporting the GAAP Plus Balance Sheet in 2017 Field Testing.

291. Volunteer Groups following the Chinese Taipei GAAP example that use multiple GAAP valuation approaches under the application of IFRS 4 should take note of paragraph 212 above.

[13] Guaranteed Minimum Accumulation Benefit (GMAB), Guaranteed Minimum Death Benefit (GMDB), Guaranteed Minimum Withdrawal Benefit (GMWB, Guaranteed Lifetime Withdrawal Benefit (GMLB).

7.5.7.1 T-GAAP Example – Invested Assets Adjustments

292. For the purpose of the GAAP Plus Balance Sheet, invested assets should be reported consistent with the treatment under Chinese Taipei GAAP. Therefore no adjustment is required under GAAP Plus.

7.5.7.2 T-GAAP Example - Insurance Liability Adjustments

293. For the T-GAAP example, Volunteer Groups currently filing Chinese Taipei GAAP reports should apply the following methods to calculate adjustments for GAAP Plus insurance liabilities, and reinsurance recoverables and reinsurance assumed.

294. Reinsurance recoverables and any actuarial 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. Also, reinsurance recoverables should be reported net of allowances for estimated uncollectible amounts.

7.5.7.2.1 T-GAAP Example – Valuation of life and other long-term insurance liabilities

295. For insurance liabilities that are measured under Chinese Taipei GAAP using current or updated assumptions or using account value, the valuation of these items should be based on the Volunteer Group's reported Chinese Taipei GAAP valuation.

296. For insurance liabilities that are valued using historical, locked-in assumptions or valued in accordance with applicable Chinese Taipei regulatory valuation rules on universal life insurance contracts, single premium deferred annuity contracts, and investment linked contracts, it will be necessary to adjust the liability utilizing the Gross Premium Valuation (GPV) approach as defined in Liability Adequacy testing (LAT) under Chinese Taipei GAAP.

297. The GPV is calculated by estimating all future cash flows including the payments for benefits and related settlement, overhead and maintenance expenses less future gross premiums based on actual and anticipated experience. The discount rate applied should be based on a current portfolio yield and expected reinvestment asset yields and cash flows, adjusted by expected defaults and investment expenses.

7.5.7.2.2 T- GAAP Example - Valuation of short-term insurance liabilities

298. For insurance liability estimates for unpaid claims, the valuation of these items should be based on the Volunteer Group's reported Chinese Taipei GAAP valuation.

299. For insurance liability estimates for other short-term insurance contracts, it will be necessary to adjust the liability utilizing the Gross Premium Valuation (GPV) approach as defined in Liability Adequacy testing (LAT) under Chinese Taipei GAAP.

7.5.7.2.3 T-GAAP Example –Liabilities for Options and Guarantees

300. Variable annuities may contain guaranteed living benefits, such as minimum maturity or withdrawal benefits, tied to the performance of specific assets. Chinese Taipei insurers currently value the liabilities related to these options and guarantees using standards promulgated by FSC. For options and guarantees valuations that are performed under the standards involving stochastic simulation, the liability under Chinese Taipei GAAP is determined by taking a confidence level statistic, at least CTE(65), from the simulation results. As for GAAP Plus valuation, it will be necessary to adjust the liability to mean results from the simulation using the GAAP valuation model.

7.5.8 Singapore SFRS (S-GAAP) Example of GAAP Plus

301. The following guidance pertains to Volunteer Groups that report their audited consolidated financial statements in full or in part on the basis of Singapore Financial Reporting Standards for the purpose of reporting the GAAP Plus Balance Sheet in 2017 Field Testing.

7.5.8.1 S-GAAP Example – Invested Assets Adjustments

302. Singapore insurers value their invested assets using IAS 39, which allows for the use of several valuation methodologies, under specific conditions. For the purpose of the GAAP Plus Balance Sheet, invested assets should be reported at fair value to ensure consistency with the valuation of insurance liabilities. As a guide, Singapore Volunteer Groups can apply the same adjustments as set out under the MAV approach.

303. Reinsurance Recoverables (on unpaid claims) should be valued and reported in a manner consistent with the calculation of insurance liabilities.

7.5.8.2 S-GAAP Example - Insurance Liability Adjustments

304. As there is currently no consistent method under IFRS for valuing insurance contracts, Singapore insurers typically adopt the local regulatory RBC valuation for the purpose of financial reporting. Reserves are calculated based on current assumptions, not locked-in assumptions, with margin for adverse deviation.

a) For general insurance products, the liability is the larger of the unearned premium reserve or unexpired risk reserve;

b) For life insurance products:

   i. For participating policies, the discount rate is derived based on long term expected invested return of backing assets;

   ii. For other policies, the discount curve for SGD denominated liabilities is determined based on Singapore government bond yields up to the longest available point specified by the regulator; cash flows with durations longer than the longest available point are discounted based on a long term risk free discount rate reflecting historical average. For non-SGD

denominated policies, the market yield of the corresponding foreign government securities of similar duration is used.

305. To value insurance liabilities on a GAAP Plus basis, Singapore Volunteer Groups should make the following adjustments to their regulatory valuation:

a) Risk margin should be removed from the valuation of insurance liabilities.

b) Recognition of negative reserves.

306. Other adjustments include:

a) to remove from current estimates future transfers from Participating Fund to Shareholder which are recognised as a liability under GAAP basis inasmuch as these are transfers between funds rather than a liability from the insurance company perspective;

b) to adjust to participating products discretionary benefits through management actions to achieve targeted bonus supportability level (management actions are not recognised under GAAP basis); and

c) to change the current estimate for unit-linked products from the sterling reserve method to gross premium valuation method.

7.5.9 South Africa (Z-GAAP) Example of GAAP Plus

307. Although there is no specific GAAP Plus example provided for South African GAAP filers, Volunteer Groups are requested to follow the EU example of GAAP Plus which is aligned with Solvency II with the exception of excluding the option of phasing in of liabilities.

308. Volunteer Groups following the EU GAAP example that prepare an aggregated group balance sheet should take note of paragraph 212 above.

7.5.10 Bermuda Example of GAAP Plus

309. 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.

310. GAAP that apply in Bermuda in point b) above is aimed at domestic (non-exempt) companies and means Canadian GAAP.

311. Bermudian Volunteer Groups should use specifications under the GAAP Plus jurisdictional examples for whichever underlying GAAP rules they are using to prepare their financial statements."

7.5.11 Hong Kong Example of GAAP Plus

312. No specific GAAP Plus example provided for Hong Kong GAAP filers. Volunteer Group's should consult with their supervisors on preparation of a GAAP Plus Balance Sheet.

7.5.12 China (PRC-GAAP) Example of GAAP Plus

313. No specific GAAP Plus example provided for China GAAP filers. Volunteer Group's should consult with their supervisors on preparation of a GAAP Plus Balance Sheet.

7.6 Stressed Balance Sheet scenarios

314. The invested assets, insurance liabilities, reinsurance and related deferred tax balances under both the GAAP Plus benchmark and HQA discounting options (and three MAV discounting options) should be run twice: one time based on end of 2016 spreads and a second time with the prescribed stressed spreads. For the HQA discounting method, the stressed yield curves from the yield curve spreadsheet (worksheet Output MAV2 YC Stressed).

315. The following tables set out the stresses that have been applied to the MAV Blended option and MAV HQA option. For the GAAP Plus benchmark option, these should be applied to determine market value changes in assets. Application to GAAP Plus insurance liabilities will depend on the GAAP discounting approach used. The Questionnaire contains questions requiring a description of how the stressed spread scenario has been applied to GAAP Plus insurance liabilities. Sovereign spreads in Table 13 are only applied where the base yield curve has been developed using swaps as a reference instrument.

Table 13. Sovereign spreads – end of 2016 and Stressed Sovereign spreads

Sovereign spreads	Dec.16			Mar.16			Stressed sovereign spread		
	gross	minus	net	gross	minus	net	gross	minus	net
World	-3.00	-1.05	-1.95	4.00	-1.60	5.60	-17.00	-7.42	-9.58
CAD	-21.00	-8.62	-12.39	-22.00	-9.01	-12.99	26.00	-10.43	36.43
CHF	-29.00	-8.89	-20.12	-17.00	-9.08	-7.92	-25.00	-8.75	-16.26
DKK	-58.00	-13.64	-44.36	-50.00	-13.08	-36.93	-46.00	-8.79	-37.21
EUR	12.00	12.27	-0.27	19.00	11.60	7.41	199.00	3.24	195.76
EUR:AT	-32.00	-0.83	-31.17	-13.00	-0.71	-12.29	40.00	-1.52	41.52
EUR:BE	-19.00	5.91	-24.91	-6.00	5.81	-11.81	148.00	1.52	146.48
EUR:CY	305.00	150.59	154.41	339.00	159.03	179.97	1325.00	100.52	1224.48
EUR:DE	-57.00	-11.41	-45.59	-37.00	-10.78	-26.22	-78.00	-7.82	-70.18
EUR:ES	59.00	33.05	25.95	77.00	31.12	45.88	250.00	7.91	242.09
EUR:FI	-38.00	-6.23	-31.77	-19.00	-6.04	-12.96	-25.00	-5.19	-19.81
EUR:FR	-15.00	-1.24	-13.76	-8.00	-1.38	-6.62	42.00	-4.06	46.06
EUR:GR	559.00	161.89	397.11	651.00	148.30	502.70	2409.00	66.13	2342.87
EUR:IE	-11.00	47.86	-58.86	13.00	47.36	-34.36	553.00	26.99	526.01
EUR:IT	87.00	33.87	53.14	66.00	31.99	34.01	384.00	11.22	372.78
EUR:NL	-46.00	-6.20	-39.81	-27.00	-5.81	-21.20	-41.00	-5.09	-35.91
EUR:PT	225.00	76.51	148.49	193.00	71.33	121.67	1013.00	27.61	985.39
EUR:SI	26.00	43.08	-17.08	62.00	45.78	16.22	372.00	25.31	346.69
EUR:SK	0.00	17.30	-17.30	6.00	17.33	-11.33	257.00	12.46	244.54
GBP	4.00	-4.28	8.28	17.00	-5.37	22.37	-13.00	-11.65	-1.36
NOK	-33.00	-20.80	-12.21	-31.00	-21.03	-9.97	-56.00	-15.34	-40.67
NZD	-20.00	-10.91	-9.09	-19.00	-12.37	-6.64	-29.00	-24.65	-4.36
SEK	-44.00	-13.57	-30.43	-34.00	-13.37	-20.63	-77.00	-11.54	-65.46

Table 14. Corporate bond spreads – end of 2016 and Stressed Corporate bond spreads

Corporate gross spreads	Dec-16				Mar-16					Stressed		
	AAA	AA	A	BBB	AAA	AA	A	BBB	AAA	AA	A	BBB
Gross World	78	66	98	159	95	89	129	217	195	165	245	398
Gross GBP	69	91	152	197	100	138	197	250	173	228	380	493
Gross EUR	17	22	52	103	39	42	76	136	43	55	130	258
Gross USD	86	83	111	174	98	107	146	243	215	208	278	435
Gross JPY	34.9	44.7	56.5	76.3	34.9	44.7	56.5	76.3	87.3	111.8	141.3	190.8
Gross CNY			137	183			137	183			343	458
Risk correction	*2.38*	*11.99*	*16.38*	*42.64*	*2.38*	*11.99*	*16.38*	*42.64*	*2.45*	*8.04*	*23.70*	*76.29*
World	76	54	82	116	93	77	113	174	193	157	221	321
GBP	67	79	136	154	98	126	181	207	170	219	356	416
EUR	15	10	36	60	37	30	60	93	40	47	106	181
USD	84	71	95	131	96	95	130	200	213	199	254	359
JPY	32.5	32.7	40.1	33.7	32.5	32.7	40.1	33.7	84.8	103.7	117.6	114.5
CNY	0	0	121	140	0	0	121	140	0	0	319	381

316. The stresses are artificially constructed with the aim to define an adverse scenario in order to observe the balance sheet impact under the GAAP Plus discounting options: Benchmark and HQA. The stressed scenario is not specifically linked to any reference date or specific historical scenario. The stressed spreads shown in the table above should be applied to the portion of the balance sheet labeled "related to Insurance Activities" for any interest sensitive assets, insurance liabilities, reinsurance, deferred taxes and the AOCI adjustment (if applicable). For certain participating contracts, the simplification formula as defined under the MAV approach may be used (See Paragraph 190). The impact related to assets net of the AOCI adjustment should be reported in the worksheet *FT17.BCR & ICS.Balance Sheet*, table T34 – [Impact of the stress on capital resources] row 1 (436) -

[Total value of assets related to insurance activities]. The impact on deferred taxes, including any valuation allowance, should also be reported in the same table under row 5 (440) – [Delta deferred taxes]. Stressed insurance liability and reinsurance balances should be reported in the worksheet *FT17.BCR & ICS.Balance Sheet,* table T33 – [Insurance Liabilities under stressed conditions].

8 BCR and ICS Balance Sheet

Relevant Worksheets in Template:	*FT17.BCR & ICS.Balance Sheet*	*Due 11 September 2017*

8.1 Balance Sheets

317. Balance Sheet data is reported in worksheet *FT17.BCR & ICS.Balance Sheet*. To avoid duplication of the data collected, this single worksheet is used to collect all the GAAP and MAV Balance Sheet data.

8.1.1 GAAP Valuation

318. The starting point for the Balance Sheet is amounts per audited, consolidated financial statements or aggregated statutory financial statements (in the case of U.S. mutual insurers) in the *FT17.BCR & ICS.Balance Sheet* worksheet. Totals should tie directly to audited financial statements (i.e. Assets, Liabilities, Equity). Other significant balances to the extent possible should also tie directly to reported financial statements without any adjustment (e.g. total investments, insurance liabilities, retained earnings, AOCI, etc.).

319. The next step is to identify balances related to insurance activities. For the purpose of 2017 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.

320. The *Other than Related to Insurance Activities* column will then be automatically populated.

8.1.2 GAAP Plus Valuation Balance Sheet (GAAP Plus)

321. Column *Reclassification from GAAP* should be used to report any reclassification of amounts that would be a result of differences in presentation between audited GAAP and GAAP Plus. Volunteer Groups should record in this column any 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 (i.e. policy loans, reinsurance recoverables). These reclassification amounts should not include any valuation adjustments as proposed in the specifications under each GAAP Plus jurisdictional example, such as valuation changes to assets or insurance liabilities or eliminations such as the elimination of deferred acquisition expenses.

322. The Volunteer Group should report balances on the basis of the GAAP Plus approach in the worksheet *FT17.BCR&ICS.Balance Sheet* column *GAAP Plus Valuation – Related to insurance activities*. The balances should reflect any reclassification amounts as reported in column *Reclassification from GAAP* and adjustments as specified in the applicable jurisdictional GAAP Plus example.

323. Adjustments from GAAP to the GAAP Plus approach should be in alignment with the following GAAP Plus guidelines and, if applicable, one of the jurisdictional examples [Section 7.5]. However, Volunteer Groups that report using other jurisdictional GAAPs where no example has been provided may need to develop their own set of adjustments based on the guidelines and other GAAP examples provided; it is suggested that such Volunteer Groups developing their own adjustments consult with their supervisor.

324. The *FT17.BCR & ICS.Balance Sheet* worksheet 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 as well as a Reconciliation of insurance liabilities between GAAP Plus and MAV under the benchmark and HQA discounting options. Detailed instructions for these data requests can be found in section 9 (Reconciliation) and section 10.3.2 (on the GAAP Plus AOCI adjustment, under Capital Resources).

325. 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 under GAAP Plus as well as explanations for amounts reported in the liabilities reconciliation. Supplemental narratives to further describe methodologies employed, assumptions used, etc., are invited through the Questionnaire.

326. Note that offsetting entries for valuation adjustments are calculated fields reported under the equity section of the Balance Sheet.

8.1.3 MAV Balance Sheet

327. 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 Valuation – 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 (e.g. separate accounts). All reclassification entries should sum to zero. Volunteer Groups should provide narrative explanations for reclassification entries in the Questionnaire.

328. MAV – Related to Insurance Activities balances should reflect the changes in valuation of invested assets or liabilities as specified under MAV approach. The approach to be used for this is the blended option (see section 6.4.1).

329. Note that offsetting entries for valuation adjustments to assets and liabilities are automatically posted as under the equity section of the Balance Sheet.

8.2 Balance Sheet Assets

330. General instructions for reporting of asset balances can be found below.

331. Balances in GAAP valuation – Amounts per Audited Consolidated Financial Statements should be reported as per the audited, consolidated financial accounts or per aggregated audited statutory

financial statements (in the case of U.S. mutual insurers); in particular for Total Assets and Total Investments.

a) Investments – Adjustments to balances for GAAP Plus and MAV approaches should follow the respective specifications. The offsetting entry representing the sum of all adjustments to investment balances is a calculated field that is automatically posted to the equity section of the Balance Sheet [*Investment Adjustment Offset*]

b) Assets Held in Separate Accounts – For the GAAP valuation balance in as well as the GAAP Plus valuation balance in the same separate account balance should be reported according to the definition applied under the Volunteer Group's jurisdictional GAAP. For purposes of reporting MAV under, the definition per the MAV specifications should be applied. Any reclassification adjustment should be reflected in the column MAV - Reclassification from GAAP. Volunteer Groups should also provide additional information on separate account assets in the table '*Allocation of assets held in separate accounts'*, which is a separate table in the worksheet *FT17.BCR & ICS.Balance Sheet*.

c) Reinsurance Recoverable Adjustments to balances for GAAP Plus and MAV approaches should follow the respective specifications. Reinsurance recoverables should be reported gross rather than being netted against insurance liabilities.

d) Deferred Acquisition Costs – The deferred acquisition line item should include all deferred expense balances including Deferred Acquisition Costs, Value of Business Acquired, Deferred Sales Inducements and all similar deferred expense balances. These amounts are reversed and are offset automatically through the *Insurance Liability/Reinsurance Adjustment Offset* line item.

8.3 Balance Sheet Insurance liabilities (and Related Reinsurance Recoverables)

332. The value of insurance liabilities should be reported for the following measures:

a) A detailed table of insurance liabilities is included in the worksheet *FT17.BCR & ICS.Balance Sheet*, below the balance sheet. Balances entered in the detailed table populate the insurance liability balance sheet line item. Balances in the insurance liabilities table, GAAP Valuation – Gross liabilities and GAAP Valuation – Reinsurance recoverables should be reported as per the audited, consolidated financial accounts.

b) Insurance liability adjustments to balances for GAAP Plus and MAV approaches should follow the respective specifications. Volunteer Groups should report insurance liabilities gross, i.e. reinsurance recoverables and policy loans should be reported as assets rather than being netted against insurance liabilities.

c) The offsetting entry for valuation adjustments to insurance liabilities is a calculated field reported under the equity section of the Balance Sheet [*Insurance/Reinsurance Liability Offset*].

333. For other liability balances related to reinsurance:

a) Amounts due on Reinsurance Contracts – Represents premium payable amounts on Reinsurance ceded. Any adjustment amounts to this line item are offset through a calculated field under the equity section of the Balance Sheet [*Insurance Liability/Reinsurance Adjustment Offset*]

b) Other Reinsurance Payable – This line item was included to capture reinsurance payable amounts related to Modified Coinsurance and funds withheld reinsurance. Any adjustment amounts to this line item are offset through a calculated field under the equity section of the Balance Sheet [*Insurance Liability/Reinsurance Adjustment Offset*]

8.4 Balance Sheet Non-insurance liabilities

334. The value of non-insurance liabilities in GAAP valuation – Amounts per Audited Consolidated Financial Statements should be reported using GAAP (as per the consolidated financial accounts) or per aggregated audited statutory financial statements (in the case of U.S. mutual insurers). Non-insurance liability adjustments to balances for GAAP Plus and MAV approaches should follow the respective specifications. Any adjustment amounts are offset through a calculated field under the equity section of the Balance Sheet [*Other Liabilities Adjustment Offset (non-insurance*)] except as noted below.

8.5 Balance Sheet Equity

335. 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 the Capital Resources section. In particular, please note that share premium and contributed surplus are reported separately.

336. 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 2017 Template.

337. 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 from the Capital Resources section (see section 11.3.1).

338. 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.

9 Reconciliations from GAAP Plus to MAV

Relevant Worksheets in Template:	*FT17.BCR & ICS.Balance Sheet*	*Due 11 September 2017*

339. Two tables in the *FT17.BCR & ICS.Balance Sheet* worksheet have been provided for Volunteer Groups to reconcile life insurance liability amounts between MAV and GAAP Plus under different discounting options. This data is being collected in order to understand any significant differences between the two ICS valuation method benchmark options (one each for MAV and for GAAP Plus) as well as between the GAAP Plus benchmark option and the High Quality Asset (HQA) discounting approach.

340. Additional tables in the *FT17.BCR & ICS.Balance Sheet* worksheet have been provided to reconcile Non-Life liability amounts between reported GAAP and GAAP Plus/MAV as well as between GAAP Plus and MAV.

9.1 Life Insurance Liability Reconciliations

341. The first reconciliation table is provided for Volunteer Groups to reconcile life insurance liabilities between GAAP Plus benchmark option and MAV blended option. This table includes certain specified columns as well as two user defined columns to identify significant reconciling items (other than those related to differences in discounting and in contract boundaries which would be reported separately). 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 under the benchmark options should be included in the Questionnaire responses.

342. This second reconciliation table is provided for Volunteer Groups to reconcile between GAAP Plus and MAV insurance liability amounts reported using the High Quality Asset (HQA) discount rate/curve. Columns are provided that can be self-defined by each Volunteer Group to highlight significant differences that would not be related to the discount rate/curve. The definitions used by a Volunteer Group for each of these columns and other relevant information necessary to understand the drivers of differences in addition to discounting between MAV and GAAP Plus current estimates should be included in the Questionnaire responses.

343. 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 responses.

344. 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 benchmark

options including the purpose, method, significant judgments, key assumptions and any other information that may assist in understanding the nature of any adjustments.

345. Column descriptions for the Reconciliation of Life Liabilities GAAP Plus benchmark option to MAV blended option:

a) [GAAP Plus (GAAP Rates)] – Calculated field, from the table '*Detailed information on the insurance liabilities'* from *FT17.BCR&ICS Balance sheet* worksheet.

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

c) [Changes due to update of Cash Flows] – Represents the impact to cash flow projections from updating any assumptions from GAAP Plus to MAV consistent assumptions as well as the impact of the blended rate on cash flow projections. Volunteer Groups should separate cash flow from discount impact on a best efforts basis, but if not feasible the result should be combined in the cash flow column.

d) [Changes due to discounting of CF] - Represents the amount related to the impact of applying the Blended option yield curve as defined under MAV in order to obtain a present value of cash flows. Under a number of jurisdictional GAAP Plus examples, certain life insurance current estimates do not apply a discount rate/curve. The primary example would be investment products where the account value is being reported. Any amounts that were undiscounted or were not calculated using a discount rate/curve for GAAP Plus in column [GAAP Plus (Benchmark GAAP rates)], should remain undiscounted for purposes of completing this column. These differences may be reported under a user defined column if material with an explanation in the responses to the Questionnaire.

e) [GAAP+ to MAV (user defined)] – In order to understand any other significant differences between GAAP Plus and MAV current estimate liabilities that may not have been explicitly been provided for, additional columns have been included that can be defined by Volunteer Groups to decompose any additional 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 responses.

f) [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.

g) [MAV (Blended Rates)] – Calculated field, sum of columns described above. The amount should equal the amount reported under MAV Blended option. A check is provided to ensure that the values match.

346. Column descriptions for the Reconciliation of Life Liabilities GAAP Plus to MAV under the HQA option:

a) [GAAP Plus (GAAP Rates)] – Calculated field, from the table '*Detailed information on the insurance liabilities'* from *FT17.BCR&ICS Balance sheet* worksheet.

b) [Discounting Impact/Update to HQA Rates] - Represents the amount related to the impact of applying the ICS prescribed HQA curve as defined under the MAV HQA discounting option to re-estimate projected cash flows dependent on the discount rate/curve as calculated under the GAAP Plus valuation approach and discount those cash flows to generate a current estimate. Under a number of jurisdictional GAAP Plus examples, insurance current estimates do not apply a discount rate/curve. The primary example would be investment products where the account value is being reported. Any amounts that were undiscounted or were not calculated using a discount rate/curve for GAAP Plus in column [GAAP Plus (Benchmark GAAP rates)], should remain undiscounted for purposes of completing this column. These differences may be reported under a user defined column if material.

c) [GAAP+ to MAV (user defined)] – In order to understand significant, non-discounting related differences between GAAP Plus and MAV current estimate liabilities, additional columns have been provided that can be defined by Volunteer Groups to decompose 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 responses.

d) [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.

e) [MAV (HQA Rates)] – Calculated field, sum of columns described above. The amount should equal the amount reported under MAV HQA option from the table '*Detailed information on the insurance liabilities'* from *FT17. BCR&ICS Balance sheet* worksheet. A check is provided to ensure that the values match.

f) [GAAP Plus (HQA rates)] – Calculated field, Sum of columns [GAAP Plus (GAAP Rates)] and [Discounting Impact/Update to HQA rates].

9.2 Non-Life Insurance Liability Reconciliations

347. Three reconciliation tables have been provided for Volunteer Groups to provide reconciliation data between reported GAAP and GAAP Plus/MAV and between GAAP Plus benchmark discounting option and MAV Blended option.

348. For Non-Life liabilities, Volunteer Groups should aggregate product segments into Non-Life Short Duration and Long Duration contracts. Local jurisdictional guidance should be used in distinguishing between these two types of contracts. Generally, short duration contracts will have coverage periods of 12 months or less and will not have embedded options or derivatives containing significant cash flow volatility. The reconciliation provides for a breakdown of these amounts between Premium and Claims liabilities. In prior Field Testing exercises, "Premium Liabilities" were referred to as Unearned Premium Provisions. Claims 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.

349. Column descriptions for the Reconciliation of Non-Life premium liabilities

a) There are three tables for reconciling premium liabilities, though headers and definitions will be similar in each. The first and last column will always be the reconciling item.

b) [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.

c) [Change to Profitability Assumptions / Cash Flows Impact] Differences due to the profitability/expense assumptions. Example: Local GAAP the premium liability of 100 was calculated with implicit combined ratio of 100%. If the acquisition expenses were zero and the MAV premium liability was calculated with combined ratio of 85%, then the amount of this item in the GAAP-to-MAV reconciliation would be -15 (=[85%-100%]*100)

d) [Discounting Impact] Change due to differing discount rates.

e) [Recognition Criteria] Any changes due to policies that are recognised in the first column but not recognised in the last column and vice versa.

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

g) [Other] Any additional amounts required to decompose the difference. Provide a description and breakdown of any material amounts in the Questionnaire responses.

350. Column descriptions for the Reconciliation of Non-Life claims liabilities

a) [GAAP Reported (Claims)], [GAAP Plus (Claims)], [MAV Blended (Claims)] Calculated fields. The amount should equal the amount reported on the Balance Sheet.

b) [Discounting Impact] Change due to differing discount rates.

c) [Other] - Any additional amounts required to decompose the difference. Provide a description and breakdown of any material amounts in the Questionnaire responses.

Relevant Worksheets in Template:	*FT17.BCR + HLA* *FT17.Financial Instruments* *FT17.Non-Paid-Up Cap Resources* *FT17.Encumbered Assets*	*Due 11 September 2017*

351. There will be no automatic assessment of capital resources items against Tier 1 and Tier 2 criteria to determine ICS Capital Resources. Error checking in the Template based on 2016 Capital resources criteria will be done in the *FT17.Financial Instruments* worksheet. The ICS Simulation tool will have the option of applying 2016 capital resources criteria or 2016 capital resources criteria with individual specific options under consideration.

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

353. Qualifying capital resources will be 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.

354. In 2017 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, including:

a) the classification of financial instruments and other capital elements into tiers, and

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

10.1 Financial Instruments issued by Volunteer Groups

355. This section is relevant to the completion of worksheet *FT17.Financial Instruments*. The worksheet contains five tables, which are described below. Within the tables, blue cells are for data inputs while yellow cells contain formulae and are populated automatically.

a) The `BCR Summary Table' provides summary information on financial instruments that qualify as BCR capital resources.

b) The `BCR Classification and Amortisation Table' provides the BCR classification results for each financial instrument reported, along with the qualifying amount for each instrument. The columns in this table source information from `BCR Assessment Table'. This table also

performs amortisation calculations for financial instruments that are to be amortised over the final five years to their maturity dates.

c) Volunteer Groups should report all relevant information on issued financial instruments 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, i.e. involving transactions that are eliminated in the consolidated ICS Balance Sheet.

d) The `BCR Assessment Table' and `2016 ICS Field Testing Assessment Table' perform an automated assessment of the data submitted for each financial instrument. The calculations in the 'BCR Assessment Table' use information reported in the `Data Input Table' to assess the features of each financial instrument against the BCR qualification criteria.14 The results are then used to populate entries in the `BCR Classification and Amortisation Table'. The 2016 Field Testing qualifying criteria (set out in section 10.1.4 of this document) are only used for the purposes of error checking to assist in validating financial instrument data and should not be seen as indicative of how financial instruments will be classified under future iterations of the ICS.

e) The `2016 Field Testing Classification and Amortisation Table' provides 2016 Field Testing classification results for each financial instrument reported according to the Field Testing qualifying criteria specified in 2016 Field Testing for ICS. This table also performs amortisation calculations for financial instruments that are to be amortised over the final five years to their effective maturity dates. This table will be used as an input for the ICS Simulation tool.

10.1.1 Data submission

356. The rest of this section contains instructions for Volunteer Groups on the information to report in `Data Input Table', i.e. what data to report and how to report it within the table. It also describes the 2016 Field Testing ICS capital resources framework and the options being explored in 2017 Field Testing to inform policy decisions on outstanding issues. The descriptions and instructions that follow refer to column headings in various tables within the Field Testing 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.

357. 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 (including senior debt issued by a holding company (Hold Co)). A separate worksheet is dedicated to information on non-paid-up capital items. The assessment of each financial instrument against the BCR and 2016 ICS Field Testing qualifying criteria in the `BCR

[14] Set out in Section 5 and Annex C of the document "Higher Loss Absorbency Requirement for Global Systemically Important Insurers (G-SIIs) ("HLA Document") published on 5 October 2015. The document is available on the IAIS website at http://iaisweb.org/index.cfm?event=getPage&nodeId=25233

Assessment Table' and the `2016 ICS Field Testing Assessment Table' focuses on the substance of the item (i.e. its permanence, availability to absorb losses, subordination and absence of encumbrances and mandatory servicing costs), rather than the legal form of the instrument (e.g. preferred shares or subordinated debt).

358. Volunteer Groups should use separate rows to report information on financial instruments with different features. 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 instrument.

359. 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 (e.g. in the case of structural subordination). Where the Template requires inputs in relation to the features of the regulatory and/or legal environment, rather than the terms and conditions of the financial instrument, this will be clearly indicated.

360. 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 (e.g. for dates, values, etc.), Volunteer Groups are asked to use the format indicated in the column header.

361. Financial instruments may take a number of different forms including common or ordinary shares, preferred shares, hybrid capital instruments, subordinated bonds or debt, surplus notes, etc. In `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. The category does not influence the assessment of an instrument against the qualification criteria and is only used to facilitate data analysis.

362. For each financial instrument reported, Volunteer Groups should indicate the type of issuing entity in `Data Input Table' column `Type of issuing entity'. In instances where more than one description may apply to the issuing entity, please indicate the one that is considered most appropriate. The issuing entities listed in the drop-down menu are as follows:

a) Parent non-insurance holding company – this refers to parent holding companies (i.e. ultimate parents or intermediate parents) that do not undertake insurance activities

b) Parent insurance company – (i.e. ultimate parents or intermediate parents) that do undertake 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

363. Volunteer Groups should also indicate the region in which the financial instrument was issued.

364. Volunteer Groups should provide information on the subordination of financial instruments in `Data Input Table' columns labelled `Subordination Information'. In particular, for each financial instrument Volunteer Groups should specify the degree of subordination (i.e. "To whom is the instrument subordinated?") and the type of subordination (e.g. contractual or structural subordination). For contractually subordinated financial instruments, Volunteer Groups should specify the legal effect of subordination clauses outside of the jurisdiction in which the instrument was issued. Additional information requested in respect of structurally subordinated financial instruments is described in section 10.1.4.7 below.

365. 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.

366. Volunteer Groups should provide relevant information on key dates (e.g. issue date, maturity date, first ordinary call date, etc.) in `Data Input Table' columns labelled `Date Information' in the format specified in the column headers (i.e. DD/MM/YYYY). The entry "various" does not constitute a valid entry for reporting the issue date of multiple financial instruments with similar features (e.g. 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 (i.e. `Data Input Table' column `Date – Maturity' should be left blank). When providing information in `Data Input Table' column "First Ordinary Call" , 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.

367. When providing information on the distribution rate of a financial instrument in `Data Input Table' column 'Distributions – Distribution Rate (%)' (e.g. 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 entries.

368. Volunteer Groups are asked to provide information on any principal loss-absorbency mechanisms (i.e. write-down or conversion features) that an instrument possesses in the `Data Input Table' columns labelled `Principal Loss Absorbency'. Please only provide information in these columns if relevant. 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 (for example, due to changes in local jurisdictional requirements), please indicate this in `Data Input Table' columns `Principal Loss Absorbency of Replacement Instruments'.

369. Volunteer Groups are asked to provide information on requirements for supervisory approval of the redemption or repurchase of a financial instrument prior to contractual maturity in `Data Input Table' columns labelled `Prior Supervisory Approval'. 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 (i.e. call option) resides only with the issuer. Repurchase refers to any purchase of a Volunteer Group's own financial instrument (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.

370. Volunteer Groups should provide information on any special conditions that apply to a financial instrument as it nears maturity in `Data Input Table' columns labelled `Special conditions near maturity'. This could include lock-in (i.e. suspension of repayment or redemption where there is non-compliance with a regulatory capital requirement), or amortisation of the amount that can be recognised as qualifying capital. Amortisation is normally a feature of the local regulatory jurisdiction rather than being specified within the terms of an instrument. If the special conditions are other than a lock-in clause or amortisation, please specify 'Other' and provide additional details in the Questionnaire.

371. For dated financial instruments that do not have a lock-in feature, the amount recognised as qualifying ICS capital resources will be amortised from 100% to 0% on a straight-line basis in the final five years prior to effective maturity, while the amount recognised as qualifying BCR capital resources will be amortised from 100% to 0% on a straight-line basis in the final five years prior to contractual maturity. The ICS amortisation calculation (as it applied in 2016 Field Testing) are applied automatically in the `2016 ICS Classification and Amortisation Table' and the BCR amortisation is applied automatically in `BCR Classification and Amortization Table'.

372. For each financial instrument reported, Volunteer Groups should provide the Par (Face) Value of the issued instrument in `Data Input Table' column `Face Amount (Par Value)', and any share premium associated with the instrument. Volunteer Groups should report the gross Par (Face) Value i.e. without making deduction for Treasury Stock or direct investments in own financial instruments. This information is captured as a deduction elsewhere in the Template (treasury stock should be

reported in worksheet *FT17.BCR & ICS.Balance Sheet* and direct investments in own financial instruments should be reported in table `BCR Summary Table'). Volunteer Groups should not report the Par (Face) Value net of Treasury Stock or direct investments in own financial instruments as this leads to a double deduction from capital resources. However, 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, the amount reported should be the Par Value before amortisation. This is because the IAIS will apply its own amortisation calculation in the Template.

373. 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 `Data Input Table' columns labelled "Debt instrument – balance sheet values". For each debt instrument, Volunteer Groups are requested to provide five different balance sheet values, corresponding to the different valuation options being tested (three values for MAV, two for GAAP Plus).

374. For debt issued by a parent non-insurance Hold Co, Volunteer Groups should indicate the amount of issuance that has been 'down-streamed' into insurance subsidiaries in `Data Input Table' columns labelled `Down-Streaming Activities'. Furthermore, if amounts have been down-streamed to an entity located in a jurisdiction other than that of the Hold Co, Volunteer Groups should indicate the receiving jurisdiction. Down-streaming refers to a situation where a parent non-insurance Hold Co issues an instrument directly to third party investors and then uses the proceeds to invest in an insurance subsidiary. 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 Field Testing Questionnaire.

375. Volunteer Groups should provide information on the presence of any acceleration clauses within the legal terms and conditions of a financial instrument in `Data Input Table' columns 'Acceleration Clauses' Acceleration clauses are features which provide for acceleration of payments (e.g. distributions, redemption amounts) owed with respect to a financial instrument. Volunteer Groups should also provide information on the circumstances in which any acceleration clauses may operate (i.e. in going concern and/or in winding-up).

376. `Data Input Table' columns labelled `SPV Issuance' apply specifically to financial instruments issued out of a Special Purpose Vehicle ("SPV"). If an instrument was not issued out of an SPV, please select not applicable "N/A" from the drop-down menus.

377. For each financial instrument reported, Volunteer Groups should indicate in `Data Input Table' column `Third party capital', 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 are included in a non-controlling interest; Volunteer Groups are also requested to indicate where this is the case in column "Non-controlling interest (NCI)?". The IAIS is currently considering an approach to limit the inclusion

of financial instruments issued by a consolidated subsidiary of the Volunteer Group and held by third party investors in qualifying capital resources, in order to reflect the lack of availability of the capital associated with those instruments. The limit will be based on local jurisdictional information of the relevant subsidiary insurers. To calculate the limit, Volunteer Groups are requested to provide the additional information in `Data Input Table' columns labelled `Additional information for the limit on capital resources arising from a consolidated subsidiary and attributable to third party investors'. If a Volunteer Group fails to provide the required information and the limit cannot be calculated, then the impact of any limit on third party capital will not be reflected in the simulation tool. In addition, Volunteer Groups are also requested to provide additional information in order to inform potential refinements to the limit.

378. Additional reporting requirements for financial instrument data in `Data Input Table' in respect of outstanding ICS capital resources policy issues are descried in subsequent sections of this chapter.

10.1.2 Data Assessment

379. The yellow cells in `BCR Assessment Table' and `2016 ICS Assessment Table' contain a formula-based assessment against the qualifying BCR criteria and 2016 ICS criteria for each financial instrument reported. These columns are populated automatically and Volunteer Groups should not manually enter any information in these columns. Each column header provides a brief description of the criterion being tested. References to the specific criteria set out in the Technical Specifications are provided above the column headers.

380. The outcome of the assessment against each criterion is specified as "Pass", "Fail" or "ERROR". A minimum amount of information must be provided by Volunteer Groups in the `Data Input Table' in order for the automated classification logic to accurately determine whether the financial instrument has complied 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 `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.

10.1.3 Volunteer Group Classification of Financial Instruments as BCR Core and Additional Capital Resources

381. The classification of financial instruments as BCR Core and Additional qualifying capital resources, as well as adjustments and exclusions, are described in the HLA Document. Those details are not repeated in these Technical Specifications.

382. The naming convention for BCR Core and Additional criteria listed above `BCR Assessment Table' and `2016 ICS Assessment Table' in worksheet *FT17.Financial Instruments* is as follows:

a) There are nine instrument criteria that apply to BCR Core capital, numbered Ci. to Cix.

b) There are seven instrument criteria that apply to BCR Additional capital, numbered Ai. to Avii.

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

383. For 2017 Field Testing, there are some key policy areas in the ICS capital resources framework that are yet to be finalised. Additional data is requested in 2017 in order to assess various options for the resolution of outstanding issues.

384. The relevant financial instrument classification criteria for ICS Tier 1 and Tier 2 capital resources for the purposes of data quality assessment in 2017 Field Testing are set out in the following sections.

10.1.4.1 Tier 1 'Unlimited' Financial Instruments issued by the Volunteer Group

385. The following criteria applied in 2016 Field Testing for instruments to qualify as Tier 1 capital resources for which there is no limit (referred to as "Tier 1 unlimited" in worksheet *FT17.Financial Instruments*).

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 (i.e. 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, which is subject to prior supervisory approval.

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

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, including retained earnings (i.e. distributions should reduce equity rather than the profit / loss of the current year).

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 (i.e. not recognised as a liability) where a determination that liabilities exceed assets constitutes a test of insolvency.

10.1.4.2 Discretionary repurchase of share capital

386. The IAIS is currently considering whether or not to retain the Tier 1 Unlimited criterion (e), i.e. the requirement for prior supervisory approval for discretionary repurchase.

10.1.4.3 Tier 1 'Limited' Financial Instruments issued by the Volunteer Group

387. The following criteria applied in 2016 Field Testing for instruments to qualify as Tier 1 capital resources for which there is a limit (referred to as "Tier 1 Limited" in worksheet *FT17.Financial Instruments*):

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 not a limit.

c) The instrument is perpetual (i.e. it does not have a maturity date).

d) The instrument does not contain a step-up or another incentive to redeem.

e) The instrument is only callable at the option of the issuer after a minimum of five years from the date of issue (i.e., 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, or through the terms of the instrument, 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 (i.e. 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, including retained earnings (i.e. distributions should reduce equity rather than the profit / loss of the current year).

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) If jurisdictional insolvency law includes a test of whether liabilities exceed assets, then the instrument is not treated as a liability for the purpose of that test.

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 Hold Co of the IAIG (e.g. it is issued out of an SPV), proceeds must be immediately available without limitation to an operating entity or the Hold Co of the IAIG in a form that meets or exceeds all of the other criteria for inclusion in Tier 1 Capital for which there is a limit (i.e. 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 for which there is a limit).

10.1.4.4 Mutual financial instruments

388. The potential recognition of financial instruments issued by mutual IAIGs in Tier 1 capital resources (either Unlimited or Limited) is still under consideration. As such, Volunteer Groups are asked to provide the following additional information in `Data Input Table' columns labelled `Additional Information on Financial Instruments Issued by Mutuals':

a) Is redemption at maturity subject to prior supervisory approval? If yes, is the approval provided by a supervisory authority at the legal entity or group level?

b) Are there any other factors that can effectively defer redemption of the instrument at maturity? If yes, please provide details in the Questionnaire.

c) Are distributions subject to prior supervisory approval? If yes, is the approval provided by a supervisory authority at the legal entity or group level?

d) Are there any other factors that can effectively defer distributions of the instrument? If yes, please provide details in the Questionnaire.

10.1.4.5 Tier 2 Financial Instruments issued by the IAIG

389. The following criteria applied in 2016 Field Testing for instruments to qualify as Tier 2 Paid-Up capital resources:

a) The instrument is fully paid-up.

b) The instrument is subordinated to policyholders and other non-subordinated creditors of the IAIG.

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 (i.e. the instrument is not retractable by the holder) and prior supervisory approval is required for any redemption prior to contractual maturity.

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, or through the terms of the instrument, 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.

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.

l) If the instrument is not issued out of an operating entity or the Hold Co of the IAIG (e.g. it is issued out of an SPV), proceeds must be immediately available without limitation to an operating entity or the Hold Co of the IAIG in a form that meets or exceeds all of the other criteria for inclusion in paid-up Tier 2 capital resources (i.e. 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 paid-up Tier 2 capital resources).

10.1.4.6 Financial instruments issued by holding companies

390. For any structurally subordinated financial instruments issued out of a Hold Co, Volunteer Groups should provide information in the 'Data Input Table' columns labelled 'Clean Hold Co Data'. The purpose of this information is to determine the extent to which an issuing Hold Co is "clean". Volunteer Groups should also specify whether or not the Hold Co has any operational liabilities (ie from undertaking any operations itself including writing insurance business) and, if yes, provide further information as requested in the Questionnaire. For instruments not issued out of a Hold Co, Volunteer Groups should report this as "N/A" (not applicable). Volunteer Groups should provide additional information on the operational liabilities undertaken by a Hold Co within the Questionnaire.

10.1.4.7 Structural subordination

391. For 2017 Field Testing, the IAIS is further considering the recognition of structurally subordinated debt issued by holding companies and down-streamed into insurance subsidiaries within ICS capital resources. The possible conditions that the IAIS has identified for potential recognition of structural subordination include:

a) The instrument has been issued by a "clean" Hold Co, defined as a Hold Co that either does not have operational liabilities on its Balance Sheet (i.e. does not undertake any operations itself, including writing insurance business), or that has clear subordination of regulatory capital to operating liabilities.

b) The proceeds from the instrument issuance have been down-streamed into an insurance subsidiary of the Hold Co that is located in a jurisdiction whose regulatory regime proactively

enforces structural subordination through a 'sufficiently high level of regulatory controls' over distributions from insurance subsidiaries. One possible test of whether a regulatory regime possesses a 'sufficiently high level of regulatory controls' over subsidiary insurer distributions being considered would require all of the following criteria to be met:

i. Prior supervisory approval is required for "extraordinary dividends," i.e., when the aggregate amount of the dividends in any calendar year would exceed the lesser of:

(1) 10% of the insurer's surplus to policyholders; or

(2) the insurer's net gain from operations or net income, not including realised capital gains.

ii. The relevant supervisor has authority to issue orders to limit or disallow the payment of any dividend amount should it find that the insurer is presently, or may potentially become, financially distressed. The relevant supervisor should be able to and shall consider prospectively the adequacy of the level of surplus as regards policyholders remaining after the payment of dividends, the quality of the insurer's earnings, and other factors it deems pertinent.

c) The Volunteer Group is able to accurately track and report the amount of the instrument that has been down-streamed into insurance subsidiaries.

392. To this end, Volunteer Groups are asked to provide the following additional information in `Data Input Table' columns labelled `Additional Information on Structural Subordination', and where noted, in the Questionnaire:

a) The amount of the proceeds from the instrument issuance that have been down-streamed into each insurance subsidiary of the Hold Co, including the jurisdiction of the subsidiary.

b) Whether there are any mechanisms or protocols in place to accurately monitor and report down-streamed amounts over time? Volunteer Groups are asked to provide additional details in the Questionnaire.

c) Whether dividends from insurance subsidiaries of the Hold Co subject to prior supervisory approval? If yes, whether supervisory approval applies to:

- all dividends; or
- the circumstances under which supervisory approval of dividends applies.

10.1.4.8 Lock-in and supervisory approval

393. The IAIS has decided that the Tier 2 requirement for prior supervisory approval for any redemption of Tier 2 financial instruments prior to contractual maturity will not be extended to

include contractual maturity. Further, the IAIS is considering whether a lock-in clause within the terms of a financial instrument should be treated as equivalent to prior supervisory approval within the ICS framework.

10.2 Non-Paid-Up Capital (NPC) Resources

394. The recognition of NPC resources in ICS Tier 2 is under consideration. Volunteer Groups are asked to provide information on any NPC within the worksheet *FT17.Non-Paid-Up Cap Resources*. The worksheet contains three tables:

a) `BCR Summary Table' is in the upper left-hand section of the worksheet and provides summary information on financial items, contracts and arrangements that qualify as BCR capital resources. `2016 ICS Summary Table' provides similar information for items assessed against the qualifying criteria in 2016 Field Testing. All of the cells in these tables contain formulae and are populated automatically.

b) `NPC Data Input Table' is below `BCR Summary Table' and `2016 ICS Summary Table' and is the table in which Volunteer Groups should report all relevant information on non-paid up capital resources. All of the cells in this table are data entry cells, except for those in the column labelled `Does item qualify as Non-Paid-Up Tier 2?', which performs an automated assessment of each non-paid up item against the 2016 ICS qualifying criteria set out below.

395. 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.

396. Volunteer Groups are asked to provide information regarding any non-paid-up items in the blue cells of `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 `NPC Data Input Table' columns labelled `Expected classification of paid-up item under 2016 ICS'. Volunteer Groups should also indicate the expected classification that the item would be afforded under the BCR, if the item was paid-up, as well as the expected BCR qualifying amount, in `NPC Data Input Table' columns labelled ` Expected classification of paid-up item under BCR'.

397. The following criteria applied in 2016 ICS Field Testing for financial items, contracts and arrangements to qualify as Tier 2 ICS Non-Paid-Up ICS capital resources:

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 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 Volunteer Group.

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

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

10.3 Capital Elements other than Financial Instruments

398. Capital elements other than financial instruments that qualify as capital resources for BCR and/or ICS are reported in worksheets *FT17.BCR & 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 for the ICS. These worksheets source information from other parts of the Template to avoid the collection of duplicate data. 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 (e.g. significant expert judgment is required), please provide additional details, relevant assumptions and rationale in the Questionnaire.

10.3.1 Capital elements other than Financial Instruments for ICS

399. For the purposes of 2017 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.

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 (e.g. 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) Accumulated Other Comprehensive Income (AOCI), including an AOCI adjustment for GAAP Plus as defined in the following section on GAAP Plus AOCI Adjustment (section 1.3.2).

d) Unrestricted reserves as defined in section 10.3.3 on Regulatory Reserves below.

e) 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.15,16

f) Non-controlling interests (NCI), other than financial instruments issued by a consolidated subsidiary to third party investors, that are generated by an equity investment in an entity that is, for example, structured as a limited partnership (LP) or a limited liability company (LLC), and that are available to absorb losses from any source in the same way as other Tier 1 capital instruments or elements.

400. Tier 2 capital elements other than financial instruments include the following:

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

b) Restricted reserves as defined in section 10.3.3 on Regulatory Reserves below.

c) The value of encumbered assets in excess of the on-balance sheet liabilities secured by the encumbered assets and incremental ICS capital requirements and incremental ICS capital requirements in respect of those assets and liabilities (see section 10.4.3 for details on the treatment of encumbered assets).

d) "Tier 2 basket", comprised of the following three items which are relate to deductions from Tier 1 (see section 10.4.2):

i. Current realisable 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). Realisability shall be assessed taking consideration of legal, fiscal and administrative hindrance on asset extraction or decision in control of a third party.

ii. Current realisable value of net DTA that relies on the future profitability of the Volunteer Group and that has been deducted from Tier 1 capital resources.

iii. Current realisable value of computer software intangibles (net of amortisation) deducted from Tier 1 capital resources.

401. The IAIS is considering an appropriate limit to apply to the Tier 2 basket to limit its recognition in Tier 2 ICS capital resources.

[15] Equity-settled employee stock options refer to contracts under which employees of the IAIG is 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.

[16] 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.

10.3.2 GAAP Plus AOCI Adjustment

402. The AOCI adjustment is applicable under GAAP Plus for jurisdictions where insurance liabilities are measured based on an asset book yield, and fixed income investments backing those liabilities are reported at fair value. The GAAP Plus examples that match these criteria are the US GAAP, US SAP and Japan GAAP examples of GAAP Plus. In order to address the asymmetry in accounting and the resulting volatility in capital resources, an AOCI adjustment has been defined for field testing this year under GAAP Plus such that the net unrealized gain/loss associated with fixed income assets that meet certain criteria is deducted from Tier 1 capital resources. The criteria are as follows:

a) The net unrealized gain/loss to be excluded must relate to fixed income assets that are both classified as available for sale (AFS) and that back long term liabilities; and

b) The unrealized gain/loss is not likely to be realized.

403. The related asset balances are restated to amortized cost for purposes of calculating the Credit risk charge (see section 13.5) but would not be restated on the reported GAAP Plus Balance Sheet. A new table has been provided on worksheet FT17.BCR&ICS.Balance Sheet to collect additional detail to evaluate the impact of alternative definitions for the AOCI adjustment.

404. For Volunteer Groups following GAAP Plus examples where insurance liabilities are discounted using a market based curve/rate or for jurisdictions that do not record unrealised gains or losses related to fixed income investments in AOCI, the AOCI adjustment is not applicable.

405. For purposes of Field Testing, the AOCI adjustment amount should calculated as follows using the table provided in worksheet FT17.BCR&ICS.Balance Sheet:

406. Starting with net AOCI on AFS Debt Securities as reported in the GAAP Plus Balance Sheet, exclude any unrealised gains/losses relating to the following:

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

b) Fixed income securities designated in fair value accounting hedges.

c) Fixed income securities backing long-term liabilities measured on a market value basis (e.g. variable annuity guarantees). Long term is defined as contracts with duration greater than one year.

d) Fixed income securities 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), Asset backed Securities (ABS) student, ABS consumer ABS auto that are likely to be prepaid. “More likely than not” in this

context is defined as a greater than 50% chance of occurrence based on facts and circumstances known to management as of the balance sheet date.

e) Fixed income securities that have experienced significant credit impairment.

407. Volunteer Groups following the U.S. 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 *FT17.BCR & ICS.Balance Sheet*:

a) Identify all fixed income assets that are backing long term insurance liabilities (excluding designated fair value hedged items).

b) Quantify the total unrealised gains/losses by subtracting the value of those assets in GAAP Valuation – Insurance Activities from GAAP Plus Valuation – Insurance Activities.

c) Remove all amounts where it is more likely than not that unrealised gains/losses would be realised through sale, conversion, prepayment, etc.

408. The amount reported as the AOCI adjustment should equal the difference between fixed income investments reported on the Balance Sheet versus exposure amounts reported under the Credit risk section of the *FT17.ICS Risk Charge* worksheets.

10.3.3 Regulatory reserves

409. This section describes the reporting and treatment of regulatory reserves within ICS capital resources for the purposes of 2017 Field Testing. Values should be entered in the worksheet *FT17.BCR & ICS.Balance Sheet*, rows labelled “Unrestricted” and “Restricted”.

410. 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. 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 occurs 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.

411. 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.

412. For the purposes of 2017 Field Testing, unrestricted reserves are classified as Tier 1 capital resources and restricted reserves are classified as Tier 2 capital resources.

413. In 2015 and 2016 Field Testing, Volunteer Groups reported several different types of regulatory reserves. The following table lists the reserves that were observed during 2015 and 2016 Field Testing, and sets out how Volunteer Groups should report those reserves within 2017 Field Testing.

Table 15. Treatment of specific types of reserves

Reserve	Treatment
Provision for Bonuses and Rebates (Germany)	Unrestricted (Tier 1)
FX Volatility Reserve (Chinese Taipei)	Restricted (Tier 2)
Legal Capital Reserve and Special Capital Reserve for Revaluation Increments of Property (Chinese Taipei)	Unrestricted (Tier 1)
Special Claim Reserve (Chinese Taipei)	Restricted (Tier 2)
Claim Fluctuation Reserve (Chinese Taipei)	Unrestricted (Tier 1)
Emergency Risk Reserve (Korea)	Restricted (Tier 2)
Legal Reserve (Korea)	Unrestricted (Tier 1)
Reserve for Business Rationalization (Korea)	Unrestricted (Tier 1)
Voluntary Reserve (Korea)	Unrestricted (Tier 1)
Contingency Reserves (Japan)	Unrestricted (Tier 1)
Price Fluctuation Reserve (Japan)	Unrestricted (Tier 1)
Catastrophe Reserve (Japan)	Unrestricted (Tier 1)
Merger reserves (UK, South Africa)	Unrestricted (Tier 1)
Share Premium Reserve (UK)	Unrestricted (Tier 1)
Safety Reserve (UK)	Unrestricted (Tier 1)
Asset Valuation Reserve (US Stat)	Unrestricted (Tier 1)
Interest Maintenance Reserve (US Stat)	Unrestricted (Tier 1)
General Risk Reserves (China)	Unrestricted (Tier 1)
Regulatory Surplus Reserves (China)	Unrestricted (Tier 1)
Excess loan loss reserve (Volunteer Groups with a banking subsidiary)	Restricted (Tier 2)

414. 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.

10.4 Capital Adjustments and Deductions

415. For 2017 Field Testing purposes, there are a number of adjustments and deductions from capital. 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 under MAV' in worksheet *FT17.BCR & ICS.Balance Sheet*. In the worksheet *FT17.Financial Instruments,* Volunteer Groups should indicate in `BCR Summary Table' their direct investments in own capital instruments distinguished between Tier 1 and Tier 2 (treasury stock should be included in Tier 1). The deductions apply on both a BCR and ICS basis, so no distinction is made between the two.

10.4.1 Recognition of capital resources arising from a consolidated subsidiary of the Volunteer Group and attributable to third party investors

416. The IAIS is currently considering an approach to limit the inclusion of financial instruments issued by a consolidated subsidiary of the Volunteer Group and held by third party investors, as well as other capital elements arising from the subsidiary and attributable to third party investors (i.e. capital elements other than financial instruments included in a non-controlling interest), in qualifying capital resources. This is in order to reflect the lack of availability of those items. In order to test options for this approach, Volunteer Groups are requested to provide some local jurisdictional information of the relevant subsidiary insurers.

417. To calculate the limit, Volunteer Groups are requested to provide the additional information in `Data Input Table' columns labelled `Additional Information for the limit on capital resources arising from consolidated subsidiaries and attributable to third party investors'. This data will include the local jurisdictional values of:

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

418. In addition, Volunteer Groups are also requested to provide additional information in order to inform potential refinements to the limit.

10.4.2 Deductions from Tier 1 Capital Resources

419. 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 the purposes of 2017 Field Testing:

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 that rely on the future profitability of the Volunteer Group. DTAs may be netted with associated DTLs only if the DTAs and DTLs relate to taxes levied by the same taxation authority and offsetting is permitted by the relevant taxation authority.

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.

f) Direct investments in own Tier 1 capital instruments (indirect investments via the group should have already been eliminated).

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 requirements in respect of those assets and liabilities (see section 10.4.3 for details on the treatment of encumbered assets).

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

420. 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).

10.4.3 Treatment of Encumbered Assets

421. This section describes the treatment of encumbered assets within 2017 Field Testing. For 2017 Field Testing, an encumbered asset is an asset that a Volunteer Group pledges as collateral to a counterparty in order to participate in certain activities, such as centrally cleared derivatives, OTC derivatives, mortgage borrowing, reinsurance, etc. Volunteer Groups should provide information in worksheet *FT17.Encumbered Assets* to indicate the pledging activity, the type of pledged asset, as well as the amounts related to the offset in calculating the deduction. The IAIS is collecting this information in order to inform future policy discussions on the appropriateness and extent of the deduction for encumbered assets.

422. Volunteer Groups should also provide the following information on worksheet *FT17.Encumbered Assets* in order to deduct from BCR Core capital resources and ICS Tier 1 capital resources the total value of encumbered assets in excess of the sum of:

a) the value of the Volunteer Group's on-balance sheet liabilities secured by the encumbered assets; plus

b) the value of the Volunteer Group's incremental BCR/ICS (as appropriate) capital requirements for encumbered assets and secured liabilities.

423. The amount deducted from ICS Tier 1 capital resources will be eligible for inclusion in ICS Tier 2 capital resources, subject to any limit that will apply on Tier 2.

424. For the avoidance of doubt, the incremental BCR/ICS capital requirement is equal to the difference between the BCR/ICS capital requirement of the Volunteer Group, and the BCR/ICS capital requirement of the Volunteer Group excluding the encumbered assets and secured liabilities. To estimate the incremental ICS capital requirement for encumbered assets and secured liabilities, the IAIS will implement a simplified calculation that will be applied during the field testing data analysis phase, based on additional proxy data provided by Volunteer Groups in the Template. The following additional information is required for the simplified calculation:

a) For Non-Life risk: total Non-Life net current estimate and Non-Life net current estimate for liabilities secured by encumbered assets;

b) For life risk: total life net current estimate and life net current estimate for liabilities secured by encumbered assets;

c) For catastrophe risk: total net current estimate and net current estimate for liabilities secured by encumbered assets;

d) For credit risk: total assets and encumbered assets;

e) For market risk: total net asset value (NAV) and NAV of encumbered assets and secured liabilities.

425. For items a) to e) in paragraph 424 above, the net current estimates for each risk should be reported prior to application of the cap that applies on the effect of management actions.

426. No Tier 1 deduction is required for encumbered assets relating to off-balance sheet securities financing transactions (i.e., securities lending and borrowing, repos and reverse repos) that do not give rise to a liability on the Balance Sheet.

10.4.4 Deductions from Tier 2 Capital Resources

427. 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.

b) Direct investments in own Tier 2 capital instruments (indirect investments via the group should have already been eliminated).

10.5 Capital Composition Limits

428. 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.

429. 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.

430. These limits are applied in worksheet *FT17.BCR+HLA* within the 2017 Field Testing Template.

431. The IAIS is considering three capital composition limits to apply to ICS capital resources:

a) a limit on Tier 1 Limited capital;

b) a limit on total Tier 2 capital; and

c) a limit on Tier 2 Non-Paid Up capital.

432. The basis of application and value of the limits has not been finalised and no ICS limits will be applied in the 2017 Field Testing Template.

11 BCR and HLA related data

Relevant Worksheets in Template:	*FT17.BCR+HLA* *FT17.BCR & ICS.Balance Sheet*	*Due 11 September 2017*

11.1 Overview

433. The "IAIS Basic Capital Requirement for Global Systemically Important Insurers (G-SIIs)" ("BCR Document")[17] was published on 23 October 2014. The "IAIS Higher Loss Absorbency for G-SIIs" ("HLA Document")[18] 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 (including both G-SIIs and other Volunteer Groups) are requested to provide information[19] on:

a) BCR Capital Resources (see section 10.1.3 of this document as well as the BCR Document)

b) BCR and HLA Required Capital amounts (in section 11.2 of this document) in order to facilitate monitoring

c) If necessary, refinement of the BCR in line with paragraph 30 of the BCR document, and

d) If necessary, refinement the HLA in line with paragraph 115 of the HLA document.

434. For G-SIIs, submission of data by 11 September 2017, in accordance with the requirements of these Technical Specifications, will meet the requirements for confidential reporting as stated in the IAIS document published on 18 December 2015, "Basic Capital Requirement and Higher Loss Absorbency – Confidential Reporting"[20]. 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 Blended option 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.

[17] For the BCR Document see the public IAIS website (http://www.iaisweb.org/page/supervisory-material/financial-stability-and-macroprudential-policy-and-surveillance).

[18] For the HLA Document see the public IAIS website (http://www.iaisweb.org/page/supervisory-material/financial-stability-and-macroprudential-policy-and-surveillance).

[19] 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 as globally comparable group capital standard that is intended to apply to all G-SIIs."

[20] For the 2015 Confidential Reporting see the public IAIS website (http://www.iaisweb.org/page/supervisory-material/financial-stability-and-macroprudential-policy-and-surveillance).

11.2 BCR and HLA Required Capital

11.2.1 BCR Overview[21]

435. BCR Required Capital is calculated on a consolidated group-wide basis for all activities (as per Section 3 Scope of Application). 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 of/from those entities are negligible.

436. The BCR Required Capital consists of three basic components:

a) Insurance, including Non-Traditional activities

b) Banking, which refers to regulated banking activities, and

c) Other non-insurance financial activities not currently subject to regulatory capital requirements.

437. 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. This essentially, with the exception of NI regulatory capital held with respect to regulated banks, reflected applying 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.

438. 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 'Traditional Life'
- $NI\text{-}RB_{BCR}$ 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.

[21] 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.

439. For the insurance related activities specific parameters a_i, b_i, c_i and d_i and their related exposures are given in Table 15.

440. The Non-Insurance activities are discussed in more detail in section 11.5 below.

441. A transition period, for the purposes of BCR confidential reporting, is in place for 2016, 2017 and 2018:

a) In 2016 Field Testing, the transitional BCR amount was the sum of the BCR 2014 amount and one third of the increase to reach the BCR 2015 amount.

b) In 2017 Field Testing, the transitional BCR amount is the sum of the BCR 2014 amount and two thirds of the increase to reach the BCR 2015 amount.

c) From 2018 onwards, the BCR amount will be the BCR 2015 amount.

442. During the transition period the calculation of the HLA insurance component and the HLA NI component will be calculated based on the BCR 2015, rather than the transitional BCR.

443. The calculations for the BCR and HLA Required Capital are automated in the Template.

11.2.2 HLA Overview

444. Additional details regarding the following are available from to the HLA Document, in particular Sections 4.1 and 4.4.

445. The HLA required capital formula is:

$$\begin{aligned} HLA \;=\; & HLA_Bucket_{TL}\, x\, TL_{BCR} \;+\; HLA_Bucket_{TNL}\, x\, TNL_{BCR} \\ & +\; HLA_Bucket_{NT}\, x\, NT_{BCR} \;+\; HLA_Bucket_{A}\, x\, A_{BCR} \\ & +\; HLA_Bucket_{NI-RB}\; x\, NI_RB_{BCR} \;+\; HLA_Bucket_{NI-UB}\, x\, NI_UB_{BCR} \\ & +\; HLA_Bucket_{NI-AUM}\, x\, NI_AUM_{BCR} \;+\; HLA_Bucket_{NI-O}\, x\, NI_O_{BCR} \end{aligned}$$

where

- The HLA-Bucket parameters are factors as given in Table 2 below.
- The exposure to which these factors are applied are the BCR Required Capital amounts computed using the full 2015 outcome.

11.3 BCR and HLA segments, exposure measures and factors for insurance related activities

446. The exposures and factors, for both the 2014 and the 2015 BCR Required Capital calculation are given in Table 16.

Table 16. BCR Required Capital Factors and Exposures

BCR segment	BCR proxy measure for risk exposure	Factor	BCR Factor: 2014 value	BCR Factor: 2015 value
Traditional Life (TL)				
Protection life	Net Amount At Risk	a_1	0.06%	0.080%
Participating products	Net Current Estimate	a_2	0.60%	0.80%
Annuities	Net Current Estimate	a_3	1.2%	1.6%
Other life	Net Current Estimate	a_4	0.60%	0.80%
Traditional Non-Life (TNL)				
Property	Premium Measure	b_1	6.3%	8.4%
Motor	Net Current Estimate	b_2	6.3%	8.4%
Casualty	Net Current Estimate	b_3	11.3%	15.0%
Other Non-Life	Net Current Estimate	b_4	7.5%	10.0%
Non-Traditional (NT)				
Variable annuities	Notional Value	c_1	1.2%	1.6%
Mortgage insurance	Risk in Force	c_2	4.0%	5.3%
GICS & Synthetic GICS	Notional Value	c_3	1.1%	1.46%
Other non-traditional	Net Current Estimate	c_4	1.3%	1.73%
Assets (A)				
Credit - investment grade	Fair Value	d_1	0.70%	0.93%
Credit - non investment grade	Fair Value	d_2	1.8%	2.4%
Equity, real estate & non-credit investment assets	Fair Value	d_3	8.4%	11.2%

447. All references to 'Net Current Estimate' in Table 15 are net of reinsurance ceded.

448. The exposures and factors, for both the HLA Required Capital calculation are given in Table 17.

Table 17. 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			

NI-AUM$_{BCR}$: Non-Insurance – Assets Under Management	12%	18%	27%
NI-O$_{BCR}$: Non-Insurance – Other			
NI-RB$_{BCR}$: Non-Insurance – Regulated Banking	8.5%	12.5%	18.75%
NI-UB$_{BCR}$: Non-Insurance – Unregulated banking	12.5%	18.75%	25%

449. The HLA exposures for insurance related risks are the BCR Required Capital amounts. Consequently, no additional data is required to be collected.

450. The HLA Required Capital amount is computed in the Template for all three buckets.

11.4 BCR data collection for insurance related activities

11.4.1 Assets

451. 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 *FT17.BCR+HLA* worksheet.

11.4.2 Insurance liabilities

452. For the calculation of the BCR Required Capital for insurance liabilities, Volunteer Groups are requested to report, in the *FT17.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;

453. 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 to 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

454. The notional value of financial guarantees is included in non-traditional life insurance liabilities. The notional value of variable annuities represents the present value of those pay-outs that

are contractually guaranteed to each policyholder as of the valuation date. Before hedging, the main risk of loss in this business relates to declining interest rates and equity market prices. Notional value is deterministic, independent of jurisdictional accounting standards and always results in a positive exposure. The notional value varies as the book of business ages, and captures many of key contract terms, particularly the roll-up rates and the equity market ratchet features.

455. 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.

456. Net risk in force for the mortgage insurance exposures measures the amount of the outstanding principal of the mortgage loans insured.

11.5 Non-insurance

457. 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)[22] requirements), and is computed as follows:

458. The BCR 2014 calculation is

$$\text{NI-}RB_{BCR} = 3\% \text{ Leverage ratio}$$

459. The BCR 2015 calculation is:

$$\text{NI-}RB_{BCR} = \text{Max [3\% Leverage ratio, 8\% RWA]}$$

460. The NI-UB_{BCR} component of the BCR required capital is computed as follows:

a) The BCR 2014 calculation is:

$$\text{NI-}UB_{BCR} = 3\% \text{ Leverage ratio}$$

b) The BCR 2015 calculation is the BCR 2014 calculation multiplied by a factor of 1.33

461. The NI-AUM_{BCR} component of the BCR required capital is computed as follows:

a) The BCR 2014 calculation is:

$$\text{NI-}AUM_{BCR} = 12\% \text{ of gross income from such activities}$$

b) The BCR 2015 calculation is the BCR 2014 calculation multiplied by a factor of 1.33

462. The NI-O_{BCR} component of the BCR required capital is computed as follows:

a) The BCR 2014 calculation is:

[22] 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.

NI-AUM$_{BCR}$ = 12% of gross income from such activities (averaged over the most recent three years)

b) The BCR 2015 calculation is the BCR 2014 calculation multiplied by a factor of 1.33

463. Financial activities that are subjected to neither banking nor insurance regulation, such as some securities operations[23], 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.

464. The above information will be captured as part of the *FT17.Baseline* worksheet.

11.6 BCR Under Stressed Economic Conditions

465. For 2017 Field Testing, the BCR is not being tested under stressed economic conditions.

[23] 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.

12 Consistent and comparable Margin Over Current Estimate

Relevant Worksheets in Template:	*ICS.MOCE* *ICS.MOCE.Patterns*	*Due 11 September 2017*

466. 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.

467. For the purposes of 2017 Field Testing, the IAIS is considering two alternative approaches:

a) The Cost of Capital MOCE (C-MOCE); and

b) The Prudence MOCE (P-MOCE).

468. The approaches chosen for 2017 Field Testing do not pre-empt the future development of alternative consistent and comparable approaches to MOCE. That applies to both the mechanics of the MOCE as well as any factors used in the calculation for the purposes of Field Testing.

12.1 Cost of Capital MOCE (C-MOCE)

469. Under this approach the MOCE could be expressed as:

$$MOCE = Cost\ of\ capital \cdot \sum_{t\geq 0} \frac{Expected\ capital\ required\ (t)}{(1+discount\ rate)^t}$$

470. The MOCE should be calculated individually for Life and Non-Life risks.

471. For the purpose of the 2017 Field Testing, two different approaches to the cost of capital in excess of the relevant risk free rate will be tested:

a) A fixed cost of capital set to be equal to 5%[24]; and

b) An adjusted cost of capital linked to another economic variable in order to reflect differences in the cost of capital in different economic environments at a given point in time and over time.

472. The expected capital required is defined as the aggregation of the ICS risk charges for a portfolio of assets and liabilities that minimise the ICS risk charges (i.e. excluding all hedgeable risks). As a simplified implementation of the assumptions above, the risks to be covered by the expected

[24] The 5% cost of capital is set for the purpose of Field Testing and will be revisited for future exercises. The cost of capital is determined based on the observed historical risk premia in excess of the risk free rate. In the future the IAIS will consider possible changes to that methodology including, but not limited to, linking the cost of capital to some economic variable(s).

capital required for the purpose of calculating the MOCE are (this initial step of calculation is embedded in the Template):

a) Insurance risks (covering Life and Non-Life risks with the adjustment of Premium risk to reflect that (in a post liability transfer situation) policies expiring during the one-year time horizon will not be renewed)[25]

b) Credit risk related to reinsurance recoverables[26]

c) Operational risk.

473. For the purpose of Field Testing, the C-MOCE should be calculated as follow:

a) **Step 1:** allocation of the various components of the ICS risk charges (e.g. Non-Life insurance risks, Catastrophe risk, components of Life insurance risk, reinsurance counterparty risk and Operational risk) between life and Non-Life business,

b) **Step 2:** projection of the capital required based on:

   i. the Volunteer Group's own run-off pattern for life insurance liabilities; and

   ii. the characteristics of the ICS segments provided by the IAIS for the Non-Life insurance liabilities.

c) **Step 3:** discounting of the projected ICS risk charges by applying the risk free rate for the relevant currency(ies).

d) **Step 4:** application of the cost of capital.

12.1.1 Step 1: Determination of the capital requirement for future period:

474. The ICS risk charges will be used as a starting point for the determination of the future capital requirement. The allocation of the projected ICS risk charges (in particular between Life and Non-Life risks) is performed in the Template.

475. Acknowledging the difference of durations and development between life and Non-Life insurance liabilities, the ICS capital requirement will be allocated between life and Non-Life insurance liabilities in order to project each component according to the relevant projection pattern (see the 'C-MOCE calculation' table in the Template). The allocation is automated in the Template, with the

[25] A more accurate calculation should consider all cash flows within the contract boundaries, so the adjustment using as a proxy 50% of the premium risk charge pre-diversification is a simplification for the purpose of Field Testing.

[26] For the purpose of Field Testing, Credit risk associated with the reinsurance recoverables is deemed the only non-hedgeable component of Credit risk.

exception of the allocation of the reinsurance credit risk which requires a manual entry. The allocation is performed as follows:

a) The relevant individual charges are retrieved from the relevant ICS components (pre-diversification);

b) A diversified amount is calculated (using the ICS aggregation rules and correlations) and allocated back based on the diversified amount;

c) The catastrophe component is allocated between life and Non-Life and to the three Non-Life patterns according to their characteristics;

d) The Life risks (Mortality, Longevity, Morbidity/Disability, Lapse and Expenses) are kept separate to allow for different projection patterns;

e) The Non-Life risk is allocated between short, medium and long tail based on the characteristics of the ICS segments provided by the IAIS;

f) The Operational risk charge is allocated between life and Non-Life as per its original calculation;

g) The Credit risk charge (associated with reinsurance recoverable) is allocated between life and Non-Life based on a percentage provided by Volunteer Groups – **Data entry required**.

12.1.2 Step 2: Projection of the capital required

476. The capital that will be required, over the future periods, to cover the run off of the insurance liabilities is calculated based on the capital requirement and projection patterns used to determine how the required capital will run down over time. The run-off pattern should reflect the run-off of the risks associated with the insurance liabilities. The chosen proxy for the determination of the run-off patterns for life risks is based on only outgoing cash flows (i.e. claims paid and associated expenses) associated with the related insurance liabilities. If separate patterns are provided for the different risks (e.g. mortality, longevity, lapse), the run-off patterns should be calculated using outgoing cash flows excluding the amount not exposed to risk. For example, maturity benefit cash flows for Mortality risk.

477. The IAIS will collect data to assess how to differentiate the projection pattern for life insurance risks. Two dimensions have been selected for 2017 Field Testing:

a) Currency: Volunteer Groups are allowed to utilise a maximum of seven currencies. If a Volunteer Group operates in more than seven currency zones, liabilities will have to be grouped based on their similarities regarding first the run-off patterns of the associated insurance risks and second regarding the level of risk free rate (applied for the discounting of the return to be provided on the future capital requirement).

b) Life insurance risks: all five life insurance risks are separated (mortality, longevity, morbidity/disability, lapse and expenses). This split by risk might be too granular and not relevant for some businesses. Some risks might be grouped more naturally if associated from the same insurance products. Based on the data collection the IAIS will assess which split and granularity is more appropriate. If a Volunteer Group determines that separate patterns are not relevant or appropriate for different life insurance risks, it could use the same (ultimately a unique) pattern across risks.

478. Life insurance risks data entry: in order to provide the data described above the data entry is split in two steps – **Data entry required**:

a) **Allocation table**: For each life insurance risk the percentage of the projected capital for that risk should be allocated among the selected currencies (maximum of seven). The sum for each risk across currencies should be 100%. This allows a maximum of 35 different patterns (7 currencies x 5 risks). However Volunteer Groups might choose to select less than 7 currencies and could use the same pattern for several risks if that appropriately represents their business.

b) **Individual patterns**: Patterns are to be calculated as the percentage of risks remaining at the end of each year, determined based on cash out flows as described above. When providing projection patterns, Volunteer Groups should be mindful that the C-MOCE formula embedded in the Template already accounts for the first term of the sum (i.e. t=0). The first factor to be populated in the Template is the projection at the end of the first year (expected to be lower than 100%)

479. For Non-Life insurance risks, a similar approach as for previous Field Testing exercises is adopted for 2017 Field Testing. The capital requirement is allocated to the ICS segments based on Non-Life individual risk charges. For each ICS segment, the capital required is projected based on three run-off patterns (short, medium and long tail) provided by the IAIS[27].

12.1.3 Step 3: Discounting

480. The projected capital requirements are discounted using the risk free rate for the relevant currency. The risk free rate and discount factors are provided in the 'Run off pattern' table. No input from Volunteer Groups is required.

12.1.4 Step 4: Application of the Cost of Capital

481. Two approaches for the cost of capital are embedded in the Template and applied to the discounted future capital requirements in order to calculate the C-MOCE:

a) A fixed 5% cost of capital; and

[27] As a trade-off between simplicity and risk sensitivity, three run-off patterns are tested.

b) An adjusted cost of capital linked to the level of the risk free interest rate with an absolute cap at 10% and an absolute floor at 3%. The link being tested for 2017 Field Testing is: cost of capital = 3% + 10 year risk free rate[28].

12.2 Prudence MOCE (P-MOCE)

482. The P-MOCE is calculated based on the current estimate of insurance liabilities and a proxy for estimation uncertainty. The P-MOCE reflects the risks/uncertainty of the reserve and, for Non-Life, premium estimates of each Volunteer Group.

483. For Non-Life, the approach is based on avoiding the recognition of future profits. Non-Life current estimates have two components: claims liabilities and premium liabilities – PL - (formerly known as the unearned premium provision). The latter covers cash flows associated with claims that have not yet occurred while the former covers claims that have already occurred. Given the differing nature of these risks, the P-MOCE for each will be calculated separately. For claims liabilities, where profits take the form of investment income on reserves, this takes the form of a discounting approach. The effect of discounting increases with the length of the cash flows, which is a proxy for estimation uncertainty. For unearned premiums, profits can result from investment and underwriting gains and can be calculated more directly using balance sheet inputs.

484. For Non-Life claims liabilities, P-MOCE is the difference between discounted and undiscounted claims liabilities as calculated net of reinsurance. These discounted liabilities are already entered on the worksheet *FT17.BCR&ICS.Balance Sheet*. The undiscounted claims liabilities should be calculated on the same basis but, instead of using the ICS yield curve, a discount rate of 0% should be used. The amounts entered here should tie with the total of the undiscounted net claims liabilities entered on the ICS.Non-Life type risk worksheets. The MOCE related to the Non-Life claims liabilities is floored at zero at the group level.

485. For premium liabilities, the P-MOCE will be the difference between liabilities (net of reinsurance) as implied by a combined ratio of 100% and the liability calculated using current estimate assumptions. The combined ratio that is used should include all expenses (acquisition, underwriting and other). The intent is to prevent the recognition of future profit. With P-MOCE, profits should (ideally) be recognized at the same expected rate that premiums are earned. On the day a policy is written, there should be no profit.

486. Significant reporting issues were identified in previous Field Testing exercises for the Current Estimate of Premium Liabilities. Lack of a consistent Current Estimate for Premium Liabilities presents difficulties in calculating a consistent MOCE. As such, more detail is being requested in the GAAP Plus and MAV sections of the Technical Specifications. Consequently, the data request for P-MOCE will be

[28] The choice of a risk free interest rate as the economic variable to link the cost of capital to is motivated by comments received from the ICS consultation and considering the related economic literature.

smaller than last year. While the definition will continue to be refined, some guidance on combined ratios can be found in the MAV section of the Technical Specifications. Note that the P-MOCE may be zero if the current estimate was calculated using a combined ratio of 100% (this is explicitly the case in one MAV simplification and implicitly the case in GAAP Plus for some jurisdictions). The calculation of the MOCE related to the Non-Life premium liabilities will be floored at zero at the group level (the floor will be embedded in the Template).

487. For Life insurance liabilities, a MOCE will be calculated in the Template. An estimated standard deviation for insurance liabilities will be computed for each Volunteer Group using the relevant aggregated ICS risk charges as a proxy for the stressed current estimate and assuming a normal distribution for the current estimate. A specified percentage of that standard deviation is taken as the measure of MOCE. For 2017 Field Testing that percentage is set at 66.7%[29]

[29] The presumption of a Normal Distribution and the initial percentage postulated of 66.7% are set aside for the purposes of Field Testing and will be revisited for future exercises.

13 The ICS risk charges

488. This section contains Technical Specifications for completing the worksheets for each of the risk charges identified for the ICS. The inclusion of the standard method risk charges does not prejudge any aspect of the ICS development; rather it provides a basis for continuing discussion and development. Five worksheets are provided to enable the calculation of the ICS risk charges on each of the five discounting options (three for MAV and two for GAAP Plus). While not all risk charges are required to be calculated on all five discounting options (as described in paragraph 490), the worksheets are designed to enable Volunteer Groups to provide all information, if deemed material. For 2017 Field Testing, all ICS risks, except Premium and Claims Reserve risk, are contained in each of the five risk worksheets. Note that separate worksheets are provided for Premium and Claims Reserve risk.

489. The main purpose of testing each of the risk charges in 2017 is to inform the design and calibration of ICS Version 2.0, to be finalised by the end of 2019. To this end, the design and calibrations included in this field test are subject to change as more fundamental calibration work is undertaken over the course of the ICS development.

490. Each risk charge within the standard method will be tested on both MAV and GAAP Plus bases in order to facilitate a comparison of the various components under the two valuation options. Each risk charge will be calculated using the selected benchmark options: the Blended option for MAV and currently-existing jurisdictional GAAP rules and any adjustments as previously defined under the 2016 Field Testing Technical Specifications for GAAP Plus. Use of the term "benchmark" in relation to MAV and GAAP Plus should not be construed to suggest that any particular option is indicative of the future direction in the development of the ICS. In addition, Volunteer Groups are requested to calculate Longevity risk and Interest Rate risk on all of the other discounting options within the two valuation approaches (i.e., MAV HQA option, MAV OAG option, and GAAP Plus HQA option). At the discretion of each Volunteer Group, other risk charges may be recalculated if it is viewed that the result would be materially different under different discounting options.

13.1 Approach

491. 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 (e.g. Mortality risk, Longevity risk, Interest Rate risk). Other risks are measured using a factor-based approach. Cases where this is appropriate include cases 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.

492. The risk charges will not be automatically aggregated as in past years to calculate an ICS capital requirement. Instead, an ICS simulation tool is included in the Template that enables Volunteer Groups to determine ICS ratios based on their data input. This will contain the full range of optionality on capital requirements, capital resources, valuation and MOCE that is currently under discussion at the IAIS. The correlation matrices to aggregate risk charges are provided but the calculation will not be automatically performed. Aggregation of risk charges will be able to be simulated based on the options chosen by Volunteer Groups in the ICS simulation tool.

493. The options set out in the ICS simulation tool may not be the full set of options considered for the development of ICS Version 2.0. As the simulation tool can produce ICS ratios based on the various possible combinations of options, care should be taken when interpreting the results produced by the tool. The IAIS will conduct its own analysis before drawing conclusions and recommendations based on the field testing results.

494. For the purpose of 2017 Field Testing, a global approach based on the consolidated effective tax rate is used to derive a notional tax adjustment in the ICS simulation tool. In order to inform the development of a holistic approach to the tax effects on ICS risk charges, further information is sought through the Questionnaire.

13.2 Calculation methods within the standard method

13.2.1 Look-through

495. For reasons of risk sensitivity and sound risk management, the look-through approach should apply to indirect investment and insurance arrangements whenever and to the extent possible on the basis of the underlying current exposures at a point in time.

496. When a full look-through is not possible, a partial look-through could be applied, along the lines as provided by the Basel III framework.[30] 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.

497. Finally, when no look-through is possible, the full investment should be considered as unlisted equity.

498. 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.

[30] http://www.bis.org/publ/bcbs266.htm.

499. 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.

13.2.2 Risk mitigation

500. Risk mitigation techniques should be recognised in the ICS risk charges as long as they meet the following principles:

a) The risk mitigation technique must be legally effective and enforceable in all relevant jurisdictions and there must be an effective transfer of risk to a third party.

b) The contractual arrangement ensures that the risk transfer is clearly defined.

c) The 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 makes reasonable allowance for any basis risk effects due to changes in risk mitigation assumptions and relationships during a stress scenario and there is appropriate treatment of any corresponding risks embedded in the use of risk mitigation techniques (e.g. Credit risk). These two effects should be separated.

d) The calculation should be made on the basis of assets and liabilities existing at the reference 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.

501. Where risk mitigation techniques are in force for a period shorter than 12 months and meet the qualitative criteria above, the risk mitigation effect is to be taken into account in the ICS risk charges in proportion to the length of time defined as:

a) where the risk exposure's term is less than 12 months, the proportion of the full term of the risk exposure that the risk mitigation technique is in place up to a maximum of 100% or

b) the proportion of 12 months that the risk mitigation technique is in place up to a maximum of 100%.

502. 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 should 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;

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;

d) The replacement of the risk-mitigation technique is not conditional on any future event, which is outside of the control of the Volunteer Group. Where the replacement of the risk-mitigation technique 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 and 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 (e.g. Credit risk) is taken into account in the ICS risk charges;

g) The hedge effectiveness and any related risks are monitored on an ongoing basis.

503. The recognition of the renewal of the risk mitigation arrangement will be limited such that the value attributed to the renewal element, net of all the potential costs that may be incurred from the implementation of the strategy, will not be more than 80% of the difference between applying a proportional recognition and a full recognition of the arrangement, excluding all costs.

Example:

Risk exposure = 1 year

Duration of inforce instrument = 3 months

Hedge proportion = 25%

Value recognised after costs and risk of renewal = 90

Value recognised before costs and risk of renewal = 100

Ratio of value = Value recognised net of costs /value recognised gross of costs = 90%

*In this example, where the criteria for recognition of renewal are **not** met, the proportion for which the risk mitigation effect is to be taken in to account will be equal to the hedge proportion i.e. 25%*

Where the criteria for recognition of renewal are met, the proportion for which the risk mitigation effect is to be taken in to account will be:

*= Minimum [hedge proportion + ((1- hedge proportion) * 80% /Ratio of value),1]*

*=Min [25% + ((1-.25%) * 80%/ 90%), 1] = 92%*

504. Separately, renewal of risk mitigation arrangements with respect to Non-Life premium and catastrophe risks 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 (that will be reflected on the financial statements).

c) Any additional risk stemming from the risk mitigation arrangement (e.g. Credit risk) is taken into account in the relevant ICS risk charges.

505. 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.

506. 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.

13.2.3 Geographical segmentation

507. For a number of risk charges, a geographical segmentation is used in Field Testing:

a) EEA and Switzerland

b) USA and Canada

c) China

d) Japan

e) Other developed markets

f) Emerging markets

508. The following table sets out the definitions of each region.

Table 18. Geographical Segmentation Definitions

Region	Countries 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 and Switzerland
USA and Canada	USA[31] and Canada
China	Mainland China, Macao SAR
Japan	Japan
Other developed[32]	Australia, New Zealand, Israel, San Marino, Korea, Singapore, Chinese Taipei, Hong Kong SAR
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 'emerging market'.

509. Note that that these are not the same regions used in the Equity risk section. The definition of emerging and developed markets used for Equity risk in 2017 Field Testing is based on the FTSE Developed Index and the FTSE Emerging Markets Index.

510. For the purpose of filling in information related to insurance business, the Template should be completed on the basis of location of the 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 related questions in the Questionnaire.

[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

[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)

13.2.4 Management actions

511. For the purposes of the standard method in 2017 Field Testing, the definition of "management actions" is confined to reductions in liabilities for future bonuses or other discretionary benefits.

512. Therefore the "After management actions" risk charges should only take into account these actions and the "Before management actions" positions must take into account no management actions whatsoever.

513. 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 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*

13.2.5 Margin Over Current Estimate (MOCE)

514. All stress-based calculations should include only current estimates in determining the Net Asset Value (NAV). Factors applied to insurance liabilities should only be applied to current estimates. MOCE should not be included.

13.3 Insurance risks

13.3.1 Grouping of Policies for Life Risks

515. A stress-based approach will be used for the 2017 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.

516. 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.

517. 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.

518. Homogeneous risk groups should be expected to be reasonably stable over time. Where necessary, Volunteer Groups should for the derivation of risks 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.

Feedback is sought in the Questionnaire related to the grouping used by the Volunteer Group

13.3.2 Mortality Risk

Relevant Worksheets in Template:	*FT17.ICS Risk Charge.MAV1* (required) *FT17.ICS Risk Charge.MAV2* (optional) *FT17.ICS Risk Charge.MAV3* (optional) *FT17.ICS Risk Charge.GAAP+1* (required) *FT17.ICS Risk Charge.GAAP+2* (optional)	*Due 11 September 2017*

519. For Mortality risk, a stress-based approach is applied in 2017 Field Testing. Under this approach, the value of the assets and the liabilities after the stress should reflect the impact of risk mitigating mechanisms.

520. 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.

521. Catastrophe Mortality risk is addressed as part of Catastrophe risk.

522. For the purposes of 2017 Field Testing, Volunteer Groups should estimate the risk charge for Mortality risk by stressing the level of mortality rates only.

523. The Mortality risk calculation only applies to those policies that are subject to Mortality risk.

524. 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 *FT17.ICS Risk Charge* to enable a comparison of the change in Net Asset Value (NAV) before and after management actions. In the Questionnaire, Volunteer Groups are also asked to provide a description of management actions taken, along with documentation of its internal policies and/or procedures that would allow for such actions.

525. The Technical Specifications for Mortality risk apply both to the MAV and GAAP Plus benchmark options. This section has been written from the perspective of the MAV benchmark option; while somewhat different valuation data might be input for the GAAP Plus benchmark option, the Mortality risk calculation is fundamentally the same for MAV and GAAP Plus. The Template has been designed to allow a voluntary recalculation of Mortality risk under any or all of the other discounting options within the two valuation approaches (i.e., MAV HQA option, MAV OAG option, and GAAP Plus HQA option) if it is viewed that the result would be materially different under different discounting options.

13.3.2.1 Geographical Segmentation

526. Volunteer Groups should provide data by the following geographical groupings:

a) EEA and Switzerland

b) USA and Canada

c) China

d) Japan

e) Other developed markets

f) Emerging markets

13.3.2.2 Input data required

527. Input data required are:

a) The base NAV, i.e. 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.

13.3.2.3 Output data

528. 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.

13.3.2.4 Calculation

529. The Mortality risk charge is calculated as:

$$Mortality\ Risk\ Charge = \Delta NAV \mid shock$$

Where:

$\Delta NAV \mid shock$ = Change in NAV, i.e. value of assets less insurance liabilities (not including changes in the margin over current estimates) 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, i.e. $(1 + \mathrm{x}\%) \times$ $base\ mortality\ assumptions$, with x as follows:

Table 19. Mortality Level Shocks

	X%
EEA and Switzerland	12.5 %
USA and Canada	12.5 %
China	12.5 %
Japan	12.5 %
Other developed markets	12.5 %
Emerging market	12.5 %

530. 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.

531. Volunteer Groups should then determine the change in NAV, taking into account realistic management actions, e.g. the Volunteer Group is able to change its assumptions on future bonus rates in response to the scenario; this is $Mortality\ Risk\ Charge^{\ mgmt}$.

532. The calibration proposed for the 2017 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.

533. For the purposes of 2017 Field Testing, no geographical diversification is assumed when calculating the Mortality risk charge.

534. 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.

13.3.3 Longevity Risk

Relevant Worksheets in Template:	*FT17.ICS Risk Charge.MAV1* (required) *FT17.ICS Risk Charge.MAV2* (required) *FT17.ICS Risk Charge.MAV3* (required) *FT17.ICS Risk Charge.GAAP+1* (required) *FT17.ICS Risk Charge.GAAP+2 (*required)	*Due 11 September 2017*

535. In 2017 Field Testing, a stress-based approach is applied to Longevity risk.

536. 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.

537. For the purposes of 2017 Field Testing, Longevity risk will return to a simplified approach similar to 2015 Field Testing. 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.

538. The Longevity risk calculation applies only to those policies that are subject to Longevity risk.

539. 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 *FT17.ICS Risk Charge* 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, along with documentation of their internal policies and/or procedures that would allow for such actions.

540. The Technical Specifications for Longevity risk apply to all discounting options under both the MAV and GAAP Plus approaches. This section has been written from the perspective of the MAV benchmark option; while somewhat different valuation data might be input for other MAV discounting options and the discounting options under the GAAP Plus approach, the Longevity risk calculation is fundamentally the same for MAV and GAAP Plus. Volunteer Groups are requested to calculate the Longevity risk charge on all five discounting options within the two valuation approaches (i.e., MAV Blended option, MAV HQA option, MAV OAG option, benchmark discounting for GAAP Plus and GAAP

Plus HQA option). The Template has been designed to collect Longevity risk data under all five discounting options within the two valuation approaches.

13.3.3.1 Geographical Segmentation

541. Volunteer Groups should provide data by the following geographical groupings:

a) EEA and Switzerland

b) USA and Canada

c) China

d) Japan

e) Other developed markets

f) Emerging markets

13.3.3.2 Input data required

542. Input data required:

a) The base NAV, i.e. 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.

13.3.3.3 Output data

543. 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.

13.3.3.4 Calculation

544. The Longevity risk charge is calculated as follows:

$$Longevity\ Risk\ Charge = \Delta NAV \mid shock$$

where

$\Delta NAV \mid shock$ = Change in net asset value, i.e. value of assets less insurance liabilities (not including changes in the margin over current estimates) 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 i.e. $(1 - x\%) \times base\ mortality\ assumptions$, with x as follows:

Table 20. Mortality shocks for Longevity Risk

	x%
EEA and Switzerland	17.5%
USA and Canada	17.5%
China	17.5%
Japan	17.5%
Other developed markets	17.5%
Emerging market	17.5%

545. 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.

546. Volunteer Groups should then determine the change in NAV, taking into account realistic management actions, e.g. the Volunteer Group is able to change its assumptions in future bonus rates in response to the scenario; this is the $\text{Longevity Risk Charge}^{\text{mgmt}}$.

547. 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.

548. The calibration proposed for the 2017 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.

549. For the purposes of 2017 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

13.3.4 Morbidity and Disability Risk

Relevant Worksheets in Template:	*FT17.ICS Risk Charge.MAV1* (required) *FT17.ICS Risk Charge.MAV2* (optional) *FT17.ICS Risk Charge.MAV3* (optional) *FT17.ICS Risk Charge.GAAP+1* (required) *FT17.ICS Risk Charge.GAAP+2* (optional)	*Due 11 September 2017*

550. The Technical Specifications for Morbidity/Disability risk apply both to the MAV and GAAP Plus benchmark options. This section has been written from the perspective of the MAV benchmark option; while somewhat different valuation data might be input for the GAAP Plus benchmark option, the Morbidity/Disability risk calculation is fundamentally the same for MAV and GAAP Plus. The Template has been designed to allow a voluntary recalculation of Morbidity/Disability risk under any or all of the other discounting options within the two valuation approaches (i.e., MAV HQA option, MAV OAG option, and GAAP Plus HQA option) if it is viewed that the result would be materially different under different discounting options.

551. 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.

552. Similar Morbidity/Disability benefits may be classified as life or Non-Life business (see below for definition of the scope of Morbidity/Disability risk).

553. 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.

13.3.4.1 Geographical Segmentation

554. Volunteer Group should provide data by the following geographical groupings:

a) EEA and Switzerland

b) USA and Canada

c) China

d) Japan

e) Other developed markets

f) Emerging market

13.3.4.2 Definition of the scope of the application of Morbidity/Disability risk

13.3.4.2.1 Segmentation

555. Morbidity/Disability risk is applied only to benefits evaluated on '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 and only 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 guarantee insurance liabilities are calculated on the basis of claims triangles, this guarantee should be classified into a Non-Life segment. If the morbidity guarantee insurance liabilities calculations are based on a disability/morbidity table, then this guarantee 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 guarantee 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.
• If the insurance liabilities calculation methodology changes when a policyholder declares a disability and takes into account biometrical variables from that moment, this disability guarantee should be classified into a life segment after the occurrence of the claim.

13.3.4.2.2 Sub risks to be covered

556. 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 (particularly including preventative health and well-being benefits)

557. For the purpose of the calculation of the risk charge for morbidity/disability, '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 be either 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 a 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 generally also 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, hospitalised, 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.

558. The "typical examples" provided above are indicative and are not meant to be exhaustive. The terminology may also vary across jurisdictions.

559. The distinction between "short-term recurring" and "long-term recurring" should generally be made according to the temporary vs. permanent characteristic of the recurring benefit. A benefit that is contractually limited to a given period (typically no more than 5 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 upfront short-term limitation, should be considered as "long-term recurring".

560. Each benefit category is divided into three segments by original contract term:

a) Short-term: Includes contracts with an original term of one year or less

b) Medium-term: Includes contracts with an original term longer than one year and up to five years

c) Long-term: Includes contracts with an original term longer than five years

Example

•Short-term recurring payments with long contract term (Category 3):

Medical benefit product with 10 year renewal or whole life term which provides hospitalisation benefit is typically categorized as short-term recurring payments with long contract term.

•Long-term recurring payments with short contract term (Category 4)

Group Disability contracts which are typically one year duration but the benefits could continue to be paid to individuals until age 65 or 70.

561. A policy/product may actually include coverage belonging to several of the above benefit categories. For instance, a policy may provide:

a) Regular payments in case of short-term (temporary) disability

b) Regular payments in case of long-term disability

c) A lump sum in case of critical illness

562. 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.

13.3.4.3 Input data required

563. Input data required are:

a) The base NAV, i.e. 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 contract duration segment

13.3.4.4 Output data

564. 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) $$Morbidity/Disability\ Risk\ Charge^{mgmt} = \sum_{i,j} Category_{ij}\ Risk\ Charge^{mgmt}$$

$$i = 1, 2, 3, 4$$

$$j = Short, Medium, Long$$

d) $$Morbidity/Diability\ Risk\ Charge = \sum_{i,j} Category_{ij}\ Risk\ Charge$$

$$i = 1, 2, 3, 4$$

$$j = Short, Medium, Long$$

e) $Category_{4,j}\ Risk\ Charge =$
$MAX(Inception\ Rate\ Risk\ Charge_{j,}\ Recovery\ Rate\ Risk\ Charge_j)$
$j = Short, Medium, Long$

565. If applying management actions per Category is not feasible, Volunteer Groups can apply management actions on an overall basis.

13.3.4.5 Calculation

566. 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 net asset value after applying the prescribed shocks, net of reinsurance and before management actions.

a) For benefit categories i = 1, 2 and 3:

Shock = Instantaneous increase of x_j% in 'inception rate,'

j = Short-term, Medium-term, Long-term with x_j as shown in the table 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, a 20% shock to the recovery rate is applied.

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 each of the three contract term segments as the maximum of (Inception Rate risk charge, 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 net asset value after applying the prescribed shocks, net of reinsurance and before management actions.

$shock$= 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 net asset value after applying the prescribed shocks, net of reinsurance and before management actions.

$shock$ = decrease in the recovery rate of 20% (same shock for all three contract durations – short, medium, long)

Table 21. Morbidity/disability risk shocks

Category (i)	Short-term	Medium-term	Long-term
1	20%	15%	10%
2	25%	20%	13%
3	20%	15%	10%
4	inception rate shock = 20%, recovery rate shock=20%	inception rate shock = 15%, recovery rate shock = 20%	inception rate shock = 10%, recovery rate shock = 20%

567. 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.

568. Volunteer Groups should then determine the change in NAV, taking into account realistic management actions, e.g. the Volunteer Group is able to change its assumptions in future bonus rates in response to the scenario.

13.3.5 Lapse Risk

Relevant Worksheets in Template:	*FT17.ICS Risk Charge.MAV1* (required) *FT17.ICS Risk Charge.MAV2* (optional) *FT17.ICS Risk Charge.MAV3* (optional) *FT17.ICS Risk Charge.GAAP+1* (required) *FT17.ICS Risk Charge.GAAP+2* (optional)	*Due 11 September 2017*

569. 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.

570. The Technical Specifications for Lapse risk apply both to the MAV and GAAP Plus benchmark options. This section has been written from the perspective of the MAV benchmark option; while somewhat different valuation data might be input for the GAAP Plus benchmark option, the Lapse risk calculation is fundamentally the same for MAV and GAAP Plus. The Template has been designed to allow a voluntary recalculation of Lapse risk under any or all of the other discounting options within the two valuation approaches (i.e., MAV HQA option, MAV OAG option, and GAAP Plus HQA option) if it is viewed that the result would be materially different under different discounting options.

Geographical Segmentation

571. Volunteer Groups should provide data by the following geographical groupings:

a) EEA and Switzerland

b) USA and Canada

c) China

d) Japan

e) Other developed markets

f) Emerging markets

Input data required

572. For the Level and Trend component, the input data required are:

a) The base NAV, i.e. the value of assets less insurance liabilities before applying the prescribed upward or downward shocks ("base NAV"), net of reinsurance;

b) The NAV after applying the prescribed upward or downward shocks ("Post Shock NAV"), net of reinsurance before management actions;

c) Effects of the management actions on Post Shock NAV, net of reinsurance.

573. For the Mass Lapse component, the input data required are:

a) The base NAV before applying the prescribed mass lapse shock ("base NAV"), net of reinsurance;

b) The NAV after applying the prescribed mass lapse shock ("Post Shock NAV"), net of reinsurance before management actions;

c) Effects of the management actions on Post Shock NAV, net of reinsurance.

574. 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 the estimation methodology in the Questionnaire.

575. A brief description of the management actions taken for both Level and Trend component and Mass Lapse component is also requested from the Volunteer Group in the Questionnaire.

Output data

576. The following output will be automatically calculated in the Template:

a) $Lapse\ Risk\ Charge =$ lapse risk charge before management actions

b) $Lapse\ Risk\ Charge^{mgmt} = \text{MAX}(Lapse\ Risk\ Charge_{level}^{mgmt}, Lapse\ Risk\ Charge_{mass}^{mgmt})$

c) $Lapse\ Risk\ Charge_{level}^{mgmt}$ = Lapse risk charge for Level and Trend component after management action

d) $Lapse\ Risk\ Charge_{mass}^{mgmt}$ = Lapse risk charge for Mass Lapse component after management action

Calculation

Level and Trend Component

577. 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:

$$Lapse\ Risk\ Charge_{up}^{mgmt} = Lapse\ Risk\ Charge_{up}\ after\ management\ actions$$

$$Lapse\ Risk\ Charge_{down}^{mgmt} = Lapse\ Risk\ Charge_{down}\ after\ managment\ actions$$

$$Lapse\ Risk\ Charge_{up} = \Delta NAV\ |shock_{up}$$

$$Lapse\ Risk\ Charge_{down} = \Delta NAV\ |shock_{down}$$

$\Delta NAV\ |\ shock$ = *Change in net asset value after applying the prescribed shocks, net of reinsurance and before management actions.*

$shock_{up}$ = *Increase of 40% in the assumed option take-up rates in all future years for all homogeneous groups adversely affected by such risk. Options that allow for a reduction in insurance coverage (e.g. options to partially or fully terminate cover) will be affected by the increase in take-up rates. Where an option allows for an increase in insurance cover (e.g. extension of cover), the 40% increase should be applied to the rate that would apply if the option is not taken up (i.e. not exercised). The resulting shocked lapse rate should not exceed 100%, i.e.* $MIN[100\%, (1 + 40\%) \times base\ option\ take\ up\ rate\ assumptions]$

$shock_{down}$ = *Decrease of 40% in the assumed option take-up rates in all future years for all homogeneous groups adversely affected by such risk. Options that allow for a reduction in insurance coverage (e.g. options to partially or fully terminate cover) will be affected by the decrease in take-up rates. Where an option allows for increase in insurance cover (e.g. extension of cover), the 40% reduction should be applied to the rate that would apply if the option is not taken up (i.e. not exercised). Resulting shocked*

lapse rate should be floored at 0%, i.e. $MAX[0\%, (1-40\%) \times$ *base option take up rate assumptions*]

578. For each geographical segment, $Lapse\ Risk\ Charge_{level}^{mgmt}$ should first be determined for each homogeneous risk group[34] before aggregating across all homogeneous risk groups in the same geographical segment.

579. $Lapse\ Risk\ Charge_{up}$ 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.

580. Volunteer Groups should then determine the change in NAV (net of reinsurance and not including changes in the margin over current estimates), taking into account realistic management actions e.g. 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 2 homogeneous groups for Region A

		Base NAV				
		Assets (a)	PV Benefits (b)	PV Expenses (c)	PV Premiums (d)	Current Estimate (e)=(b)+(c)-(d)
Homogenous Group 1	Base	100	200	20	150	70
Homogenous 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 Reins and before Management Actions)				
		Assets (a)	PV Benefits (b)	PV Expenses (c)	PV Premiums (d)	Current Estimate (e)=(b)+(c)-(d)
Homogenous Group 1	Upward Shock	100	150	10	100	60
	Downward Shock	100	220	30	160	90
Homogenous Group 2	Upward Shock	60	80	10	40	50

[34] Please refer to section on "Grouping of Policies" for details on how grouping should be done.

	Downward Shock	80	110	20	70	60

Assuming no effect of management actions

		Post Shock NAV (net of Reins and after Management Actions)				
		Assets	PV Benefits	PV Expenses	PV Premiums	Current Estimate
Homogenous Group 1	Upward Shock	100	150	10	100	60
	Downward Shock	100	220	30	160	90
Homogenous 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 ("ICS.Life type risk") for Region A
Lapse risk (Level and Trend component)

		Base NAV Net of Reins	Post Shock NAV (Net of Reins)(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

581. 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, net of reinsurance and before management actions.

$shock$ = immediate surrender of 30% of homogeneous risk groups of retail policies and an immediate surrender of 50% of homogeneous risk groups of non-retail policies.

582. For each geographical segment, the Mass Lapse component should first be determined for each homogeneous risk group before aggregating across all homogeneous risk groups in the same geographical segment. The Mass Lapse component for each homogeneous risk group is subject to a floor of zero, i.e. should not be negative.

583. $Lapse\ Risk\ Charge_{mass}$ should first be calculated under the condition that the scenario does not change the value of future discretionary benefits in the insurance liabilities.

584. Volunteer Groups should then determine the change in net asset value (net of reinsurance), taking into account realistic management actions, e.g. the Volunteer Group is able to change its assumptions in future bonus rates in response to the scenario; this will give $Lapse\ Risk\ Charge_{mass}^{mgmt}$.

585. 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 liabilities depending on the difference between the return the insurer is providing on its policies and the returns provided by competitors.

13.3.6 Expense Risk

Relevant Worksheets in Template:	*FT17.ICS Risk Charge.MAV1* (required) *FT17.ICS Risk Charge.MAV2* (optional) *FT17.ICS Risk Charge.MAV3* (optional) *FT17.ICS Risk Charge.GAAP+1* (required) *FT17.ICS Risk Charge.GAAP+2* (optional)	*Due 11 September 2017*

586. 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 expenses and overheads, management expenses and acquisition expenses excluding commissions expected to be incurred in future.

587. Expense inflation risk is the risk of expenses inflating at a higher rate than 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.

588. The Technical Specifications for Expense risk apply both to the MAV and GAAP Plus benchmark options. This section has been written from the perspective of the MAV benchmark option; while somewhat different valuation data might be input for the GAAP Plus benchmark option, the Expense risk calculation is fundamentally the same for MAV and GAAP Plus. The Template has been designed to allow a voluntary recalculation of Expense risk under any or all of the other discounting options within the two valuation approaches (i.e., MAV HQA option, MAV OAG option, and GAAP Plus HQA option) if it is viewed that the result would be materially different under different discounting options.

Geographical Segmentation

589. Volunteer Groups should provide data by the following geographical groupings:

a) EEA and Switzerland

b) USA and Canada

c) China

d) Japan

e) Other developed markets

f) Emerging markets

Input data required

590. Volunteer Groups should provide the following input data:

a) The base NAV, i.e. the value of assets less insurance liabilities before applying the prescribed shock ("base NAV"), net of reinsurance;

b) The base NAV after applying the prescribed shock ("Post Shock NAV"), net of reinsurance before management actions;

c) Effects of the management actions on Post Shock NAV, net of reinsurance.

d) Change in NAV net of reinsurance and after management actions for both the unit expense component and expense inflation component

591. 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 the estimation methodology in the Questionnaire.

592. A brief description of the management actions taken for each region for both the unit expense component and expense inflation component is also requested from the Volunteer Group in the Questionnaire.

Output data

593. 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.

Calculation

594. The expense risk charge is calculated as:

$$Expense\ Risk\ Charge = \Delta NAV \mid shock$$

Where:

$\Delta NAV \mid shock$ = Change in the net asset value after applying the prescribed shock

$shock$ = Increase of x% in unit expense assumptions, i.e. $(1 + x\%) \times base\ unit\ expense\ assumptions$; and an additive increase of y% per annum in expense inflation, with x and y as follows:

Table 22. Expense risk shocks

	x% ***(unit expense)***	***y%*** ***(expense inflation)***
EEA and Switzerland	6%	1%
USA and Canada	6%	1%
Japan	6%	1%
Other developed markets	8%	Year 1 – 10: 2%; Year 11 onwards: 1%
China and Emerging Markets	8%	Year 1 – 10: 3%; Year 11 – 20: 2%; Year 21 onwards: 1%

595. The shocks to the unit expense and expense inflation assumptions should be applied simultaneously.

596. 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.

597. Volunteer Groups should then determine the change in NAV, taking into account realistic management actions, e.g. the Volunteer Group is able to change its assumptions in future bonus rates in response to the scenario; this will give $Expense\ Risk\ Charge^{\ mgmt}$.

13.3.7 Premium Risk and Claims Reserve Risk

Relevant Worksheets in Template:	*FT17_NL* *FT17_NL1_EEA* *FT17_NL2_NorthAmerica* *FT17_NL3_Japan* *FT17_NL4_China* *FT17_NL5_Dev* *FT17_NL6_Emerging*	*Due 11 September 2017*

598. The Technical Specifications for Premium risk and Claims Reserve risk apply both to the MAV and GAAP Plus benchmark options. This section has been written from the perspective of the MAV benchmark option; while somewhat different valuation data might be input for the GAAP Plus benchmark option, the Premium risk and Claims Reserve risk calculation is fundamentally the same for MAV and GAAP Plus. The Template has been designed to allow a voluntary recalculation of Premium risk and Claims Reserve risk under any or all of the other discounting options within the two valuation approaches (i.e., MAV HQA option, MAV OAG option, and GAAP Plus HQA option) if it is viewed that the result would be materially different under different discounting options.

599. Premium risk and Claims Reserve risk in Field Testing are captured by a factor-based approach, with a factor applied to segments within defined regions.

13.3.7.1 Geographical Segmentation

600. All data items in the worksheets will be aggregated into the following geographical segments:

a) EEA and Switzerland

b) USA and Canada

c) Japan

d) China

e) Other developed markets

f) Emerging markets

601. See section 13.2.3 for further details on the definitions of these geographical segments.

13.3.7.2 Segments/lines of business

602. The worksheets should be completed on the basis of location of the 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 related questions in the Questionnaire.

603. Each of the first four regions (EEA and Switzerland, USA and Canada, Japan and China) is segmented into lines of business based on statutory reporting in those regions.

604. Additional countries (Australia and New Zealand, Hong Kong SAR, Korea, Singapore, Chinese Taipei) are segmented into lines of business based on statutory reporting. For countries not listed, the segmentation in the following paragraph should be used.

605. Exposures to risks in countries not listed should be reported as part of 'other developed' or 'emerging markets', using the following segmentation:

a) Motor

b) Property damage

c) Accident, protection and health (APH)

d) Non-proportional motor, property damage and APH

e) Workers' compensation

f) Public liability

g) Product liability

h) Professional indemnity

i) Other liability

j) Non-proportional public liability

k) Non-proportional product liability

l) Non-proportional professional indemnity

m) Non-proportional other liability

n) Marine, Aviation, Transport (MAT)

o) Non-proportional MAT

p) Catastrophe reinsurance

q) Other short tail

r) Other medium tail

s) Other long tail

t) Mortgage insurance

u) Commercial credit insurance

v) Other non-traditional

606. The IAIS has provided definitions of lines of business at the end of this section.

607. For the purposes of Field Testing, each line of business 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). Please note the introduction of the motor-like ICS category for 2017 Field Testing.

b) a risk factor for the purpose of calculating the risk charge: each line of business has been assigned to one of fifteen buckets for Premium risk and one of fifteen buckets for Claims Reserve risk. Each bucket has been assigned a corresponding risk factor that is based on the associated risk of that line of business, and the factors aim to increase the exposure measures to a 99.5% VaR measure of the risk. Please note the increase in the number of buckets (both for Premium and Claims Reserve risks) for 2017 Field Testing.

13.3.7.3 Input data required

608. A worksheet is provided for each region in the geographical segmentation. Volunteer Groups should report the following amounts for each relevant region and segment within that region:

609. PREMIUM RISK

a) Net Earned Premium – most recent financial year ("FY") – Report the net earned premium as defined under statutory reporting in that country/region for the latest financial year (e.g. from 1 January 2016 to 31 December 2016 for end of December reporting date). The amount should be net of ceded reinsurance.

b) Net Premium to be earned ("FY +1") – Report the expected premium to be earned in the next financial year (e.g. from 1 January 2017 to 31 December 2017 for end of December reporting date). This figure should be consistent with the business already written and must include expected new business. It should be net of ceded reinsurance subject to section to 13.2.2 on the recognition of risk mitigation.

c) Net Written Premium – most recent financial year ("FY") – Report the net written premium as defined under statutory reporting in that country/region for the latest financial year (e.g. from 1 January 2016 to 31 December 2016 for end of December reporting date). The amount should be net of ceded reinsurance.

d) 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. Note that some risk factors have been revised for 2017 Field Testing based on data collected from Volunteer Groups.

610. RESERVE RISK

a) Net Current Estimates (discounted) – financial year minus 1 ("FY -1") – Report the net current estimate as at the end of the previous financial year (e.g. from 1 January 2015 to 31 December 2015 for end of December reporting date). For more information on the determination of current estimates, refer to section 6.3. This data is not used for the calculation of the ICS and is therefore optional. It will assist the IAIS in considering other ways to calibrate the ICS and the IAIS encourages Volunteer Groups to provide this data.

b) Net Current Estimates (discounted) – most recent financial year ("FY") – Report the discounted net current estimate as at the end of the most recent financial year (e.g. from 1 January 2016 to 31 December 2016 for end of December reporting date). For more information on the determination of current estimates, refer to section 6.3.

c) Net Current Estimates (undiscounted) – ("FY(undisc)") – Report the net current estimate as at the end of the most recent financial year (e.g. from 1 January 2016 to 31 December 2016 for end of December reporting date) on an undiscounted basis. For more information on the determination of Current Estimates, refer to section 6.3.

d) The Claims Reserve risk charge for a segment is calculated as the relevant risk factor multiplied by the net current estimate. Note that some risk factors have been revised for 2017 Field Testing based on data collected from Volunteer Groups.

13.3.7.4 Aggregation

611. Aggregation is automated within the Template. Volunteer Groups do not have to enter any data with respect to the aggregation.

612. For the purposes of Field Testing, risk charges for each line of business or segment in each region are not simply added together, thus recognising that there is diversification across lines of business and regions.

613. The first step of aggregation is to combine each line of business' Premium risk and Claims Reserve risk (applying a 25% correlation between 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 region, where a correlation matrix is applied to the sum of each of the four IAIS categories (applying a 50% correlation between ICS categories). The third 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).

614. Mortgage business and credit business are added across all regions and then aggregated with Real Estate risk and Credit risk, respectively.

13.3.7.5 Definition of lines of business and risk charges

615. The following table provides the definitions of lines of business as well as the risk charges for Premium and Claims Reserve risks.

616. The factors below reflect the results of the calibration exercise conducted following 2016 Field Testing. While this effort resulted in updated factors for a number of segments, the calibration process is on-going and there may be further changes in the future.

Table 23. Definitions for Non-Life Lines of Business Segmentation

ICS Segment	**Definition**	Premium risk factor	Claims Reserve risk factor
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%
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%
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%	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%
EEA and Switzerland/Motor, other classes	Insurance obligations which cover all damage to or loss of land vehicles (including railway rolling stock).	20%	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%
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%
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%	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%
EEA and Switzerland/Legal expenses	Insurance obligations which cover legal expenses and cost of litigation.	15%	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%
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%
EEA and Switzerland/Non-proportional health reinsurance	Reinsurance on a non-proportional basis of health insurance classes	50%	45%

EEA and Switzerland/Non-Proportional Casualty reinsurance	Reinsurance on a non-proportional basis of casualty classes (motor vehicle liability and general liability)	55%	40%
EEA and Switzerland/Non-proportional marine, aviation and transport reinsurance	Reinsurance on a non-proportional basis of marine, aviation and transport	55%	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%
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 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.	35%	25%
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%
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%
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%
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	45%	35%

	2. the loss of, the loss of use of, or damage to, an aircraft.		
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%
Canada/Automobile - other	Insurance against the loss of, the loss of use of, or damage to, an automobile;	35%	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%
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%
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%

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%
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%
Canada/Hail	Insurance against the loss of, or damage to, crops in the field caused by hail.	35%	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%
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 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	50%	35%
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%
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%
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;	35%	30%

	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.		
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%
Canada/ Accident and Sickness		45%	30%
Canada/Other Approved Products	Insurance against risks that do not fall within another class of insurance.	45%	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%
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 (e.g. mobile equipment and livestock), barns, stables, other farm structures and farm inland marine.	30%	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, e.g., 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 (e.g., off road construction	25%	17.5%

	equipment), or scheduled property (e.g., 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.		
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%
US/ Commercial auto/ truck liability/ medical	Similar to private passenger auto liability/medical, except for commercial vehicles.	15%	15%
US/ Worker's 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 law liability for injuries to employees (as distinguished from the liability imposed by Workers' Compensation Laws). Excludes excess workers' compensation	15%	15%
US/ Commercial multi-peril	[Note that, in 2016 Field Testing, this was allocated to two segments; for 2017 Field Testing these segments have been merged] 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 farm owners, homeowners and automobile policies.	30%	25%
US/ Medical professional liability -- Occurrence	[Note that for 2017 Field Testing, medical professional liability is being split into Occurrence and 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 events occurring during the policy coverage period.	40%	45%

US/ Medical professional liability – Claims-Made	[Note that for 2017 Field Testing, medical professional liability is being split into Occurrence and 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%
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%	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%
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	45%	40%

	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.		
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%
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%	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 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.	30%	25%
US/Mortgage insurance	Mortgage guaranty is indemnification of a lender from loss if a borrower fails to meet required mortgage payments.	45%	30%
US/Fidelity/surety	Fidelity is a bond covering an employer's loss resulting from an employee's dishonest act (e.g., 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	35%	40%

	obligation in response to the default, acts, or omissions of a third party.		
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%
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%
US/Other non-traditional Non-Life insurance	Coverages not included elsewhere that are non-traditional. Note this class is included for consistency in naming with 2015 Field Testing; uncertainty in the definition of NTNI may make it difficult to map business to this segment.	25%	45%
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%
Japan/Fire	This insurance covers property damage for either commercial or household caused by fire, windstorm, hail, water damage and earthquake	20%	35%
Japan/Hull	This insurance covers damage of vessel.	40%	35%
Japan/Cargo	This insurance covers damage on good and property in transit by vessel.	35%	40%
Japan/Transit	This insurance is called as Inland marine, which covers property being transported by other than vessel or aircraft.	40%	35%
Japan/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.	10%	15%
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.	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%
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%
Japan/Machinery	This insurance protects the insured against loss incurred as a result of machinery breakdown.	35%	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%	25%
Japan/Contractor's All Risks	This insurance is purchased by contractors to cover damage to property under construction.	35%	40%
Japan/Movables All Risks	This insurance covers loss or damage to property other than motor, aircraft and vessel.	17.5%	25%
Japan/Worker's 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%	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%
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%
Japan/Others	Any other Non-Life insurance not listed above should be included	35%	40%
China/Motor	A vehicle insurance that the object of insurance is vehicle itself and related liability to pay compensation.	10%	20%
China/Property, including commercial, personal and engineering	Insurance that the object of insurance is property and related interests.	30%	45%

China/Marine and Special	Insurance that the object of insurance is watercraft and related liability to pay compensation.	25%	45%
China/Liability	Insurance that the object of insurance is assumed liability of the insurant to pay compensation to the third party	10%	35%
China/Agriculture	Insurance that the object of insurance is the property loss of agriculture caused by disasters.	25%	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%
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%
China/Short-term Health	Health insurance that the period of insurance is no more than one year and without guaranteed renewable terms.	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%
China/Others	Other insurances.	35%	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%
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%
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%

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	30%	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%
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%
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%
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%	25%
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%
Australia&NZ/ Other type B	Other classes of business with similar characteristics to Fire & ISR, marine, aviation, consumer credit and other accident This class also covers proportional reinsurance of other type B	35%	25%
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%

Australia&NZ/ CTP	Compulsory Third Party business This class also covers proportional reinsurance of CTP	45%	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%	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%
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%	35%
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%
Australia&NZ/ Householders - non-prop reins	Non-Proportional reinsurance of householders business (refer definition)	45%	30%
Australia&NZ/ Commercial Motor - non-prop reins	Non-Proportional reinsurance of commercial motor (refer definition)	45%	30%
Australia&NZ/ Domestic Motor - non-prop reins	Non-Proportional reinsurance of domestic motor business (refer definition)	45%	30%
Australia&NZ/ Other non-prop reins type A	Non-Proportional reinsurance of other type A business (refer definition)	45%	30%

Australia&NZ/ Travel - non-prop reins	Non-Proportional reinsurance of travel business (refer definition)	45%	35%
Australia&NZ/ Fire and ISR - non-prop reins	Non-Proportional reinsurance of Fire & ISR business (refer definition)	55%	40%
Australia&NZ/ Marine and Aviation - non-prop reins	Non-Proportional reinsurance of marine and aviation business (refer definition)	55%	40%
Australia&NZ/ Consumer Credit - non-prop reins	Non-Proportional reinsurance of consumer credit business (refer definition)	55%	40%
Australia&NZ/ Other Accident - non-prop reins	Non-Proportional reinsurance of other accident business (refer definition)	55%	40%
Australia&NZ/ Other non-prop reins type B	Non-Proportional reinsurance of other type B business (refer definition)	55%	35%
Australia&NZ/ Mortgage - non-prop reins	Non-Proportional reinsurance of mortgage business (refer definition)	50%	35%
Australia&NZ/ CTP - non-prop reins	Non-Proportional reinsurance of CTP business (refer definition)	55%	40%
Australia&NZ/ Public and Product Liability - non-prop reins	Non-Proportional reinsurance of public and product liability business (refer definition)	55%	40%
Australia&NZ/ Professional Indemnity - non-prop reins	Non-Proportional reinsurance of professional indemnity business (refer definition)	55%	40%
Australia&NZ/ Employers' Liability - non-prop reins	Non-Proportional reinsurance of employers' liability business (refer definition)	55%	40%
Australia&NZ/ Other non-prop reins type C	Non-Proportional reinsurance of other type C business (refer definition)	55%	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%

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%	20%
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%
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%
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 (i.e. include goods in transit via motor, aircraft, ships and other transport).	45%	40%
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%	30%
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%	35%
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	45%	35%

	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).		
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%	35%
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%
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 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 oversea	25%	30%

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%
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 of artificial satellites (liability for damages) 8) other maritime: marine insurance products other than those classified above	45%	45%
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	35%	50%

	a long time, such as students studying abroad and personnel stationed abroad (long stay abroad). 3) others: injury insurance products not listed above		
Korea/Workers accident, liability	This includes insurance for workers' compensation for accidents and insurance for liability. - Worker's 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%	30%
Korea/Foreigners	This includes insurance for injury, travel and others provided for foreigners.	15%	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%
Korea/Other Non-Life	General insurance products other than those specified above.	45%	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%

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%
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%
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%
Korea/Other motor	Automobile insurance other than insurance products specified above.	15%	20%
Singapore/Personal Accident	Refers to the insurance business of writing personal accident policy.	30%	25%
Singapore/Health	Refers to the insurance business of writing health policy.	25%	20%
Singapore/Fire	This insurance covers property damage for either commercial or household caused by fire, windstorm, hail, water damage and earthquake	30%	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%
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%

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%	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%
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%
Singapore/Credit	Insurance protecting against the risk of non-payment of goods and services by buyers and importers	35%	30%
Singapore/Mortgage	Insurance protecting against losses on mortgage loans arising from default by borrowers	35%	30%
Singapore/Others- non liability class	Other non-liability classes not covered elsewhere	35%	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 airport operator insurance and insurance against aerospace risks.	45%	35%
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%

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%	30%
Singapore /Others-liability class	Other liability classes not covered elsewhere	35%	30%
Chinese Taipei / Fire - residence	Fire insurance for personal residence	25%	40%
Chinese Taipei / Fire - commercial	Fire insurance for commercial building	55%	45%
Chinese Taipei / Marine - inland cargo	Marine insurance for inland cargo	30%	25%
Chinese Taipei / Marine - overseas cargo	Marine insurance for overseas cargo	30%	25%
Chinese Taipei / Marine - hull	Marine insurance for hull	55%	45%
Chinese Taipei / Marine - fish boat	Marine insurance for fish boat/vessel	45%	45%
Chinese Taipei / Marine - aircraft	Aviation insurance for aircraft	55%	45%
Chinese Taipei / Motor - personal vehicle	Motor insurance for personal vehicle	25%	25%
Chinese Taipei / Motor - commercial vehicle	Motor insurance for commercial vehicle	25%	25%
Chinese Taipei / Motor - personal liability	Motor insurance for personal liabilities	25%	25%
Chinese Taipei / Motor - commercial liability	Motor insurance for commercial liabilities	25%	25%
Chinese Taipei / Liability - public, employer, product, etc.	Public liability insurance, employer liability insurance, product liability insurance, etc.	35%	35%
Chinese Taipei / Liability - professional	Professional liability insurance	35%	35%

Chinese Taipei/ Engineering	Engineering insurance	55%	45%
Chinese Taipei / Nuclear power station	Insurance for nuclear power station	55%	45%
Chinese Taipei / Guarantee - surety, fidelity	Surety insurance, fidelity insurance, mortgage insurance, etc.	55%	45%
Chinese Taipei / Credit	Trade credit insurance, credit card insurance, small-amount loan credit insurance, etc.	55%	45%
Chinese Taipei /Other property damage	Property damage insurances not included in other LOBs, e.g. cash insurance, theft insurance, glass insurance, etc.	35%	40%
Chinese Taipei / Accident	Accident insurance for personal injuries or death	15%	10%
Chinese Taipei / Property Damage - commercial earthquake	Earthquake insurance (other than compulsory earthquake insurance)	45%	35%
Chinese Taipei / Comprehensive - personal property and liability	Comprehensive insurance for personal property and liabilities	45%	45%
Chinese Taipei / Comprehensive - commercial property and liability	Comprehensive insurance for commercial property and liabilities	45%	45%
Chinese Taipei / Property damage - typhoon and flood	Typhoon and flood insurance	55%	45%
Chinese Taipei / Property damage - compulsory earthquake	Compulsory earthquake insurance (compulsory for personal residence)	55%	45%
Chinese Taipei / Health	Health insurance	15%	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:	Devel. 30% Emerg. 35%	Devel. 20% Emerg. 25%

	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.		
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%
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 liability: Private individual's liability for personal injury through personal actions or property	35%	30%
OTHER/ Other 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.	35%	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%
OTHER/ Other 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.	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%	35%
OTHER/ Public liability	Public liability insurance for bodily injury or damage to property	Devel. 35% Emerg. 45%	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. 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%
OTHER/ Other liability	All other liability classes not covered elsewhere	Devel. 35% Emerg. 45%	35%
OTHER/ Other 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.	Devel. 35% Emerg. 45%	35%
OTHER/ Non-proportional motor, property damage and APH	Non-Proportional reinsurance of motor, property damage and accident/protection/health business (refer definition)	50%	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%
OTHER/ Non-proportional MAT	Non-Proportional reinsurance of marine, aviation and transport (refer definition)	50%	Devel. 40% Emerg. 45%
OTHER/ Non-proportional public liability	Non-Proportional reinsurance of public liability (refer definition)	50%	Devel. 40% Emerg. 45%
OTHER/ Non-proportional product liability	Non-Proportional reinsurance off product liability (refer definition)	50%	Devel. 40% Emerg. 45%
OTHER/ Non-proportional professional indemnity	Non-Proportional reinsurance of professional indemnity (refer definition)	50%	Devel. 40% Emerg. 45%
OTHER/ Non-proportional other liability	Non-Proportional reinsurance of other liability (refer definition)	50%	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%
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%
OTHER/ Other non-traditional	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.	Devel. 50% Emerg. 55%	40%

13.3.8 Catastrophe Risk

Relevant Worksheets in Template:	*FT17.ICS Risk Charge.MAV1* (required) *FT17.ICS Risk Charge.MAV2* (optional) *FT17.ICS Risk Charge.MAV3* (optional) *FT17.ICS Risk Charge.GAAP+1* (required) *FT17.ICS Risk Charge.GAAP+2* (optional)	*Due 11 September 2017*

617. The Technical Specifications for Catastrophe risk apply both to the MAV and GAAP Plus benchmark options. This section has been written from the perspective of the MAV benchmark option; while somewhat different valuation data might be input for the GAAP Plus benchmark option, the Catastrophe risk calculation is fundamentally the same for MAV and GAAP Plus. The Template has been designed to allow a voluntary recalculation of Catastrophe risk under any or all of the other discounting options within the two valuation approaches (i.e., MAV HQA option, MAV OAG option, and GAAP Plus HQA option) if it is viewed that the result would be materially different under different discounting options.

618. 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 may take into account expected business volumes including expected new business to be written during the next 12 months.

619. Also included within Catastrophe risk is a 'latent liability' scenario. The purpose of this scenario is to capture risk on liability exposures that is not adequately captured by historical claims experience. While analogous, there are some fundamental differences. As usually understood, a catastrophe results in sudden and mass destruction and only poses a threat to business inforce at the time of occurrence. Latent liability exposure can develop over many years and can also affect written business that has already been fully earned.

620. Allowance may be made for any risk mitigation arrangements, e.g. 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, and the costs of renewal within the time horizon are taken into account (see section 14.2.2 on risk mitigation). The Catastrophe risk charge is calculated assuming that the payments from 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 13.5 on Credit risk). The calculation of the recoverable amount by rating category is described at the end of this section.

621. Catastrophe risk is segmented at the risk/peril level. “Peril” is interpreted in its broader sense to cover both naturally occurring perils (“natural catastrophe”) and man-made perils/scenarios (“other catastrophe”) and their consequences.

13.3.8.1 Scope of calculation

622. 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.

623. The impact of catastrophe claims events should include not only the main peril (e.g. 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.

624. 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 the purpose of Field Testing, if the Volunteer Group establishes that its possible exposure to a specific scenario is immaterial, then a detailed calculation is not required. In such cases, Volunteer Groups should provide explanations in the Catastrophe risk part of the Questionnaire.

625. Volunteer Groups are required to 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 (i.e. net of inward reinstatement premium). The amounts reported net of protections should take into account any reinstatement premiums received and paid (i.e. net of inward and outward reinstatement premium).

13.3.8.2 Input data required

626. Volunteer Groups are required to 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:

(1) Flood

(2) Tornado, hail, convective storms

(3) Other risks

b) Other catastrophe scenarios

i. Terrorist attack

ii. Latent Liability

iii. Pandemic

iv. Credit and surety

13.3.8.3 Natural catastrophe

627. For the purpose of Field Testing, Volunteer Groups are required to report the total annual aggregate loss amounts for the perils, risk measures and confidence levels specified in the Template:

a) losses gross of protections (e.g. gross of external reinsurance protections);

b) losses net of protections (e.g. 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.

628. 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 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.

629. For Field Testing, Volunteer Groups are allowed to use stochastic catastrophe models (vendor or proprietary) to calculate the loss amounts resulting from natural catastrophe events.

630. The calculation should include the secondary perils/effects associated with the primary peril modelled such as, but not limited to, fire following earthquake, storm surge and including demand surge and loss amplification, if relevant.

13.3.8.4 Other catastrophe scenarios

631. For catastrophe exposures other than natural perils, Volunteer Groups are requested to 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.

632. 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.

13.3.8.4.1 Terrorist attack

633. 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 (e.g. business interruption); and

b) the losses from life insurance contracts, health coverage and workers compensation.

634. The scenario is a 5-tonne bomb blast and should be calculated for the largest geographical risk concentration partly or fully located within a radius of 500 meters. In determining this concentration, all buildings (including own-use properties) should be considered.

635. For property damage and related covers (e.g. business interruption), a 100% damage ratio within a circular zone of a 200m radius, 25% damage ratio for the following circular zone up to a 400m radius and a 10% damage ratio beyond 400m up to 500m should be assumed. Property damage should take into account insured properties. For fatalities, a 15% fatality rate within a circular zone of a 200m radius and a 1.5% fatality rate beyond 200m up to 500m should be assumed. For disabilities, a 20% disability rate within a circular zone of a 200m radius, and a 10% disability rate beyond 200m up to 500m should be assumed. Fatalities and disabilities should only take into account liabilities from insurance contracts (e.g. life and health insurance policies). In particular for 2017 Field Testing the liabilities to own staff not originating from insurance contracts (e.g. 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.

13.3.8.4.2 Latent Liability

636. The scenario for latent liability risks presented below covers "mass tort". Further scenarios, along with refinements to the approach, specifically for product liability, are under consideration

637. The scenario is that, during the one-year time horizon considered for the ICS risk charges, for example following a court decision, a general and potentially legally enforceable opinion emerges that a specific product or substance causes observed or potential future adverse effects such as bodily injury, property damage or environmental damage. This is expected to lead, during the year and later, to claims on the product liability insurance of the producers, followed by mass litigation against companies that are distributing or using or have distributed or used the product or substance, leading to an accumulation of potentially worldwide claims on general commercial liability and workers compensation/employers liability insurance policies. Losses can be incurred on many policy years. These not only include the current policy year but also prior years not excluded by policy terms such as "claims made" coverage or statutes of limitations. The scenario takes into consideration that the amount recognised at the end of the one-year time horizon is smaller than the maximum possible ultimate loss from the scenario, due to incompleteness of available information and uncertainty on the subsequent development.

638. The net loss to the Volunteer Group from the scenario is the one-year current estimate reserve increase due to the scenario and is calculated by applying prescribed factors to Volunteer Groups' exposure measures for each latent liability segment, where a latent liability segment is a combination of:

a) line of business: product liability; general commercial liability, employers liability/workers compensation;

b) region: "EEA and Switzerland", "USA and Canada", "Japan", "China", "Other developed markets", "Emerging markets"; and

c) type of business: direct and proportional, non-proportional

639. Note that these segments do not map perfectly onto the segments used in ICS reporting. A mapping to the closest available segment is provided in the Template. Generally speaking, where more than one of the following classes is contained in a segment, the factors for General Commercial Liability are used. To refine the mapping for the most material segments, a breakdown is requested for the following segments. Note that refinement of the segmentation is also being considered in the broader Non-Life context. There are questions addressing more general segmentation issues at the beginning of the 'Premium and Claims Reserve' section of the Questionnaire.

a) EEA&Switzerland "General liability – third party liability" into "general commercial liability – losses occurring", "product liability – losses occurring" and the remainder.

b) EEA&Switzerland "Non-Proportional Casualty reinsurance" into general commercial liability – losses occurring – non-proportional", "product liability – losses occurring – non-proportional" and the remainder.

c) For USA & Canada "Reinsurance – non proportional assumed liability" into "reinsurance – non-proportional general commercial liability", "reinsurance – non-proportional product liability" and the remainder.

640. In addition and in contrast to 2016 Field Testing, the segment "EEA & Switzerland Workers' Compensation" is included

641. The exposure factors for each segment deemed to be impacted by the scenario are determined so as to reflect that multiple policy years could be impacted (taking into consideration the potential time period during which the product and substance has been on the market). In the analysis to develop the factors, the number of affected policy years was assumed to be eight years for all latent liability segments with the exception of the line of business employers' liability/workers compensation and the region "USA and Canada", for which it is 3 years, reflecting local statutes of limitations.

642. The Volunteer Groups' exposure measure is defined as the average of the net earned premiums for the current policy year and the previous seven policy years. To avoid the need to collect granular exposure measures for multiple years, a simplified approach is adopted where a historical premium adjustment factor is calculated to reflect material changes in exposures across the impacted years.

643. To calculate the exposure measure per latent liability segment, Volunteer Groups are asked to enter into the Template their gross and net earned premiums for each affected policy year for their 10 largest segments, as measured by the product of the current policy year net premium and the corresponding exposure factors below.

644. The exposure factors to be applied to the Volunteer Groups' exposure measure by latent liability segment are shown below.

Table 24. Exposure factors for latent liability segment

Selected Factors	product liability	product liability	gen comm liability	gen comm liability	empl liab/ workers comp	empl liab/ workers comp
	P	NP	P	NP	P	NP
EEA and Switzerland	45%	90%	25%	50%	25%	50%
US/Canada	65%	130%	35%	75%	15%	30%
Japan	35%	65%	20%	35%	20%	35%
China	25%	50%	15%	30%	15%	30%
Other developed markets	30%	60%	15%	35%	15%	35%
Emerging markets	25%	50%	15%	30%	15%	30%

645. To determine the impact of the scenario, the factors are applied to the latent liability segments reported in the Premium and Claims Reserve risk calculation (in the *FT17_NL* worksheets). The historical premium adjustment and an estimated "net-to-gross" calculation is then performed in the *FT17.ICS Risk Charge* worksheets.

13.3.8.4.3 Pandemic

646. The scenario is defined as the increase in the number of deaths following a global pandemic.

647. 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.

13.3.8.4.4 Credit and surety

648. 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

649. 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 nationwide 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.

650. 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

Factor	1 Year change in house price
EEA and Switzerland	-25%
USA and Canada	-25%
Japan	-25%
China	-25%
Rest of World	-25%

651. 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

652. The credit stress scenario for Trade Credit is defined as the total loss amount due to the inability of customers of the insured to pay for goods delivered and/or services provided. The trade credit coverage indemnifies the insured policyholder for bad debt losses incurred due to a customer's inability to pay. An insured's customer inability to pay is indicated by an increase in both the probability of default and the loss given default of that customer.

653. To help approximate these total loss amounts, the Volunteer Group should first calculate its 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. As the impact of reinsurance will be reflected by using the net premium, no further adjustment for reinsurance protection (e.g. non-proportional reinsurance) is required to the loss amount.

Table 26. Credit Stresses for Trade Credit

Rating category	Factor
Investment Grade	80%
Non-Investment Grade	200%

654. The investment grade and non-investment grade categories should be determined using current rating of the insured customer's (if available). If an insured customer is not rated the Volunteer Group should use its internal rating system and/or for non-rated entities assume it is non-investment grade.

655. 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 from 2008-2010 to the net earned premium for Trade Credit.

656. The total loss amount should be adjusted for any existing loss mitigation, including reimbursements from insured, retention etc.

Surety

657. 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 insured from the principal inability to perform its contractual obligation. The penal sum represents the maximum amount that the Volunteer Group is required to pay the insured. 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, so it is equal to the sum of the two largest net losses.

658. 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% PML factor is applied to the gross exposure. For U.S. 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-U.S. 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

659. 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 in 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.

13.3.8.5 Aggregation of Catastrophe risks

660. 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:

$$ICS_{Cat} = \sqrt{ICS_{NatCat}^2 + ICS_{NaTerror}^2 + ICS_{Liab}^2 + ICS_{Pand}^2 + ICS_{Credit}^2}$$

13.3.8.6 Calculation of the recoverable amount to be used for the calculation of the contingent Credit risk

661. 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.

662. 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 and the sum over all scenarios of the recoveries for all rating classes.

663. The approach is illustrated by the following example, where we assume for simplicity that Terrorism is the only other catastrophe scenario and where the “ICS cat charge” is the square root of the sum of the square of the Natural cat charge and the Terrorism charge.

Example

		Natural cat	*Terrorism*	*ICS cat charge*
Gross Loss: A	Rating category	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 rating category 1: B1 + B2	40	20	60
All recoverable in rating category 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

664. The recoverable amounts by rating categories should be reported in the column "Reduction in ICS risk charges" of the relevant Credit risk section of the *FT17.ICS Risk Charge* worksheets and should be subject to the 1-2 years maturity risk charge.

13.4 Market risks

665. 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.

13.4.1 Interest Rate Risk

Relevant Worksheets in Template:	*FT17.ICS Risk Charge.MAV1* (required) *FT17.ICS Risk Charge.MAV2* (required) *FT17.ICS Risk Charge.MAV3* (required) *FT17.ICS Risk Charge.GAAP+1* (required) *FT17.ICS Risk Charge.GAAP+2* (required)	*Due 11 September 2017*

13.4.1.1 Field Testing 2017 approach

666. The Technical Specifications for Interest Rate risk apply to all discounting options under both the MAV and GAAP Plus approaches. Volunteer Groups are requested to calculate the Interest Rate risk charge on all five discounting options within the two valuation approaches (i.e., MAV Blended option, MAV HQA option, MAV OAG option, benchmark discounting for GAAP Plus and GAAP Plus HQA option). The Template has been designed to collect Interest Rate risk data under all five discounting options within the two valuation approaches.

667. For 2017 Field Testing, Interest Rate risk is defined to be the aggregate of gains or losses under a set of scenarios stressing the shape of the yield curve arising from independent sources. The scenarios are calibrated so that, when aggregated, the result is the value at risk for the asset and liability portfolio at the 99.5% confidence level.

668. 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).

669. The total interest rate risk requirement[36] is:

$$\text{Gain or loss under mean reversion scenario} + \sqrt{\text{Max loss (level up, level down)}^2 + \text{Max loss (twist up to down, twist down to up)}^2}$$

The impact of the level and twist scenarios is aggregated assuming they are independent. In order to capture convexity, optionality, and other nonlinear aspects of assets and liabilities, both the gain/loss under the pairs of symmetric level and twist stresses are evaluated. For the shocks under the square root, any gain is set to zero (i.e. a gain is considered a zero loss). However, if there is a gain under the mean reversion scenario then this amount is subtracted from the requirement.

670. The modelling approach used is based on a model of the yield curve as a whole, whereas the approaches used for Field Testing 2015 and 2016 were based on modelling individual tenors and combining these independent results in a second step. To facilitate analysis of Field Testing results,

[36] Floored at zero

and improve the design and calibration of Interest Rate Risk as ICS version 2.0 is developed, limited changes have been made compared to previous Field Testing:

a) The stress approach stays aligned with the three segments 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 is 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 stress on the third segment has been reduced from 15% to 10%. This reduction was determined based on expert judgment, and will be revisited once the IAIS develops a comprehensive methodology for the base yield curve (including the determination of the LTFR). [see section 6.3.15.2]

671. Volunteer Groups operating in multiple jurisdictions are exposed to interest rate risk in more than one currency. For the purpose of 2017 Field Testing, no diversification across currencies is recognised. However, this issue will be discussed further during development of ICS version 2.0.

13.4.1.2 Assets and liabilities subject to the stress

672. 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. However, subordinated debt and preferred shares are treated as interest-sensitive assets within the calculation.

673. 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.

13.4.1.3 GAAP Plus approach

13.4.1.3.1 Background

674. The IAIS is field testing an approach for valuing liabilities under the interest rate stress that is more compatible with the way in which these liabilities are valued under GAAP Plus. Depending on the jurisdiction and product type, different approaches to liability discounting are used in under GAAP Plus. For example, in the U.S., the valuation of long-term insurance current estimates utilises a discount rate that is a blend of the portfolio return rate and a reinvestment rate based on current market assumptions. Assets backing those liabilities are essentially reported at amortized cost via an adjustment to Capital Resources referred to as the AOCI Adjustment. In other jurisdictions, e.g. EU,

insurance liabilities are valued using market yield curves, with certain adjustment and all assets are measured at fair value.

675. A shock to a market based curve will not translate to a change in value for assets valued at cost, nor would it impact the book yield used to discount liabilities. 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 measured under the various GAAP Plus examples.

13.4.1.3.2 Liabilities

676. For those insurance liabilities under GAAP Plus examples where the value is calculated using yield curves based on current market information, the interest rate risk is calculated using the MAV approach. So for example, the MAV interest rate stress approach would be applicable for all products under the EU GAAP Plus. It would also be applicable for variable annuity guarantees under U.S. GAAP Plus where market based curves are applied in the valuation of such guarantees.

677. Where insurance liabilities are discounted using a portfolio earned rate/curve under some GAAP Plus valuation examples, long-term insurance liabilities are shocked using a discount rate that is a blended rate of the portfolio earned rate on existing investments and the stressed IAIS yield curves for reinvestments at each tenor and currency.

13.4.1.3.3 Assets

678. For assets measured at market value, the stress is the same as that used in the standard method for MAV.

679. For assets measured at amortized cost (e.g., for loans, bonds classified as held to maturity or held for reserves as in Japan), these asset balances would not be impacted by the market value-based stress scenario.

680. Where assets are measured at amortised cost for field testing purposes (e.g. fixed income investments that back long-term insurance liabilities and that have relatively low liquidity risk under some GAAP Plus valuation basis examples), the asset stress impact is assessed through the "AOCI adjustment" instead of through direct estimation of the change in asset value.

681. For assets that are included in the AOCI Adjustment as included in GAAP Plus capital resources section, assets are measured at market value. However the change in value due to the stress would be offset by the change in value of the AOCI adjustment. Therefore the net impact of the stress for these assets would be zero, or the same as for those assets measured at cost.

13.4.1.3.4 Calculation and Reporting

682. Where a Volunteer Group applies more than one interest rate stress method, the risk capital assessment for each of those components is required to be calculated if material. In such cases, the results of the different methodologies should be separately reported in the Template, and the total

GAAP Plus capital charge for Interest Rate risk will be the sum of the charges calculated for those liabilities, using the two different methodologies.

13.4.1.4 Information provided by IAIS

683. Stressed yield curves are provided for the currencies for which the IAIS has provided base valuation yield curves. Volunteer Groups should use the stressed yield curves provided for the relevant currencies.

13.4.1.5 Information required from Field testing participants

684. Under the stress approach being used for 2017 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, no segmentation is required – please report one figure for total Non-Life; and
c) for Life, use the segments defined for the BCR & ICS Balance Sheet .

685. The changes in value of all financial instruments used for hedging Interest Rate risk that are in place on the measurement date should be reported according to the Risk Mitigation section.

686. The effect of management actions is determined in a two steps process. First, the selection of the shocked scenarios among the level pair (up or down) or the twist pair is done without reflecting management actions (i.e. 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.

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
	Non-residential 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	Other 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

13.4.1.6 Supplementary data collection on interest rate risk

687. There will be a supplementary data collection of annual pre-stress and post-stress cash flows for the relevant assets and liabilities (using the specified segmentation) up to year 60. A Template and Technical Specifications will be provided in July 2017 with the submission date to be determined.

13.4.1.7 Details on the calibration approach used

688. When available, the datasets for all currencies used to calibrate the interest rate risk requirement contained 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 has been applied to the raw dataset to derive the calibration. Over the coming years, the datasets used for calibration will be expanded.

689. The weekly observations were transformed into zero-coupon spot rates, using the same methodology as for the valuation curve – i.e. including a credit risk adjustment of 10 basis points when the observed instruments are not government bonds.

690. 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):

$$y_t(\tau) = L_t + S_t\left(\frac{1-e^{-\lambda\tau}}{\lambda\tau}\right) + C_t\left(\frac{1-e^{-\lambda\tau}}{\lambda\tau} - e^{-\lambda\tau}\right)$$

691. The dynamic of the change in the yield curve - restricted to model definitions where mean-reversion matrix is diagonal[37] - is described by the following transition equation:

$$\begin{pmatrix} dL_t \\ dS_t \\ dC_t \end{pmatrix} = \begin{pmatrix} \kappa_{11}^P & & \\ & \kappa_{22}^P & \\ & & \kappa_{33}^P \end{pmatrix} \left(\begin{pmatrix} \theta_1^P \\ \theta_2^P \\ \theta_3^P \end{pmatrix} - \begin{pmatrix} L_t \\ S_t \\ C_t \end{pmatrix} \right) dt + \begin{pmatrix} \sigma_{11} & 0 & 0 \\ \sigma_{21} & \sigma_{21} & 0 \\ \sigma_{31} & \sigma_{32} & \sigma_{33} \end{pmatrix} \begin{pmatrix} dW_t^{L,P} \\ dW_t^{S,P} \\ dW_t^{C,P} \end{pmatrix}$$

[37] A fully flexible model with cross terms in the mean reversion factors (i.e. with non-diagonal elements in the K matrix) was also tested, without much difference.

692. From this model specification, the DNS shocks were then 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 we have data points, and the data points themselves, is minimized. We refer to this initial vector (L, S, C) as X_0.

2) The mean reversion shock, expressed as an (L, S, C) vector is:

$$(I - e^{-K})(\theta - X_0)$$

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 we could place under the square root, expressed as (L, S, C) vectors, are the columns of:

$$M = K^{-1}(I - e^{-K})\Sigma$$

multiplied by the normal percentile $N^{-1}(0.995)$.

4) In order to reduce the workload on the insurers and keep this method comparable to the principal components approach used in the previous field test, a principal components-type analysis on the three shocks available is performed and the least significant shock is discarded[38]. Let:

$$N = \begin{pmatrix} LOT & & \\ & a & \\ & & b \end{pmatrix} M$$

where:

LOT = Last Observed Term (e.g. 30 for USD) $a = \sum_{\tau=1}^{LOT} \frac{1-e^{-\lambda\tau}}{\lambda\tau}$, $b = \sum_{\tau=1}^{LOT} \left(\frac{1-e^{-\lambda\tau}}{\lambda\tau} - e^{-\lambda\tau}\right)$

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 (i.e. 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[39] in order to produce equivalent shocks where the second shock can be characterized 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, we define a shock curve to

[38] The remaining two shock account to around 99% of the requirements

[39] This is equivalent to applying a rotation on the eigenvectors, thus preserving the independence property.

be a twist if the sum of the shocks at each term is zero. The corresponding rotated first shock is assumed to be mostly a level shock.

Let Θ be the rotation angle, i.e. 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 imply that Θ satisfy:

$\sum_{\tau=1}^{LOT}(\cos(\theta)S_2(\tau) - \sin(\theta)\, S_1(\tau)) = 0$

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 the $twist = (\cos(\theta)Me_2 - sin(\theta)Me_1)$ is equal to:

$$\begin{pmatrix} -0.001 \\ 0.002 \\ 0.01 \end{pmatrix}$$

then the corresponding shocked curves are:

$$\text{Year-end curve} \pm N^{-1}(0.995) * (-0.001\ \text{Level Curve} + 0.002\ \text{Slope Curve} + 0.01\ \text{Curvature Curve})$$

13.4.2 Equity Risk

Relevant Worksheets in Template:	*FT17.ICS Risk Charge.MAV1* (required) *FT17.ICS Risk Charge.MAV2* (optional) *FT17.ICS Risk Charge.MAV3* (optional) *FT17.ICS Risk Charge.GAAP+1* (required) *FT17.ICS Risk Charge.GAAP+2* (optional)	*Due 11 September 2017*

693. The Technical Specifications for Equity risk apply both to the MAV and GAAP Plus benchmark options. This section has been written from the perspective of the MAV benchmark option; while somewhat different valuation data might be input for the GAAP Plus benchmark option, the Equity risk calculation is fundamentally the same for MAV and GAAP Plus. The Template has been designed to allow a voluntary recalculation of Equity risk under any or all of the other discounting options within the two valuation approaches (i.e., MAV HQA option, MAV OAG option, and GAAP Plus HQA option) if it is viewed that the result would be materially different under different discounting options.

13.4.2.1 Definition of Equity risk

694. In 2017 Field Testing, the "Equity risk" should capture all direct and indirect impacts on the financial situation of the Volunteer Group of a stress on the value of equities. Equity risk exposures refer to all financial resources with values sensitive to changes in the level or volatility of market prices for equities.

695. The indirect impacts are linked to products held by the Volunteer Group 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 4.3 and 13.2.1 on Look-through)
b) Derivatives sensitive to equity prices/volatilities
c) Unit-linked products (especially those providing guarantees)
d) Participating products in general
e) More complex insurance products, such as variable annuities

13.4.2.2 Segmentation

696. For the calculation of the risk charge for Equity risk, the following segmentation of assets 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

697. "Listed equity in developed markets" includes equities listed on the securities exchanges of countries used in the calculation of the FTSE Developed Index: Austria, Australia, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Israel, Italy, Japan, Korea, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, UK, and USA.

698. While the FTSE Emerging Markets index is based on only 21 countries, for the purposes of 2017 Field Testing, any country not included in the FTSE Developed Market index is to be considered an 'emerging market'.

699. Preference shares are defined as a company's shares that generally entitle the holder to receive dividends (often fixed) before common-share dividends are issued and are to be paid out before common shares in the event of bankruptcy, but that do not have any voting rights. All subordinated debt and subordinated loans should be included in the segment "Hybrid debt / preference shares" and consequently should not bear any Credit risk charge.

700. The segment "Other equity" comprises equities that are not listed, hedge funds, limited partnerships, commodities, infrastructure and other alternative investments.

701. The value for each of these asset segments should be provided before any shocks and under each scenario. Separate columns are provided for direct or indirect ownership equity and derivatives.

702. The impact on insurance liabilities should be reported in the Template with a distinction between life and Non-Life business. Moreover, the life business should be segmented following the general IAIS segmentation for life business (please refer to Annex 1). The impact on reinsurance recoverables/assets should be separately disclosed.

703. The impact on liabilities other than insurance liabilities should also be reported in the Template.

13.4.2.3 Calculation of the Equity risk charge

704. The risk charge for Equity risk is calculated as the change in net asset value (NAV) following the occurrence of the scenario described below, taking into account all the Volunteer Group's individual direct and indirect exposures to Equity risk as defined above.

705. The scenario is to be calculated before and after management actions.

706. The Equity risk charge is calculated after management actions.

13.4.2.3.1 Scenario (prices down, volatility up):

707. A shock consisting of a simultaneous:

a) Instantaneous relative decrease by 35% of the market prices of all listed shares in developed markets

b) Instantaneous relative decrease by 48% of the market prices of all listed shares in emerging markets

c) Instantaneous relative decrease by 49% of the market prices of all other types of assets

d) Instantaneous relative increase by x% of the implied volatilities of all the asset classes listed above, with x having the following values :

x	Maturity in months
210%	1
137%	3
112%	6
92%	12
80%	24
74%	36
70%	48
66%	60
60%	84
55%	120
49%	144
45%	180

e) For maturities not specified above, the value of the increase shall be linearly interpolated. For maturities shorter than 1 month, the increase to be used is 210%. For maturities longer than 180 months, the increase to be used is 45%.

f) Instantaneous relative decrease of the market prices of hybrid debt / preference shares by:

4%	when the item is rated AAA/AA
6%	when the item is rated A
11%	when the item is rated BBB
21%	when the item is rated BB
35%	when the item rated b or below

13.4.3 Real Estate Risk

Relevant Worksheets in Template:	*FT17.ICS Risk Charge.MAV1* (required) *FT17.ICS Risk Charge.MAV2* (optional) *FT17.ICS Risk Charge.MAV3* (optional) *FT17.ICS Risk Charge.GAAP+1* (required) *FT17.ICS Risk Charge.GAAP+2* (optional)	*Due 11 September 2017*

708. Real Estate risk is defined as the risk of adverse change in the value of capital resources resulting from 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.

709. The Technical Specifications for Real Estate risk apply both to the MAV and GAAP Plus benchmark options. The Template has been designed to allow a voluntary recalculation of Real Estate risk under any or all of the other discounting options within the two valuation approaches (i.e., MAV HQA option, MAV OAG option, and GAAP Plus HQA option) if it is viewed that the result would be materially different under different discounting options.

710. Of note with respect to the GAAP Plus approach, for owner-occupied property, the Real Estate risk charge is calculated as the difference, if positive, of the balance sheet value at the balance date less 75% of the property's fair value at the balance date. If the fair value of such a property is not available then the risk charge is 25% of the property's book value. The risk charge is determined on a property-by-property basis.

711. A simplified approach has been retained for Real Estate risk for 2017 Field Testing with only a change in the level of real estate prices.

712. In order to capture realistic management actions in a post stress situation – when material - the Real Estate risk charge is based on stressing the market value of real estate exposures.

713. Real estate exposures subject to this risk include both direct and indirect exposures to real estate (see sections 4.3 and 13.2.1 on Look-through).

714. Direct exposure includes real estate held for own use. When such assets are not carried on the ICS Balance Sheet at their realisable value, the exposure should be adjusted to the realisable value.

715. Mortgage values of assets secured by mortgages are not included in the Real Estate risk (see section on Credit risk).

716. 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 2017 Field Testing.

13.4.3.1 Results (Real Estate risk summary)

717. After Management Actions – The Real Estate risk charge is defined as the change in net asset value (NAV) after applying the prescribed stress and after management actions (see section 13.2.4 on Management Actions) and is calculated automatically within the Template based on input data.

718. Before Management Actions – The change in NAV before management actions is calculated automatically within the Template based on input data.

13.4.3.2 Input data

719. 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, including direct and indirect exposures, for

   i. Commercial investment, according to:

      (1) Direct ownership

      (2) Look-through

   ii. Residential investment, according to:

      (1) Direct ownership

      (2) Look-through

   iii. Real Estate for own use

   iv. Other assets

   v. Liabilities – this includes insurance liabilities and other liabilities

b) Post-Shock NAV before management actions – The net asset value after applying prescribed shocks before management actions, but including any direct effect on current estimates values (e.g. unit-linked current estimates);

c) Effect of management actions – Effects of the management actions on NAV after applying prescribed shocks. This should be entered as a positive number.

13.4.3.2.1 Calculation

720. The Real Estate risk charge is calculated as:

721.

$$Real\ estate\ Risk\ Charge = \Delta NAV \mid shock$$

where

$\Delta NAV \mid shock$ = Change in net asset value after applying the prescribed shock

$shock$ = simultaneous decrease of 25% in the value of all property exposures.

722. The relative riskiness of residential real estate or real estate held for own use against commercial real estate has been set to 100%, due to the unavailability of reliable data for different calibration levels.

13.4.4 Currency Risk

Relevant Worksheets in Template:	*FT17.ICS Risk Charge.MAV1* (required) *FT17.ICS Risk Charge.MAV2* (optional) *FT17.ICS Risk Charge.MAV3* (optional) *FT17.ICS Risk Charge.GAAP+1* (required) *FT17.ICS Risk Charge.GAAP+2* (optional)	*Due 11 September 2017*

723. The Technical Specifications for Currency risk apply both to the MAV and GAAP Plus benchmark options. This section has been written from the perspective of the MAV benchmark option; while somewhat different valuation data might be input for the GAAP Plus benchmark option, the Currency risk calculation is fundamentally the same for MAV and GAAP Plus. The Template has been designed to allow a voluntary recalculation of Currency risk under any or all of the other discounting options within the two valuation approaches (i.e., MAV HQA option, MAV OAG option, and GAAP Plus HQA option) if it is viewed that the result would be materially different under different discounting options.

724. The look-through approach should be applied on a best efforts basis for the purposes of 2017 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.

725. Currency risk exposures consist of 35 predefined currencies. A "World Bucket"[40] has been added for any currency exposures 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.

726. 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 principal on currency swaps

c) the delta equivalent amounts of currency options

[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%.

d) guarantees and similar instruments that are certain to be called 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.

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.

727. The net open currency position should exclude assets that are fully deducted from capital resources (e.g. goodwill), and liability items that qualify for inclusion in consolidated capital resources (e.g. subordinated debt).

728. The net insurance liability reported for each currency should consist of gross insurance liabilities 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 (i.e. up to 10% of net insurance liabilities) should be reported within the Currency risk section of the *FT17.ICS Risk Charge* worksheets.

729. 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.

730. 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 also refer to the section of this document on Risk Mitigation).

731. 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 23 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 23. 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.

732. 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 28. Currency Risk Stress Matrix

	Against											
Ref Curr	AUD	BRL	CAD	CHF	CLP	CNY	COP	CZK	DKK	EUR	GBP	HKD
AUD	0%	50%	30%	45%	40%	40%	45%	40%	35%	35%	35%	40%
BRL	55%	0%	55%	65%	50%	60%	55%	60%	60%	60%	60%	60%
CAD	30%	50%	0%	40%	35%	25%	35%	35%	30%	30%	30%	25%
CHF	45%	65%	35%	0%	45%	35%	50%	30%	20%	20%	30%	35%
CLP	40%	50%	35%	45%	0%	35%	40%	45%	40%	40%	35%	35%
CNY	40%	55%	25%	35%	30%	0%	35%	40%	30%	30%	25%	5%
COP	45%	55%	35%	50%	40%	35%	0%	50%	45%	45%	40%	35%
CZK	40%	60%	35%	30%	45%	40%	50%	0%	15%	15%	30%	40%
DKK	35%	60%	30%	20%	40%	30%	45%	15%	0%	5%	25%	30%
EUR	35%	60%	30%	20%	40%	30%	45%	15%	5%	0%	25%	30%
GBP	35%	55%	30%	30%	35%	25%	40%	30%	25%	25%	0%	25%
HKD	40%	55%	25%	35%	30%	5%	35%	40%	30%	30%	25%	0%
HUF	40%	60%	40%	40%	50%	45%	50%	25%	25%	25%	35%	45%
IDR	50%	60%	45%	55%	45%	40%	45%	55%	50%	50%	45%	40%
ILS	50%	65%	35%	45%	40%	25%	45%	50%	40%	40%	40%	25%
INR	35%	50%	25%	35%	30%	20%	35%	40%	30%	30%	30%	20%
JPY	50%	70%	40%	40%	45%	30%	50%	45%	40%	40%	40%	30%
KRW	35%	50%	25%	40%	35%	25%	35%	40%	35%	35%	30%	25%
MXN	35%	50%	30%	45%	30%	30%	35%	45%	40%	40%	35%	30%
MYR	35%	50%	25%	35%	30%	15%	30%	35%	30%	30%	25%	15%
NOK	35%	55%	30%	30%	40%	35%	45%	25%	20%	20%	30%	35%
NZD	25%	55%	30%	45%	40%	40%	45%	40%	35%	35%	35%	40%
PEN	40%	55%	25%	40%	30%	15%	35%	40%	30%	30%	30%	10%
PHP	30%	35%	20%	40%	25%	15%	30%	35%	30%	30%	25%	15%
PLN	40%	55%	35%	40%	45%	45%	50%	25%	30%	30%	35%	45%
RON	40%	50%	35%	35%	40%	35%	45%	30%	25%	25%	30%	35%
RUB	50%	65%	40%	50%	45%	35%	45%	45%	40%	40%	40%	35%
SAR	40%	55%	25%	35%	30%	5%	35%	40%	30%	30%	25%	5%
SEK	35%	60%	30%	30%	40%	35%	45%	25%	20%	20%	30%	35%
SGD	30%	50%	20%	30%	30%	15%	30%	30%	25%	25%	25%	15%
THB	40%	55%	30%	35%	35%	20%	35%	40%	30%	30%	30%	20%
TRY	70%	75%	70%	75%	70%	70%	75%	75%	70%	70%	70%	70%
TWD	35%	55%	25%	35%	30%	10%	35%	35%	30%	30%	25%	10%
USD	40%	55%	25%	35%	30%	5%	35%	40%	30%	30%	25%	5%
ZAR	45%	65%	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%	50%	50%	35%	55%	35%	35%	35%	35%	25%	40%	30%
BRL	65%	65%	65%	55%	75%	55%	50%	55%	60%	55%	55%	40%
CAD	40%	45%	35%	25%	40%	25%	30%	25%	30%	30%	25%	20%
CHF	35%	50%	45%	35%	40%	40%	45%	35%	30%	40%	35%	40%
CLP	45%	50%	40%	30%	50%	35%	30%	30%	40%	40%	30%	25%
CNY	45%	40%	25%	20%	30%	25%	30%	15%	35%	40%	15%	15%
COP	50%	50%	45%	35%	50%	35%	35%	30%	45%	45%	35%	30%
CZK	25%	55%	50%	40%	45%	40%	40%	35%	25%	40%	40%	35%
DKK	25%	50%	40%	30%	40%	35%	40%	30%	20%	35%	30%	30%
EUR	25%	50%	40%	30%	40%	35%	40%	30%	20%	35%	30%	30%
GBP	35%	45%	40%	30%	40%	30%	35%	25%	30%	35%	30%	25%
HKD	45%	40%	25%	20%	30%	25%	30%	15%	35%	40%	10%	15%
HUF	0%	60%	55%	45%	55%	45%	45%	40%	30%	40%	45%	45%
IDR	60%	0%	50%	40%	50%	40%	45%	40%	50%	50%	40%	20%
ILS	55%	50%	0%	30%	40%	40%	40%	30%	45%	50%	30%	30%
INR	45%	40%	30%	0%	35%	25%	25%	15%	35%	35%	20%	20%
JPY	55%	50%	40%	35%	0%	40%	50%	35%	45%	50%	35%	30%
KRW	45%	40%	40%	25%	40%	0%	30%	25%	35%	35%	30%	20%
MXN	45%	45%	40%	25%	50%	30%	0%	25%	40%	40%	30%	25%
MYR	40%	40%	30%	15%	35%	25%	25%	0%	30%	35%	20%	20%
NOK	30%	50%	45%	35%	45%	35%	40%	30%	0%	35%	35%	30%
NZD	40%	50%	50%	35%	55%	35%	40%	35%	35%	0%	40%	35%
PEN	45%	40%	30%	20%	35%	25%	30%	20%	35%	40%	0%	15%
PHP	45%	20%	30%	20%	30%	20%	25%	20%	30%	35%	15%	0%
PLN	25%	55%	55%	40%	55%	40%	40%	40%	30%	40%	40%	40%
RON	35%	50%	45%	35%	45%	35%	40%	30%	30%	40%	35%	35%
RUB	50%	50%	45%	35%	50%	40%	40%	35%	45%	50%	35%	50%
SAR	45%	40%	25%	20%	30%	30%	30%	15%	35%	40%	10%	15%
SEK	30%	50%	45%	35%	45%	35%	40%	35%	20%	35%	35%	30%
SGD	40%	35%	30%	15%	30%	20%	25%	15%	30%	35%	15%	15%
THB	45%	40%	30%	20%	35%	30%	35%	20%	35%	40%	20%	15%
TRY	70%	75%	75%	70%	75%	70%	70%	70%	70%	75%	70%	30%
TWD	40%	40%	25%	15%	30%	20%	30%	15%	30%	35%	15%	15%
USD	45%	40%	25%	20%	30%	30%	30%	15%	35%	40%	10%	15%
ZAR	50%	65%	60%	50%	65%	45%	50%	45%	45%	50%	50%	40%

	Against										
Ref Curr	PLN	RON	RUB	SAR	SEK	SGD	THB	TRY	TWD	USD	ZAR
AUD	40%	40%	50%	40%	35%	30%	40%	55%	35%	40%	45%
BRL	60%	50%	65%	60%	60%	55%	60%	70%	55%	60%	65%
CAD	35%	35%	40%	25%	30%	20%	30%	55%	25%	25%	45%
CHF	40%	35%	45%	35%	30%	30%	35%	65%	30%	35%	55%
CLP	45%	40%	40%	35%	40%	30%	35%	55%	30%	35%	50%
CNY	45%	35%	35%	5%	35%	15%	20%	55%	10%	5%	50%
COP	50%	45%	45%	35%	45%	35%	35%	60%	35%	35%	55%
CZK	25%	30%	45%	40%	25%	30%	40%	60%	35%	40%	50%
DKK	30%	25%	40%	30%	20%	25%	30%	55%	30%	30%	50%
EUR	30%	25%	40%	30%	20%	25%	30%	55%	30%	30%	50%
GBP	35%	30%	40%	25%	30%	25%	30%	55%	25%	25%	50%
HKD	45%	35%	35%	5%	35%	15%	20%	55%	10%	5%	50%
HUF	25%	35%	50%	45%	30%	40%	45%	60%	40%	45%	50%
IDR	55%	50%	50%	40%	50%	35%	40%	70%	40%	40%	65%
ILS	55%	45%	45%	25%	45%	30%	30%	65%	25%	25%	60%
INR	40%	35%	35%	20%	35%	15%	20%	55%	15%	20%	50%
JPY	55%	45%	50%	30%	45%	30%	35%	70%	30%	30%	65%
KRW	40%	35%	40%	30%	35%	20%	30%	55%	20%	30%	45%
MXN	40%	40%	40%	30%	40%	25%	35%	55%	30%	30%	45%
MYR	40%	30%	30%	15%	35%	15%	20%	55%	15%	15%	45%
NOK	30%	30%	40%	35%	20%	30%	35%	60%	30%	35%	45%
NZD	40%	40%	50%	40%	35%	35%	40%	60%	40%	40%	50%
PEN	40%	35%	35%	10%	35%	15%	20%	55%	15%	10%	50%
PHP	35%	30%	50%	15%	30%	15%	15%	25%	15%	15%	40%
PLN	0%	35%	45%	45%	30%	35%	45%	55%	40%	45%	50%
RON	35%	0%	40%	35%	30%	30%	35%	60%	30%	35%	50%
RUB	50%	40%	0%	35%	45%	35%	40%	65%	35%	35%	55%
SAR	45%	35%	35%	0%	35%	15%	20%	55%	10%	5%	55%
SEK	30%	30%	45%	35%	0%	30%	35%	60%	35%	35%	50%
SGD	35%	30%	35%	15%	30%	0%	20%	55%	10%	15%	45%
THB	45%	35%	40%	20%	35%	20%	0%	55%	20%	20%	50%
TRY	70%	70%	75%	70%	70%	65%	70%	0%	70%	70%	75%
TWD	40%	30%	35%	10%	35%	10%	20%	55%	0%	10%	50%
USD	45%	35%	35%	5%	35%	15%	20%	55%	10%	0%	55%
ZAR	50%	50%	55%	55%	50%	45%	50%	60%	50%	55%	0%

13.4.5 Asset Concentration Risk

Relevant Worksheets in Template:	*FT17.ICS Risk Charge.MAV1* (required) *FT17.ICS Risk Charge.MAV2* (optional) *FT17.ICS Risk Charge.MAV3* (optional) *FT17.ICS Risk Charge.GAAP+1* (required) *FT17.ICS Risk Charge.GAAP+2* (optional)	*Due 11 September 2017*

733. The Technical Specifications for Asset Concentration risk apply both to the MAV and GAAP Plus benchmark options. This section has been written from the perspective of the MAV benchmark option; while somewhat different valuation data might be input for the GAAP Plus benchmark option, the Asset Concentration risk calculation is fundamentally the same for MAV and GAAP Plus. The Template has been designed to allow a voluntary recalculation of Asset Concentration risk under any or all of the other discounting options within the two valuation approaches (i.e., MAV HQA option, MAV OAG option, and GAAP Plus HQA option) if it is viewed that the result would be materially different under different discounting options.

734. The Asset Concentration risk threshold is automatically calculated using total assets (***for insurance business***, excluding assets in separate accounts or where the investment risks fully flow-through[41] to policyholders) based upon the applicable valuation basis (MAV or GAAP Plus approach).

735. The table for calculating the Asset Concentration risk charge only applies to amounts of net exposures ***in excess*** of the Asset Concentration risk threshold.

736. Counterparty related – Net exposures should be determined on the basis of ***non-affiliated*** single counterparties or connected group of counterparties (including for reinsurers). For the purposes of 2017 Field Testing, the BCBS definition[42] 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.

737. Property – 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

[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] 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.

example, two properties within 250 metres of each other), including exposures from both direct and indirect (such as funds of properties and mortgage) holdings.

738. 2017 Field Testing does not require the Asset Concentration risk charge to be applied to national government exposures. Sub-national government obligations (e.g. provincial/state or municipal bonds) are to be included within the worksheet.

739. 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 ICS 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) Include exposures based upon a look-through for investment funds, structured products etc. 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, 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) Include 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;

e) Gross exposures should be calculated based upon the applicable valuation basis (MAV or GAAP Plus), except where otherwise specified (such as use of 'credit-equivalent' amounts).

740. For 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 for unconditional and irrevocable guarantees, the 'substitution approach' specified within the ICS Credit risk section may be used, if favourable, for the portion of 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 Asset Concentration risk charges within 2017 Field Testing.

741. Aggregate amount exceeding 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

742. 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 Rating Categories and for property.

743. The Asset Concentration risk section of the *FT17.ICS Risk Charge* worksheets 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 Rating Categories in each risk charge category; and

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.

744. The incremental risk charge factors are for 2017 Field Testing purposes, and should not be viewed as indicative of the level of risk charges, if any, that may be applicable for Asset Concentration risk within ICS version 2.0.

745. A separate section is included for the supplementary reporting of 'own-use' property as a subset of the property exposures exceeding the applicable thresholds.

746. The following chart outlines the thresholds and risk charges are being tested:

Table 29. 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 rating category 1 and 2	3%	15%
in ICS rating category 3 and 4	3%	25%
in ICS rating category 5, 6 and 7	1.5%	50%
Property	3%	25%

Relevant Worksheets in Template:	*FT17.ICS Risk Charge.MAV1* (required) *FT17.ICS Risk Charge.MAV2* (optional) *FT17.ICS Risk Charge.MAV3* (optional) *FT17.ICS Risk Charge.GAAP+1* (required) *FT17.ICS Risk Charge.GAAP+2* (optional)	*Due 11 September 2017*

747. The Technical Specifications for Credit risk apply both to the MAV and GAAP Plus benchmark options. The Template has been designed to allow a voluntary recalculation of Credit risk under any or all of the other discounting options within the two valuation approaches (i.e., MAV HQA option, MAV OAG option, and GAAP Plus HQA option) if it is viewed that the result would be materially different under different discounting options.

748. A change has been made for 2017 Field Testing under GAAP Plus such that fixed income investments that are included in the AOCI Adjustment to Capital Resources are to be reported on an amortized cost basis for purposes of determining the Credit risk charge. The credit risk factor will be applied to the amortized 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 worksheet *FT17.BCR&ICS.Balance Sheet* are requested to record these investments in the credit risk tables on an amortized 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.

749. The Credit risk requirement being tested is based on external ratings. 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 2017 Field Testing, data is being simultaneously collected on the basis of Volunteer Groups being able to use NAIC designations as applicable and on the basis of Volunteer Groups not being able to use NAIC designations for ICS Credit risk determination.

750. Volunteer Groups are also asked to provide information on the migration of ICS ratings when going from using NAIC designations to not using NAIC designations within the ICS Credit risk calculation.

751. The look-through approach set out in sections 4.3 and 13.2.1 should be applied on a best efforts basis for the purposes of 2017 Field Testing. The approach set out in the Credit risk section requires granular data that may not be readily available from indirect investments. Volunteer Groups may need to make assumptions about rating categories and maturities of the underlying investments

of indirect investment vehicles. Volunteer Groups should report these assumptions in the Questionnaire.

752. The MAV values of on-balance sheet assets should be entered in the Credit risk section of the *FT17.ICS Risk Charge* worksheets, broken down by exposure class and rating category, and the credit equivalent amounts (see below) of off-balance sheet credit exposures should also be entered. The Credit risk charge is 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, and summing. The following gives 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.

753. 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 amortized 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 *FT17.ICS Risk Charge* worksheets. As noted above, fixed income investments that have been included in the AOCI adjustment should be reported in the Credit risk section at amortized cost for those Volunteer Groups that have reported an AOCI adjustment.

13.5.1 Exposure classes

754. The Credit risk charge applies to all senior debt obligations to 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 securities described in section 13.4.2.

755. Credit exposures to national governments and their central banks are not required to be reported as part of the calculation of the Credit risk charge. Exposures to multilateral development banks and supranational organisations should be treated as credit exposures to national governments. Regional governments and municipal authorities are classified as public sector entities. The public sector entity class also includes administrative bodies responsible to national governments, regional governments or municipal authorities. Exposures to commercial undertakings owned by governments or municipal authorities should be classified in the corporate category and not in the public sector entity category.

756. The corporate category includes exposures to banks and securities dealers, but excludes exposures to reinsurers, which are reported separately in the Reinsurance Exposures table. Unsecured loans and rated commercial mortgages are included in the corporate exposure class.

757. The class of securitisation exposures reported in the Securitisations table includes all holdings of asset-backed securities, mortgage-backed securities, and asset-backed commercial paper. It also includes any other assets where the cash flow from an underlying pool of exposures is used to service at least two different tranches reflecting different degrees of Credit risk. 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.

758. Residential mortgages and commercial mortgages should be reported in their respective tables, and miscellaneous assets in the relevant separate table. 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 corporate exposure class in the Corporate Entities table.

759. A non-paid-up financial instrument that qualifies for inclusion in capital resources is subject to the same credit risk requirement as a direct credit exposure to the contingent capital provider.

13.5.2 Definition of rating categories

760. Volunteer Groups may recognise the agency rating categories listed in the table below (and from A.M. Best for reinsurance exposures, see section on *reinsurance exposures*). Modifiers such as + or – do not affect the rating category. 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 rating category.

Table 30. Mapping to ICS Rating Category

ICS Rating Category	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

761. Additionally, Volunteer Groups may recognise any rating agency that the banking regulator in its jurisdiction has recognised as an External Credit Assessment Institution (ECAI) under the Basel II

framework. The ICS rating category corresponding to a rating produced by such an agency is the S&P Basel II rating category to which the supervisor has mapped the rating (the combined rating class AAA/AA corresponds to ICS rating category 2). For the purposes of 2017 Field Testing, ICS Rating Categories 1 to 4 in the table above should be considered as investment grade.

762. Also, Volunteer Groups may recognise any ratings 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 Rating categories and explicit acceptance of the use of those ratings by the IAIS as indicated through future communications provided to Volunteer Groups in advance of the Field Testing submission deadline. Similar to 2016 Field Testing, the IAIS will recognise ratings issued by credit agencies licensed with CIRC. The table below provides a mapping of those ratings, which was determined following all the ICS recognition criteria except that the default statistics are not yet being published regularly; the default data submission is currently to CIRC 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 31. Mapping of Chinese domestic credit ratings to ICS rating category

ICS Rating Category	Chinese ratings
1	
2	
3	AAA
4	
5	AA/A1, A/A2
6	BBB/A3, BB, B
7	CCC and lower

763. If a Volunteer Group wishes to recognise 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 recognise. 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 responsive to changes in financial condition. The agency must have an assessment methodology for each market

segment, including rigorous back testing that has been established 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 publically 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, e.g. 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 combining 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.

764. 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 32. Mapping of Ratings by Other Rating Agencies

ICS Rating Category	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%

765. If a Volunteer Group is using one or more rating agencies for which it is performing its own mapping to ICS rating categories 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 recognizing 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, 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 all of the information is posted

e) Which agency ratings the Volunteer Group has mapped to which ICS rating categories.

13.5.3 Instructions around the use of ratings

766. A Volunteer Group must choose the rating agencies it intends to rely on and then use their ratings consistently for each type of claim. Volunteer Groups may not cherry pick the assessments provided by different rating agencies.

767. Any rating used to determine an ICS rating category must be publicly available, i.e. 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.

768. If a Volunteer Group is relying on multiple rating agencies and there is only one assessment for a particular claim, that assessment should be used to determine the ICS rating category for the claim. If there are two assessments from the rating agencies used by a Volunteer Group and these assessments differ, the Volunteer Group should use the ICS rating category corresponding to the lower of the two ratings. If there are three or more assessments for a claim from a Volunteer Group's chosen rating agencies, the Volunteer Group should exclude one of the ratings that corresponds to the highest ICS rating category, and then use the rating that corresponds to the highest rating category of those that remain (i.e. the Volunteer Group should use the second-highest rating from those available, allowing for multiple occurrences of the highest rating).

769. Where a Volunteer Group holds a particular securities issue that carries one or more issue-specific assessments, the ICS rating category for the claim will be based on these assessments. Where a Volunteer Group's claim is not an investment 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 claim is not an investment in this particular security, a rating category of 4 or better on the rated security may only be applied to the Volunteer Group's unrated claim if this claim ranks pari passu or senior to the rated claim in all respects. If not, the credit rating cannot be used and the Volunteer Group's claim 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 claims on that issuer will benefit from an investment-grade (category 4 or better) issuer assessment; other unassessed claims on the issuer will be treated as unrated. If either the issuer or one of its issues has a rating category of 5 or lower, this rating should be used to determine the ICS rating category 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 claims arising from the rated facility. They cannot be generalised to other short-term claims, and in no event can a short-term rating be used to support a rating category assignment for an unrated long-term claim.

d) Where the rating category for an unrated exposure is based on the rating of an equivalent exposure to the borrower, foreign currency ratings should be used for exposures in foreign currency. Domestic currency ratings, if separate, should only be used to determine the rating category for claims denominated in the domestic currency.

770. 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 (e.g. 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.

13.5.4 Exposures in default

771. 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 include any asset that is contractually more than 90 days in arrears.

772. 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.

13.5.5 Redistribution of exposures for Credit risk mitigation

773. Eligible Credit risk mitigation (i.e. 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 13.2.2 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 must be zero.

13.5.6 Distribution of exposures by maturity

774. Volunteer Groups must 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 (e.g. for each asset or each counterparty exposure). Volunteer Groups should aggregate all exposures to a connected 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.

775. Effective maturity is calculated as follows:

a) For an instrument subject to a determined cash flow schedule, effective maturity is defined as:

$$\text{Effective Maturity} = \sum_t t * CF_t \,/\, \sum_t CF_t$$

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 is not in a position to 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.

13.5.7 Reinsurance exposures

776. Volunteer Groups can use A.M. Best credit ratings only for purposes of calculating the risk charge on reinsurance exposures. The mapping of A.M. Best insurer financial strength ratings to the ICS ratings categories is as follows:

Table 33. Mapping of A.M. Best ratings to ICS ratings

ICS Rating Category	A.M. Best
1	
2	A+
3	A
4	B+
5	B
6	C+
7	C and lower

777. 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 takes 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 *FT17.ICS Risk Charge* worksheets. When a Volunteer Group reduces its ICS risk charges on account of reinsurance, the Credit risk charge is applied on the capital reduction.

778. 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 (i.e. after diversification of the components of those risk charges).

779. 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.

780. 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 written and reasoned legal opinions 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, 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 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.

13.5.8 Securities financing transactions

781. 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.

13.5.9 Credit risk stress factors

782. The following tables contain the ICS Credit risk stress factors for the exposure classes by ICS rating category and maturity[43]:

[43] 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.

Table 34. 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 35. Credit Risk Stress Factors for Corporate 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 36. 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%
In Default	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Table 37. 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%

783. The Credit risk stress factor for policy loans (which are to be reported under 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 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.

13.5.10 Mortgage Loans

13.5.10.1 Commercial and Agricultural Mortgages Where Repayment Depends On Property Income

784. 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

785. For Agricultural and Commercial Tier 1, the following stress factors are used:

Table 38. 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 39. 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

786. For Agricultural and Commercial Tier 2, where only LTV data is available, the following stress factors are used:

Table 40. 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%		

787. For Agricultural and Commercial Tier 3, where LTV and DSCR data is not available, a flat 8% stress factor is used.

13.5.10.2 Commercial and Agricultural Mortgages Where Repayment Does Not Depend on Property Income

788. When the loan-to-value ratio of the mortgage is above 60%, the risk factor is that for a regular credit exposure to the borrower. When the loan-to-value 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.

13.5.10.3 Residential Mortgages

789. 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 loan-to-value ratio, as specified in the following table:

Table 41. 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%

790. 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 loan-to-value ratio, as specified in the following table:

Table 42. 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%

791. For non-performing mortgage loans, the factor is 35%.

13.5.10.4 Criteria for recognition of collateral

792. 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.

793. The following standards must be met before relief will be granted in respect of any form of collateral:

a) The effects of collateral may not be double counted. Therefore, Volunteer Groups may not 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 must be binding on all parties and legally enforceable in all relevant jurisdictions. Volunteer Groups must 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.

c) The legal mechanism by which collateral is pledged or transferred must ensure that the Volunteer Group has the right to liquidate or take legal possession of it, 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 must take 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, e.g. 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 must 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 must 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 must take reasonable steps to ensure that the custodian segregates the collateral from its own assets.

794. Only the following collateral instruments are eligible to be recognised:

a) Rated debt securities where these securities are:

i. rated category 5 or better and issued by a sovereign; or

ii. rated category 4 or better and issued by other entities (including banks, insurance companies, and securities firms)

b) Gold

c) Mutual funds where:

i. a price for the units is publicly quoted daily; and

ii. the mutual fund is limited to investing in the eligible instruments listed above.

d) Letters of credit.

795. For collateral to be recognised, it must 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 must be reduced by 20%. The portion of an exposure that is collateralised by the market value of eligible financial collateral 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.

13.5.11 Criteria for recognition of guarantees and credit derivatives

796. 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 rating category. 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 will lead to reduced risk charges. A range of guarantors and protection providers is recognised.

13.5.11.1 Operational requirements

797. The effects of credit protection may 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.

798. A guarantee (counter-guarantee) or credit derivative must represent a direct claim on the protection provider and must be explicitly referenced 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.

799. All documentation used for documenting guarantees and credit derivatives must be binding on all parties and legally enforceable in all relevant jurisdictions. Volunteer Groups must 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.

800. The following conditions must be satisfied in order for a guarantee to be recognised:

a) On the qualifying default/non-payment of the counterparty, the Volunteer Group may in a timely manner pursue the guarantor for any monies outstanding under the documentation governing the transaction. The guarantor may make one lump sum payment of all monies under such documentation to the Volunteer Group, or the guarantor may assume the future payment obligations of the counterparty covered by the guarantee. The Volunteer Group must have 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.

801. In addition to the conditions above, the following conditions must be satisfied in order for a credit derivative contract to be recognised:

a) The credit events specified by the contracting parties must at a minimum cover:

   i. failure to pay the amounts due under 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. 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. restructuring of the underlying obligation involving forgiveness or postponement of principal, interest or fees that results in a credit loss event (i.e. 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, section g) below governs whether the asset mismatch is permissible.

c) The credit derivative shall not terminate prior to 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 must be 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, section 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 may not be unreasonably withheld.

f) The identity of the parties responsible for determining whether a credit event has occurred must be clearly defined. This determination must not be the sole responsibility of the protection seller. The protection buyer must have 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 (i.e. the obligation used for purposes of determining cash settlement value or the deliverable obligation) is permissible if (1) the reference obligation ranks pari passu with or is junior to the underlying obligation, and (2) the underlying obligation and reference obligation share the same obligor (i.e. 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 (1) the latter obligation ranks pari passu with or is junior to the underlying obligation, and (2) the underlying obligation and reference obligation share the same obligor (i.e. the same legal entity) and legally enforceable cross-default or cross-acceleration clauses are in place.

802. 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. If the amount of the credit derivative is less than or equal to the amount of the underlying obligation, 60% of the amount of the hedge can be recognised as covered. If the amount of the credit derivative is larger than that of the underlying obligation, then the amount of eligible hedge is capped at 60% of the amount of the underlying obligation.

803. 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.

804. Other types of credit derivatives are not eligible for recognition.

13.5.11.2 Eligible guarantors

805. 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. This includes credit protection provided by parent, subsidiary and affiliate companies of an obligor when they have a higher rating category than that of the obligor.

806. However, a Volunteer Group may 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.

13.5.11.3 Capital treatment

807. 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.

808. Where the amount guaranteed, or against which credit protection is held, is less than the amount of the exposure, and the secured and unsecured portions are of equal seniority (i.e. 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 be 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 a protection seller or 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 (e.g. second-loss position) or the junior tranches (e.g. 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 must be reported as an unrated securitisation exposure even if the underlying exposure is rated.

809. Materiality thresholds on payments below which no payment is made in the event of loss are equivalent to retained first-loss positions, and must be reported as unrated securitisation exposures.

13.5.11.4 Currency mismatches

810. 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.

13.5.11.5 Maturity mismatches

811. 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 may not be recognised. As a result, the maturity of protection for exposures with original maturities less than one year must be matched to be recognised. Additionally, credit protection with a residual maturity of three months or less may not be recognised if there is a maturity mismatch. Credit protection will be partially recognised in other cases where there is a maturity mismatch.

812. 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.

813. When there is a maturity mismatch, the following adjustment will be applied:

$$P_a = P \times \frac{t - 0.25}{T - 0.25}$$ where:

- Pa 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 or the residual maturity of the exposure expressed in years
- t is the lower of T or the residual maturity of the credit protection arrangement expressed in years

13.5.11.6 Sovereign counter-guarantees

814. 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.

13.5.11.7 Other items

815. In the case where a Volunteer Group has multiple types of mitigators covering a single exposure (e.g. both collateral and a guarantee partially cover an exposure), it will be required to subdivide the exposure into portions covered by each type of mitigator (e.g. portion covered by collateral, portion covered by guarantee) and the rating category for each portion must be determined separately. When credit protection provided by a single protection provider has differing maturities, these must be subdivided into separate protection as well.

13.5.12 Credit equivalent amount for OTC derivatives

816. Volunteer Groups must 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 must 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, a Volunteer Group sums:

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 43. 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 are to 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 must 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.

817. 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.

818. Volunteer Groups that wish to net transactions under either novation or another form of bilateral netting must satisfy the following conditions:

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 must have 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 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 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 must have 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.

819. 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.

820. Credit exposure on bilaterally netted forwards, swaps, purchased options and similar derivatives transactions is 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.

821. 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, current exposure (i.e., replacement cost) is a function of the loss allocation rules of the clearing house.

822. 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 are converted to the reporting currency using the current forward rates for each value date. Once converted the amounts receivable for the value date are added together and the gross add-on is calculated by multiplying the receivable amount by the appropriate add-on factor.

823. The future credit exposure for netted transactions (ANet) equals the sum of: (i) 40% of the add-on as presently calculated (AGross) ; and (ii) 60% of the add-on multiplied by the ratio of net current replacement cost to positive current replacement cost (NGR) where:

NGR = level of net replacement cost / level of positive replacement cost for transactions subject to legally enforceable netting agreements.

824. 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 is calculated for each counterparty. On an aggregate basis, one NGR is calculated and applied to all counterparties.

13.5.13 Credit equivalent amount for other off-balance sheet exposures

825. Off-balance sheet exposures that not arising from OTC derivatives should be reported in column [Other Off-Balance Sheet]. Off-balance-sheet items are converted into credit exposure equivalents through the use of credit conversion factors (CCFs) applied to the items' 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, e.g. 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 a debt security (e.g., through the sale of a credit derivative), the risk charge is 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, will receive a CCF of 100%.

e) Transaction-related contingent items (e.g. 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 (e.g. 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%.

13.5.14 Data collection on use of NAIC Designations

826. For 2017 Field Testing purposes, for situations where Volunteer Groups are able to access NAIC[44] designations, the IAIS will collect data from those Volunteer Groups.

Table 44. Mapping of NAIC Designations to ICS Rating Categories

ICS Rating Category	NAIC Designations
1	
2	
3	1
4	2
5	3
6	4
7	5

[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 Designation, used to assess the quality of assets as part of financial solvency monitoring efforts of US state insurance regulators. The NAIC is not a rating agency.

13.6 Operational Risk

Relevant Worksheets in Template:	*FT17.ICS Risk Charge.MAV1* (required) *FT17.ICS Risk Charge.MAV2* (optional) *FT17.ICS Risk Charge.MAV3* (optional) *FT17.ICS Risk Charge.GAAP+1* (required) *FT17.ICS Risk Charge.GAAP+2* (optional)	*Due 11 September 2017*

827. The Technical Specifications for Operational risk apply both to the MAV and GAAP Plus benchmark options. This section has been written from the perspective of the MAV benchmark option; while somewhat different valuation data might be input for the GAAP Plus benchmark option, the Operational risk calculation is fundamentally the same for MAV and GAAP Plus. The Template has been designed to allow a voluntary recalculation of Operational risk under any or all of the other discounting options within the two valuation approaches (i.e., MAV HQA option, MAV OAG option, and GAAP Plus HQA option) if it is viewed that the result would be materially different under different discounting options.

13.6.1 Geographical Segmentation

828. All data items should be split into the proposed geographical segments:

a) EEA and Switzerland

b) USA and Canada

c) China

d) Japan

e) Other developed

f) Emerging market

829. See section 13.2.3 for further details on the definitions of these geographical segments.

13.6.2 Line of business segmentation

830. 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/employers' 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 would 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 will include segmented funds and accumulation annuities. Life (non-risk) will be split further between retail and non-retail.

831. In addition, Non-Life and life (risk) should be split into:

a) Direct – insurance written directly to the policyholder (rather than assumed indirectly via reinsurance)

b) Assumed – insurance written indirectly through reinsurance by accepting risks from another insurance company outside the Volunteer Group

13.6.3 Input data required

832. The design and calibration included in 2017 Field Testing is subject to refinements based on further analysis and evidence. As such, additional information is collected for supplementary testing. The following information will help with completion of the Operational risk section of the *FT17.ICS Risk Charge* worksheets:

a) "Earned premiums" are premiums relating to policies covered by the Volunteer Group during the specified financial year irrespective of the time they were written.

b) "Written Premium" includes all business (new and renewal) written during the specified financial year. 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.

c) Different GAAPs are not consistent in the treatment of investment components related to life insurance contracts; some do (and some do not) require deposit accounting. Consequently, for better comparability, amounts received for investments components should be included with gross written premium data. Any deposit accounting requirements that may exist in local GAAP should be ignored.

d) For Non-Life contracts, care should be taken that the reported premiums are consistent with those used as exposures for the Premium risk charge.

833. In addition, the IAIS will continue to test the design of the Operational risk charge as a factor of the remaining components of the ICS. No extra data is needed for this as the ICS is calculated in other tabs.

834. Gross written premium - most recent financial year (for Non-Life and life (risk))

a) Report the gross written premium for the most recent financial year up until the balance date. The figure should be before the effect of ceded reinsurance and on a consolidated basis. The geographical segmentation should be based on where the risk is written.

b) For example, for a Volunteer Group with a balance date of 31 December, this item is gross written premium from 1 January 2016 to 31 December 2016.

835. Gross written premium - financial year minus 1 (for Non-Life and life (risk))

a) Report the gross written premium for the financial year before the most recent financial year. The figure should be before the effect of ceded reinsurance and on a consolidated basis. The geographical segmentation should be based on where the risk is written.

b) For example, for a Volunteer Group with a balance date of 31 December, this item is gross written premium from 1 January 2015 to 31 December 2015.

836. Gross written premium - financial year minus 2 (for Non-Life and life (risk))

a) Report the gross written premium for the year two years before the most recent financial year. The figure should be before the effect of ceded reinsurance and on a consolidated basis. The geographical segmentation should be based on where the risk is written.

b) For example, for a Volunteer Group with a balance date of 31 December, this item is gross written premium from 1 January 2014 to 31 December 2014.

837. Gross written premium – growth in premium above threshold (for Non-Life, and life (risk))

a) This does not require any input and is calculated based on the growth in gross written premium from the financial year minus 2 to the most recent financial year that is in excess of the set threshold of 20% (which is for field testing purposes only). The threshold is applied at the direct and assumed level and at this stage does not consider growth at a regional level (for the purposes of Field Testing only)

838. Net written premium - most recent financial year (for Non-Life, and life (risk))

a) Report the net written premium for the most recent financial year up until the balance date. The figure should be after the effect of ceded reinsurance and on a consolidated basis. The geographical segmentation should be based on where the risk is written.

b) For example, for a Volunteer Group with a balance date of 31 December, this item is net written premium from 1 January 2016 to 31 December 2016.

839. Gross earned premium - most recent financial year(for Non-Life, and life (risk))

a) Report the gross earned premium for the most recent financial year up until the balance date. The figure should be before the effect of ceded reinsurance and on a consolidated basis. The geographical segmentation should be based on where the risk is written.

b) For example, for a Volunteer Group with a balance date of 31 December, this item is gross earned premium from 1 January 2016 to 31 December 2016.

840. Gross earned premium - financial year minus 1 (for Non-Life, and life (risk))

a) Report the gross earned premium for the financial year before the most recent financial year. The figure should be before the effect of ceded reinsurance and on a consolidated basis. The geographical segmentation should be based on where the risk is written.

b) For example, for a Volunteer Group with a balance date of 31 December, this item is gross earned premium from 1 January 2015 to 31 December 2015

841. Gross earned premium - financial year minus 2 (for Non-Life, and life (risk))

a) Report the gross written premium for the financial year two years before the most recent financial year. The figure should be before the effect of ceded reinsurance and on a consolidated basis. The geographical segmentation should be based on where the risk is written.

b) For example, for a Volunteer Group with a balance date of 31 December, this item is gross earned premium from 1 January 2014 to 31 December 2014.

842. Net earned premium - most recent financial year (for Non-Life, and life (risk))

a) Report the net earned premium for the most recent financial year up until the balance date. The figure should be after the effect of ceded reinsurance and on a consolidated basis. The geographical segmentation should be based on where the risk is written.

b) For example, for a Volunteer Group with a balance date of 31 December, this item is net earned premium from 1 January 2016 to 31 December 2016.

843. Gross current estimate of insurance liabilities on a MAV basis (for Non-Life, life (risk) and life (non-risk))

a) Report the gross current estimate of insurance liabilities on a MAV basis using the specified segmentation. The current estimate should be reported before any allowance for reinsurance

or other related recoverables. For further information on the definition and determination of current estimates, refer to section 6.3.

844. Net current estimate of insurance liabilities on a MAV basis (for Non-Life, life (risk) and life (non-risk))

a) Report the net current estimate of insurance liabilities on a MAV basis using the specified segmentation. The current estimate should be reported after allowance for all reinsurance or other related recoverables. For further information on the definition and determination of current estimates, refer to section 6.3.

845. Gross current estimate of insurance liabilities on a GAAP Plus basis (for Non-Life, life(risk) and life (non-risk))

a) Report the gross insurance liabilities on a GAAP Plus basis using the specified segmentation. The current estimate should be reported before any allowance for reinsurance or other related recoverables. For further information on the definition and determination of current estimates, refer to section 7.

846. Net current estimate of insurance liabilities on a GAAP Plus basis (for Non-Life, life(risk) and life (non-risk))

a) Report the net current estimate of insurance liabilities on a GAAP Plus basis using the specified segmentation. The current estimate should be reported after allowance for all reinsurance or other related recoverables. For further information on the definition and determination of current estimates, refer to section 7 on the GAAP Plus approach.

13.6.4 Operational risk charge

847. The Operational risk charge is calculated as follows:

$$\begin{aligned} Op\ risk\ charge\ = \ & \max\left[non_life_op_risk_{\ premium}, non_life_op_risk_{\ liabilities}\right] \\ & + \ non_life_op_risk_{growth} \\ & + max\left[life_(risk)_op_risk_{premium},\ life_(risk)_op_risk_{liabilities}\right] \\ & + \ life_(risk)_op_risk_{growth} \ + \ Life_(non_risk)_op_risk_{liabilities} \end{aligned}$$

848. For 2017 Field Testing purposes, the Operational risk components are computed as factors multiplied by risk exposures. The same factors are applied across geographical segments. The Operational risk factors applied to determine the Operational risk charge have not been finalised and are for the purposes of Field Testing only.

849. The exposures and factors currently proposed for Operational risk are set in the following table.

Table 45. Operational Risk Exposures and Factors

	Premium	Liabilities	Growth
Non-Life operational risk			
Exposure	Gross written premium most recent financial year	Gross current estimate	Gross written premium most recent financial year exceeding the growth threshold compared to the previous year
Factor	3% [direct] 2.5% [assumed]	3% [direct] 2.5% [assumed]	3% [direct] 2.5% [assumed]
Life (risk) Operational risk			
Exposure	Gross written premium most recent financial year	Gross current estimate	Gross written premium most recent financial year exceeding the growth threshold compared to the previous year
Factor	4% [direct] 3.5% [assumed]	0.4% [direct] 0.35% [assumed]	4% [direct] 3.5% [assumed]
Life (non-risk) Operational risk (Both Retail and Non-Retail)			
Exposure		Gross current estimate	
Factor		0.45%	

13.7 Aggregation / Diversification

850. The Technical Specifications for Aggregation and Diversification apply both to the MAV and GAAP Plus approach. This section has been written from the perspective of the MAV approach; while somewhat different valuation data might be input for GAAP Plus, the two approaches included in 2017 Field Testing are fundamentally the same for Aggregation and Diversification.

851. The risk charges correspond to a specific measure, confidence level and time horizon, for a 99.5% VaR over a one-year horizon. The aggregation of these individual risk charges will then reflect some degree of diversification between the individual risks, as a consequence of the dependency specified between the risks.

852. The individual risk charges are aggregated using correlation matrices in the ICS simulation tool. The implicit assumptions and limitations of such an approach are recognised, although not discussed here. Pair-wise correlations necessary to fully specify the aggregation are proposed by the IAIS considering the ICS principles and supervisory experience. Following Field Testing the IAIS will consider if this needs to be refined.

853. Considering the feedback received during the ICS consultation, a multiple steps approach is adopted for 2017 Field Testing. This approach involves several relatively small matrices being defined and calibrated in order to aggregate several capital charges following the multi steps approach. This will be done automatically in the ICS simulation tool – Volunteer Groups do not have to enter any data with respect to aggregation and diversification in the Template.

854. The Correlation matrix for 2017 Field Testing is:

Table 46. 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%

14 Baseline Jurisdictional Legal-Entity Capital Requirements

Relevant Worksheets in Template:	*FT17.Baseline.Jurisdictional*	*Due 11 September 2017*

855. Volunteer Groups are asked to report their existing local capital requirements for each material insurance legal entity (subsidiary) in the group (please use the same definition of 'material entity' as provided in the 'Scope of Group' section of this document; local capital requirements for all entities under the materiality threshold should be reported on an aggregated basis per country). 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).

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 (i.e. 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; or

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; or

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 2019, Volunteer Groups should report on that basis.

864. For example, the PCR should be reported on the following basis:

a) Subsidiaries based in the European Union should use the Solvency II Solo SCR as the PCR.

b) 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, i.e., the point at which the trend test begins which is one and a half times company action level.

c) 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.

d) 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 TailVaR at 99% confidence level over a one-year time horizon.

e) 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.

f) For Japanese subsidiaries, the PCR is the solvency margin ratio of 200%.

g) For Singaporean subsidiaries, the PCR is 120% of total risk requirement (i.e. capital requirement).

h) For Chinese Taipei subsidiaries, the PCR is 200% of RBC ratio.

i) For Chinese subsidiaries, the PCR is 100% of the C-ROSS total capital.

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 (e.g. subordinated debt), less any deductions from capital resources (or inadmissible assets). If an agreed change in local capital resources will be in-force by 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 2017 Field Testing (see section 10 on capital resources) please provide details in the Questionnaire, including a cross-reference to where these instruments are shown on the *FT17.Financial Instruments* worksheet.

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, i.e. the three 'of which' components need not sum to total capital resources).

15 Baseline Supplementary Internal Model data

Relevant Worksheets in Template:	FT17.Baseline.Internal Models	Due 11 September 2017

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 are asked to proxy the results in a way similar to the structure of the ICS and its components (ie 99.5% VAR risk measure over a 1-year time horizon). Furthermore, as Volunteer Groups use various risk measures, time horizons, confidence intervals and assumptions within their internal models, it is requested that Volunteer Groups provide the specifications of its internal model (risk measure, time horizon, confidence interval) as well as its internal model results using these specifications. The Questionnaire will contain questions asking Volunteer Groups to 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 field testing is to support the analysis of the calibration of the ICS and its components, Volunteer Groups may choose to only fill this sheet in partially, 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.

870. This request applies to internal models that have been approved by group-wide supervisors for the purposes of calculating regulatory capital requirements and internal models for internal risk management purposes that are not subject to regulatory approval. Volunteer Groups are asked to identify whether their internal models have been approved by their group-wide supervisors.

15.1 Calibration

871. In order for data submitted on this worksheet to assist the IAIS in considering the calibration of the ICS, the results presented should be provided by Volunteer Groups by using the same target criteria and time horizon as set out for the calculation of the ICS, i.e. 99.5% VAR risk measure over a 1-year time horizon. Where Volunteer Groups' internal models are not targeting exactly this risk measure but are able to proxy the results, the basis of the results should be reported in the Questionnaire.

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 intervals and assumptions used. (E.g. a Volunteer Group uses for

its equity risk capital charge calculation an internal model approved by a supervisory authority with a 99.9% VAR risk measure over a 1-day time horizon).

15.2 Balance Sheet items

873. Volunteer Groups are asked to only to complete the balance sheet items if they are using a full internal model to measure all quantifiable risks. There is no need to complete this part of the worksheet if partial internal models are used. Please provide details in the Questionnaire about the valuation basis including the approach to discounting liabilities.

15.3 Required Capital

874. Components of required capital are requested by using the same structure as the ICS (including the same definitions for each of the risks). Where it is only possible to report required capital at a high level of aggregation, e.g. market risk as compared to interest rate risk etc., report only that figure. Where the Volunteer Group has the ability to proxy the more granular risk measures in a credible way, please complete the additional granular data request.

875. The IAIS will get more information from the qualitative information provided about the internal model results than the results themselves. Of particular interest is any comparisons or contrasts with the results of the individual ICS risk charges such that the IAIS can understand where there are material differences in the calibration of the measurement of certain risks.

16 Scope of Group

Relevant Worksheets in Template:	*ICS.ReportingScope*	*Due 11 September 2017*

16.1 General comments

876. The purpose of this worksheet is to enable the IAIS to identify differences that arise from a different choice of entities or consolidation technique used in preparing the consolidated data submitted as part of Field Testing, rather than differences which arise from the MAV and GAAP Plus.

877. Only material entities need to be included in this analysis (see definition of 'Material Entity' at the end of this section).

878. Where a group of similar or related entities is included using the same consolidation technique, a Volunteer Group may complete only one line in the worksheet in respect of all such entities.

879. Where a related entity or a number of related entities are excluded from the consolidated data, but would individually or in aggregate represent more than 5% of the gross assets of the Volunteer Group as defined for field testing purposes, then please include those entities in the Template individually or in aggregate.

16.2 Name of entity

880. Please provide the legal name of the entity. If a 'sub-group' is being reported please indicate a descriptive name in the field for entity name.

16.3 Cross-reference to group structure chart

881. For material entities appearing on the group structure diagram (see Questionnaire), please include a cross-reference to the relevant line in the *ICS.ReportingScope* worksheet.

16.4 Type of entity

882. Please select the type of entity being described from the drop-down list. Refer to the list of types of entity provided below.

Table 47. Types of Entities

Type of entity
Insurance company
Holding company
Service company
Financial regulated company
Financial unregulated company
Non-financial company
Other entity not listed elsewhere

16.5 Percentage interest in related entity

883. Please provide the percentage interest that the group has in the related entity. That interest should be the Volunteer Group's share of the economic value of the related entity if different from the proportion of the controlling or voting rights which the group can exercise.

16.6 Consolidation criteria

884. Please describe the criteria applied to determine the consolidation technique used for the entity included in the consolidated Field Testing data. You may select from the criteria in the drop-down list. The criteria may be based on the accounting consolidation standards adopted, regulatory rules applied or the requirement in the Technical Specification to include entities which may be a potential source of risks to the insurance operations. Please identify which apply and the key criteria relevant to each related entity in the Template. For example, key criteria may be particular terms defined according to an accounting standard, such as outlined below.

Table 48. Reasons for including entities in consolidation

Consolidation criteria
Control or Dominant influence (eg if ownership > 50%)
Significant influence (eg if ownership 20% to 50%)
Joint venture
Not controlled, but presents a risk to policyholders

885. For excluded entities (paragraph 4 above) please describe the reason for their exclusion as per the table below. These are included in the same drop down box as the example consolidation criteria above. For 'other' criteria this can be further specified in the adjacent column.

Table 49. Reasons for excluding entities from consolidation

Consolidation criteria
Not material to consolidate
Not practical to consolidate
Other (please specify)

16.7 Consolidation technique

886. Please select the consolidation technique used in preparing the data submitted as part of 2017 Field Testing from the drop-down list provided.

Table 50. Consolidation Techniques

Consolidation technique
Line-by-line consolidation (with deduction of non-controlling interest as single line item)
Line-by-line proportional consolidation
Net assets as single line item
Valued at nil in the consolidated balance sheet (ie any value is deducted from capital)
Other (please specify)

16.8 Valuation

887. Assets and liabilities included in the consolidated data and reported in the 'Related to Insurance Activities' column of the ICS Balance Sheet should be valued in that Balance Sheet on both a Market Adjusted Valuation basis and GAAP with Adjustments basis. However, legal entities that are unconsolidated or are included in the 'Other than Related to Insurance Business' column may be valued under a different set of accounting rules. Thus Volunteer Groups should select the accounting basis that was used to measure either the Net assets or Gross assets being reported under the corresponding columns in this scope of group Template.

888. From the drop-down list provided, please select the valuation used to report Net Assets or Gross Assets in the Template as per the table below.

Table 51. Valuation

Valuation
IAIS valuation (MAV or GAAP Plus) - select this option if the legal entity was consolidated and reported under the 'Related to Insurance Activities' column in the ICS Balance Sheet Template; and where gross or net assets were valued as per the GAAP Plus and MAV Field Testing Specifications.
Local accounting standards – Select this option if the legal entity was either consolidated and reported under the 'Other than Related to Insurance Business' column in the ICS Balance Sheet Template or was not consolidated; and gross or net assets were valued using local GAAP.
Regulatory valuation rules - Select this option if the legal entity was either consolidated and reported under the 'Other than Related to Insurance Business' column in the ICS Balance Sheet Template or was not consolidated; and gross or net assets were valued using regulatory valuation rules.

Other (please specify) – Please provide a narrative explanation in the adjacent column to the right

889. The majority of assets and liabilities included in the consolidated data submitted will be valued on both a MAV basis and GAAP Plus basis — that being one of the principle objectives of 2017 Field Testing. However, we wish to identify the extent to which other bases are used in the data submitted. This may be because local accounting rules are applied to the assets and liabilities of the related entity (which may not be the same accounting rules as are used for the preparation of the consolidated accounts). It may be because the entity is a financial entity which is subject to regulation by another sector authority and those regulatory valuation rules have been applied.

16.9 Main activity

890. Please describe the main activity or purpose of the entity.

16.10 Main risk

891. Please describe the main risk, or risks, that the entity poses to the group.

16.11 Net asset value of related entity

892. Please provide the net asset value of related entities in which the group has an interest of more than 20% but less than or equal to 50% (i.e. including joint ventures).

16.12 Gross asset value of related entity

893. Please provide the gross asset value of value of related entities in which the group has an interest of more than 20% but less than or equal to 50% (i.e. including joint ventures).

16.13 Definitions

16.13.1 Material entity

894. 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 premium income) or profits.

16.13.2 Insurance company

895. A company required to be authorised to carry on insurance or reinsurance business in a jurisdiction. Branches are considered part of a company (legal entity) and if a branch requires authorisation, then the legal entity requires authorisation.

16.13.3 Holding company

896. A holding company is a company whose main purpose is to acquire and hold a controlling financial interest in another company.

16.13.4 Service company

897. A service company is a company, other than a financial regulated company or insurance company, whose main purpose is to provide services which support the insurance business of authorised insurance companies in the same group and which does not provide material services to companies not in the same group.

16.13.5 Financial regulated company

898. A financial regulated company is a company, other than an insurance company, which is required to be authorised to carry on financial business in a jurisdiction such as the business of banking or securities management.

16.13.6 Financial unregulated company

899. A financial unregulated company is a company other than a financial regulated company that carries on financial business (for example, a company that is not regulated and holds investments).

16.13.7 Non-financial company

900. A company other than an insurance company, holding company, financial company (whether regulated or unregulated) or service company.

17 Supplementary Data Collection (National Government Exposures)

Relevant Worksheets in Template:	*FT17.Sovereign*	*Due 11 September 2017*

901. Exposures should be based on the MAV Blended option, considered only in relation to the group's ***insurance business***, and excluding assets in separate accounts or 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).

902. The intent of the tables is to collect jurisdictional data on national government exposures (by issued sovereign or monetary union[45] currency, otherwise considered as the 'official currency' of the jurisdiction, and by different (foreign) currency). Sovereign currency is based on the notion that the jurisdiction is a monetary sovereignty with the power to exercise legal control over its currency. A monetary union currency involves two or more states with an agreement to use and manage a common currency. Some jurisdictions issue debt instruments denominated in currencies other than their official (sovereign or monetary union) currency, particularly some emerging markets issue debt instruments in US dollars. In the Template, please record all exposures in the official (sovereign or monetary union) currency of the jurisdiction issuing the debt in the column 'National Government Exposures in Official Currency'. In the Template, please record all exposures in another currency other than the official (sovereign or monetary union) currency of the jurisdiction issuing the debt in the column 'National Government Exposures in Different Currency'.

903. The determination of the national government exposures should include both on- and off-balance sheet positions, and should consider the following:

a) National government debt investments held;

b) Exposures to national governments through derivatives activities, such as by national governments being counterparties in OTC derivatives transactions or the national government exposure being underlying within the derivatives contract, such as a credit default swap on a national government debt.

c) Similar to the specifications within the ICS Credit risk section, the determination of OTC derivatives exposures should be based on a credit-equivalent basis as applicable;

d) Other national government exposures based on:

[45] A monetary union involves two or more states sharing the same currency. For purposes of 2017 Field Testing, the monetary union should involve a formal agreement, establishment by those states of a common monetary policy and an issuing authority for their common currency. For example, the Euro currency.

i. a ‘look-through’ for investment funds, structured products etc. where it is not overly burdensome to do so;

ii. application of the ‘substitution approach’ in the Credit risk section, if national government guarantees and collateral instruments are being used to lower ICS Credit risk charges; and

iii. any other readily identifiable national government exposure not captured above.

904. A separate table is being used to collect data on exposures to multilateral banks and supranational obligations.

18 Supplementary Data Collection (Segmentation of Investments)

Relevant Worksheets in Template:	*FT17.Investment segmentation*	*Due 11 September 2017*

905. For 2017 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 from what is currently identified for such investments. **The IAIS will use the data collected in its consideration of whether to introduce new investment segments for ICS Version 2.0.**

906. As outlined below, the IAIS is collecting data on the following specified investment segments: strategic equity, private equity, privately placed debt, Fixed-income investments qualifying as capital for a financial institution issuer, and infrastructure investments.

907. For most of the specified investment segments, the IAIS is particularly interested in receiving particular data on the subset of such investments which meet the specified criteria. Given the principle-based nature of some of the specified criteria, the 2017 Field Testing 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 capital risk charge calibrations for the proposed investment segments for ICS Version 2.0 – Volunteer Groups are encouraged to provide such information within the 2017 Field Testing Questionnaire.

908. For purposes of this supplementary data collection:

- Volunteer Groups should report their investments according to their MAV approach on a best efforts basis;
- The IAIS has attempted to design the specified investment segments as mutually exclusive, should Volunteer Groups identify material segment overlaps, they should identify this (including impacts where possible) within the Field Testing Questionnaire; and
- A 'look-through' approach on a best efforts basis 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, they should identify this (including impacts where possible) within the Field Testing Questionnaire.

18.1.1 Strategic equity

909. 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.

910. 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.

911. 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 is 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; and

    - Consistency of such strategy with the main policies guiding or limiting the actions of the Volunteer Group.

18.1.2 Private equity

912. 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 which meet specified criteria for determining if they can be considered as having a better risk profile.

913. 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.

914. Consequently, for data collection purposes, 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; and
- 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.

18.1.3 Privately placed debt

915. The IAIS would like to capture data on the both the population of its privately placed debt and the subset of such investments which 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.

916. 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, for data collection purposes, 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 from 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 from 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.

917. For this segment, the IAIS would also like to capture Volunteer Group's credit assessment data where available on the 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 ratings.

18.1.4 Fixed-income investments qualifying as capital for a financial institution issuer

918. The IAIS would like to capture data on investments in Fixed-income instruments which have definite 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.

18.1.5 Infrastructure investments

919. The IAIS would like to capture data from Volunteer Groups on both the population of its infrastructure debt and equity investments and the subset of such investments which meet specified criteria for determining if they can be considered as having a better risk profile.

920. 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 the substantial majority of its revenues from owning, financing, developing, or operating infrastructure assets – typically involved in the operational phase of a project and may sometimes derive a meaningful part of their revenues from non-infrastructure activities. The lending to an infrastructure corporate is normally unsecured.

c) 'Infrastructure projects' are entities that are typically set up for the construction phase of a new project. Apart from their usually different legal and financing structures, the main difference from infrastructure corporates is that lenders to infrastructure projects usually benefit from security on the assets of the borrower.

d) 'Infrastructure investments' are those debt or equity investments in infrastructure corporates or projects which support owning, financing, developing, or operating infrastructure assets.

921. 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 and waste water	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 and recycling	Facilities dedicated to waste management and recycling for the population.	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	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. (e.g. 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 (e.g. YMCA)	The infrastructure facility is consistent with the social policies of the relevant government.

922. 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.

923. Infrastructure Corporates

924. For data collection purposes, 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 if they are availability-based, subject to rate-of-return regulations, subject to take-or-pay contracts, or subject to equivalent arrangements. Other factors that can result in predictable revenues are other regulations and contractual arrangements, certain demand, a low risk of substitution and barriers to entry. Where the revenues of the infrastructure project are not funded by payments from a large number of users, the contracted purchaser should be of good credit standing or replaceable without a significant loss to investors;

- 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

- Where there exists a general credit assessment or an assessment for senior secured or unsecured exposures issued by a credit rating agency recognised under the ICS criteria, it is an investment grade rating. Otherwise, the:

    - 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.

925. For this section, the IAIS would like to capture Volunteer Group's data on whether the subset of infrastructure corporate investments meeting the criteria are directly held or part of a fund, the type of investment, the sector, whether the infrastructure asset is within an emerging or developed market, and the rating (if applicable) for the infrastructure debt investments.

926. Infrastructure Projects

927. For data collection purposes, 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 if they are availability-based, subject to rate-of-return regulations, subject to take-or-pay contracts, or subject to equivalent arrangements. Other factors that can result in predictable revenues are other regulations and contractual arrangements, certain demand, a low risk of substitution and barriers to entry. Where the revenues of the infrastructure project are not funded by payments from a large number of users, the contracted purchaser should be of good credit standing or replaceable without a significant loss to investors;

- 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 contractual framework that provides 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;

    - The infrastructure project has sufficient reserve funds or other financial arrangements to cover its contingency funding and working capital requirements;

    - For debt investments, the contractual framework provides a strong security package, this 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.

928. 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.

929. For this section, the IAIS would like to capture Volunteer Group's data on whether the subset of infrastructure project investments meeting the criteria are directly held or part of a fund, the type of investment, the sector, whether the infrastructure asset is within an emerging or developed market, and the rating (if applicable) for the infrastructure debt investments.

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 *FT17.BCR & 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 (e.g. 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

Label	Segment	Definition
		2 Non-participating Whole-of-Life and Endowment products. 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

Label	Segment	Definition
		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 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.

Label	Segment	Definition
		5 Annuity products which are structured as 'participating' products but are substantively intended to provide annuity benefits, are to be included in this segment.
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.

Label	Segment	Definition
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: 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

Label	Segment	Definition
		Notes: 1 The value to be included for this segment is the combination of the separate account value and guarantee value. 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 (e.g. 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)

Label	Segment	Definition
		Notes: 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.

Label	Segment	Definition
		Notes: • 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

Label	Segment	Definition
		• Consumer liability: Private individual's liability for personal injury through personal actions or property 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.

Label	Segment	Definition
		Notes: 1 Products in this segment include those issued to both individuals and organisations, and to both private and commercial policies.
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.

Label	Segment	Definition
		Notes: 1 Property Catastrophe Reinsurance would then be excluded from the definition of Non-proportional property business 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.

Label	Segment	Definition
		2 Both proportional and non-proportional reinsurance for products in this segment are included in this segment
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.

Label	Segment	Definition
		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
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 (wholesale) basis (non-participating).
L_T04	L8	Investment Linked		Investment linked policies where policy benefits are associated with the performance 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, e.g. 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 (e.g. 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.

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 pay-out 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			Adjustable Products	Products with adjustable premiums

that are not adjustable				

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		Non-proportional reinsurance obligations relating to insurance obligations included in line of business 6.	

		and transport reinsurance			
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 hospitalization and surgery, etc. Please note cancer insurance 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 (e.g. 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			Worker's 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		Individual Long Term Disability Income		Provides partial replacement of an employee's lost earnings during an extended period of disability.

OR (for par) 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 -		Private form of medical insurance for Medicare beneficiaries. Benefits help cover gaps left my Medicare such as deductibles, co-pays and co-insurance.

		Medicare Supplement		
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. Pay-outs 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 pay-out period. Includes annuitized 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 pay-out annuities for employees upon retirement or termination of employment. May be life contingent or Non-Life contingent.
L_T05 - Annuities		Structured Settlements		Customized annuities designed to serve as an alternative to a lump-sum payment in a lawsuit initiated because of personal injury, wrongful death, worker's 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 Involving Life Contingencies		Settlement option purchased by policy proceeds that provides for periodic payments and may be commutable.
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 capitalized and paid out with principal to the contract holder on the maturity date. Includes the FarmerMac Funding Agreement program (that sells funding agreements collateralized 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 capitalized 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. Farm owners: similar, for farming and ranching risks; property + liability coverages for personal and business losses, on farm dwellings and contents (e.g. 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, e.g., 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 (e.g., off road construction equipment), or scheduled property (e.g., 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		Worker's 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, e.g., glass, tornado, windstorm and hail, sprinkler and water damage, explosion, riot, growing crops, flood and damage from aircraft and vehicle, etc.), various other coverages (e.g., differences in conditions) and liability coverage. Includes multi-peril policies (other than farm owners, 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 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).
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 (e.g., 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 (e.g. 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 securitization, embedded value securitization, and reserve funding securitization.
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 as set out in Q1.2.2 above. 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