



# IAIS

INTERNATIONAL ASSOCIATION OF  
INSURANCE SUPERVISORS

**Public**

**Instructions for the April 2021 Aggregation Method (AM) Data Collection  
Exercise of the Monitoring Period Project**

**(“the AM Technical Specifications”)**

*This document must be read in conjunction with the associated 2021 Aggregation Method Data Collection Template and Questionnaire documentation to provide an accurate and up-to-date understanding of the data collection.*

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## 1 Reporting Date and Context

1. The reporting date (or balance sheet date) to be used by all Volunteer Groups should be end December 2020. Subject to previous discussion with the relevant group-wide supervisor, different valuation dates can be used for the purposes of this exercise (eg 31 March 2020 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 may evolve and be refined over time.

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## 2 Process and Timetable

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

<b>Action</b>	<b>Timeline</b>
Issuance of Technical Specifications, Template and Questionnaire for AM data collection	30 April 2021
Period in which Q&As will be published:  - Refer to Q&A documents on <a href="https://volunteers.iaisweb.org/page/am-data-collection">https://volunteers.iaisweb.org/page/am-data-collection</a>	As necessary, from the week of 17 May to the week of 16 July 2021
Deadline for the submission of the AM data collection Template and Questionnaire by the group-wide supervisor (GWS).	31 August 2021 in the eBIS system by the GWS
Analysis by the Analysis Team & discussions of summary results by the IAIS.	September 2021 to February 2022

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## 3 Aggregation Method Data Collection

### 3.1 Overview

5. The purpose of this exercise is to collect data for the Aggregation Method (AM).
6. The AM Technical Specifications, by design, leave several policy questions open. These include, but are not limited to the choice of scalars, the exact adjustments made and the treatment of certain capital resources. Although several options for calculating the AM are included, the final method may differ from these options. While care should be taken to enter information for each legal entity correctly, it is of utmost importance that the values are reasonable in total. The terms and balances being requested, when possible, should be in accordance with the local jurisdictional statutory reporting. For entities that do not file statutory reports, local GAAP reporting should be used.
7. The scope of the AM data collection includes the same entities that would be reported in the GAAP balance sheet under the Insurance Capital Standard (ICS) as defined in the 2021 ICS Data Collection Technical Specifications (see Section 4 – *Reference ICS: Perimeter of the ICS Calculation*).

### 3.2 General Instructions

8. AM Template worksheets
- a) *AM21.Read-Me*
  - b) *AM21.Entity Input* – Schedule 0 (S0)
    - This table is to identify the Volunteer Group, contact information, reporting dates and reporting currency.
  - c) *AM21.Entity Input* – Schedule 1 (S1)
    - This table is to identify legal entities within the Volunteer Group and corresponding financial information.
  - d) *AM21.Entity Input* – Schedule 2 (S2)
    - This table is to provide information on the carrying value and required capital for all entities in the Volunteer Group before and after de-stacking of the entities. This table will include the adjustments to de-stack entities and adjust for intra-group arrangements, accounting differences and other adjustments to be defined. Each row in this table should correspond to an entry in Schedule 1.
  - e) *AM21.Financial Instruments* – Schedule 3 (S3)

- This worksheet is to be used to gather necessary information to test various levels of possible adjustments to increase the Volunteer Group's available capital based on the concept of structural subordination applied to senior or other subordinated debt issued by the Volunteer Group.
- f) *AM21.Scaling Options* – Schedule 4 (S4) and Schedule 5 (S5)
- This worksheet lists predetermined countries, and provides factors for scaling, as available, to set required capital at a comparable basis. It also allows for set scaling options and will accommodate scaling of capital requirements for non-insurance entities.
- g) *AM21.Summary by Entity Category* – Schedule 6 (S6) and Schedule 7 (S7)
- This worksheet applies the scaling options at the legal entity level and provides an example of what different testing options would look like for each category. In practice, the preferred way to handle the many options for scope, grouping and testing criteria that are included in the AM data collection is to have the results of those options calculated in the background from the input worksheets. The results are shown side by side in the *AM21.Summary* worksheet to reflect a top-level summary.
- h) *AM21.Summary* – Schedule 8 (S8) through Schedule 10 (S10)
- This worksheet provides summary AM ratios for the Volunteer Group and compares options for financial instruments and scaling that are included in the AM data collection.
- i) *AM21.Supp Reporting (optional)* – Schedule 11 (S11) through Schedule 14 (S14)
- This worksheet contains optional supplementary reporting that would be used for benchmark analysis.
- j) *AM21.Param*
- This worksheet provides parameters used for the AM data collection.

### 3.3 Simplifications

9. In an effort to facilitate the AM development process and streamline the AM data collection, the following simplifications may be used. While most entities should be reported on their own line of the *AM21.Entity Input* worksheet, certain legal entities, if they meet the criteria below, can be grouped together. Alternative groupings should be described in the Questionnaire.

10. In situations where the final amount of available/required capital is not impacted, immaterial legal entities can be reported with their parent. When the capital ratio is the same,

regardless of whether a legal entity is stacked or de-stacked, then only the parent entity has to be reported. If all subsidiaries of a parent have their own row, then the legal entity is de-stacked and the row contains a single entity. If the subsidiaries are not reported separately, then the legal entity is stacked and the row contains multiple entities. Examples of entities that can be stacked:

- a) Non-insurance/non-financial entities that are not directly subject to a regulatory regime.
- b) Insurance/financial entities that represent an immaterial portion of the Volunteer Group. The available/required capital for each such entity should be included with that of its parent. For the purposes of these entities, the materiality standard is 1% of available group capital.

11. Legal entities that have material exposure to available group capital should not be reported with their parent if any of the following conditions apply:

- a) The legal entity is subject to a different regulatory regime than its parent.
- b) The legal entity is in a different *Entity Category* than its parent. (See the next section for definition of *Entity Category*)
- c) The legal entity is subject to a regulatory regime where the consolidated group capital requirements differ from the sum of the capital requirements for the individual legal entities.
- d) The legal entity has issued debt that is listed on the *AM21.Financial Instruments* worksheet.
- e) If, for any reason, the stacked and de-stacked available/required capital differ, it is preferable to report the de-stacked capital.
- f) Foreign branches of a Volunteer Group that are subject to capital requirements should be shown de-stacked as if it were a subsidiary.

12. Legal entities that are subject to consolidated group capital requirements should be reported individually. The *Entity Required Capital (Local Regime)* is equal to the consolidated capital requirement for the parent legal entity. The amount reported as *Investment in Subsidiary* for the parent legal entity should be determined by recalculating the consolidated requirement for each subsidiary legal entity. However, if this recalculation places undue burden, it is permitted to calculate *Investment in Subsidiary* using the following simplification: *Investment in Subsidiary (Required Capital) = Investment in Subsidiary (Available Capital) – [Sum of each subsidiary legal entity (Available Capital – Required Capital)]*.

### 3.4 Entity Input

<b>Relevant Worksheet in Template:</b>	AM21.Entity Input	Due 31 August 2021
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13. Enter the *Name of Group*, name of the person the Template is *Completed by* and the *Date Completed* in Schedule 0 (S0). Also report the *Reporting Date* of data provided, *Reporting Currency* and *Currency Unit*. All figures should be converted to a common reporting currency using the same exchange rates as in the 2021 ICS Data Collection. The reporting currency and currency unit should also be the same as in the 2021 ICS Data Collection. Lastly, indicate the version number of information being reported in *Version of reporting*.

14. Enter information on entities as follows in S1.

- a) Insurance/Non-Insurance – This will be populated by a formula so input is not required. The column denotes whether this is an insurance or non-insurance legal entity.
- b) Single/Multiple – Identify *Single* if the legal entity is fully de-stacked and reported as a sole legal entity without subsidiaries. Identify *Multiple* if multiple legal entities are being reported on the same line (ie the legal entity is stacked or only partially de-stacked and reported with subsidiaries). Refer to section 3.3 *Simplifications* for more information.
- c) Entity Identifier – Provide a unique string for each legal entity. This will be used as a cross reference to other parts of the Template such as the *AM21.Financial Instruments* worksheet. If possible, use a standardised entity code such as ISO Legal Entity Identifier or NAIC Company Code (CoCode). CoCodes should be entered as text and not number (eg if CoCode is 01234, then the entry should be “01234” and not “1234”). If there is a different code that is more appropriate (such as a code used for internal purposes), please use that instead. If no code is available, then input a unique string or number in each row in whatever manner is convenient (eg A, B, C, D... or 1, 2, 3, 4...). Do not leave blank.
- d) Entity Identifier Type – Enter the type of code that was entered in the *Entity Identifier* column. Choices include ISO Legal Entity Identifier, NAIC Company Code, Volunteer Defined and Other.
- e) Entity Name – Provide the name of the legal entity.
- f) Entity Category – Select the local regulatory regime that applies to the legal entity or the closest appropriate category. A holding company that is subject to capital requirements should be mapped to the underlying entity category. All other holding companies should be mapped to the *Non-Insurer Holding Company* category. Lloyd’s syndicates should be mapped to the regime that is used for their capital requirement. For example, a Texas syndicate writing P&C business would be mapped to ‘RBC Filing Insurer (P&C)’. Do not add entity categories. An existing category should be used and further information about the issue provided in the Questionnaire.
- g) Parent Identifier – Provide the *Entity Identifier* of the immediate parent legal entity for each legal entity, as applicable. If there are multiple parents, select the parent entity with the largest ownership percentage. Only include one entry. For the top holding company, enter not applicable (N/A).



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- h) Parent Name – This will be populated by a formula so input is not required.
  - i) % Owned by Immediate Parent – Enter the percentage ownership by the immediate parent of the legal entity (as indicated in *Parent Identifier*). While the information in this column will be useful for many entities, it is understood that it will be inadequate where the ownership structure is complex due to the existence of multiple parents, or for some other reason.
  - j) % Owned within Group Structure – Enter the percentage ownership by the Volunteer Group of the legal entity to represent entities partially-owned by third parties. For partially-owned entities of the holding company, the carrying value and required capital should only represent the owned portion of the legal entity.
  - k) Country – For each legal entity, select the country of domicile from the drop-down list in each cell. There should be only one country of domicile selected for each legal entity.
  - l) Basis of Accounting – Provide a description of the basis of accounting that each legal entity uses for its local regulatory reporting. If the legal entity is not subject to regulatory reporting, this column should specify the accounting basis applicable to the amounts reported as carrying value.
  - m) Rating Agency and Rating – Provide a credit rating of the legal entity as of the reporting date, as applicable.
  - n) Revenue – Enter the average of the annual gross revenue of the legal entity for the past three years adjusted to eliminate any intercompany income including dividends received from subsidiaries. This will be used to test proposals for establishing the capital requirement. For insurance and banking entities this column will not be used and should be left blank.
  - o) Assets, Liabilities, and Equity – Record the assets and liabilities held in each legal entity according to local regulatory reporting requirements. For unregulated entities, local GAAP can be used. Please do not report regulated entities on the basis of local GAAP unless that aligns with local regulatory reporting. Equity is automatically calculated as assets less liabilities.
15. Enter information on adjustments to carrying value in S2: Additional clarification specific to different types of entities are discussed later in this section.
- a) Carrying Value (Parent Regime) – If a legal entity is subject to a different regulatory regime than its immediate parent, then record the carrying value under the parent regulatory regime here. All adjustments are made relative to the carrying value under the local regulatory regime, which is entered in the next column. This column is for informational purposes to assist in understanding reconciling differences caused by the parent reporting under a different local regulatory regime than the legal entity. No adjustments are made to the figure entered in this column. Where the parent regulatory

regime is the same as the local regulatory regime or where there is no parent regulatory regime, this column can be left blank.

- b) Carrying Value (Local Regime) – Record the available capital resources recognised by the jurisdictional insurance supervisor. The total available capital should be the result of the sum of equity items from the balance sheet, plus any debt that is recognised as qualifying capital resources, less any deductions from capital resources (eg inadmissible assets). For more information, refer to paragraph 17.
- c) Investment in Subsidiary – Enter an adjustment to remove the investment carrying value of directly owned subsidiary(ies) from parent’s carrying value. The *Sum of Subsidiaries* column may provide a useful check against this entry but it will not necessarily be equal.
- d) Intra-group Financial Instruments – This column is automatically calculated from inputs to the *AM21.Financial Instruments* worksheet. It reflects an adjustment to remove double counting of the carrying value for intra-group financial instruments.
- e) Intra-group Guarantees, LOCs and Other – Enter an adjustment to reflect the notional value for reported intra-group guarantees, letters of credit, or other intra-group financial support mechanisms.
- f) Other Intra-group Assets/Liabilities – Enter the amounts to adjust for and to remove double counting of the carrying value for other intra-group assets, which could include intercompany balances, such as:
  - loans, receivables and arrangements to centralise the management of assets or cash;
  - derivative transactions;
  - dividends, coupons, and other interest payments;
  - provision of services or agreements to share costs; and
  - purchase, sale or lease of assets.
- g) Other Adjustments – Enter amounts that reflect other differences between *Carrying Value (Local Regime)* of insurance subsidiaries and the *Adjusted Carrying Value*. This should include (but is not limited to) differences between the GAAP value and jurisdictional statutory accounting value for a consolidated non-insurer holding company or other legal entity where the accounting basis changes (eg Schedule D carrying value of directly owned U.S. insurance subsidiaries).

16. Enter information on adjustments to required capital in S2 corresponding to adjustments to carrying value:

- a) Entity Required Capital (Parent Regime) – If a legal entity is subject to a different regulatory regime than its immediate parent, then record the required capital under the

parent regulatory regime here. All adjustments should be made relative to the required capital under the local regulatory regime, which is entered in the next column. This column is for information purposes to assist in understanding reconciling differences caused by the parent reporting under a different local regulatory regime than the legal entity. No adjustments are made to the figure entered in this column. Where the parent regulatory regime is the same as the local regulatory regime or there is no parent regulatory regime, this column should be equal to the *Entity Required Capital (Local Regime)*.

- b) Entity Required Capital (Local Regime) – Enter required capital and adjustments for each legal entity using the local reporting value. For more on required capital for insurance and non-insurance entities, see below. All adjustments should be made relative to the required capital under the local regulatory regime.

17. Additional clarification on carrying value and capital requirements:

- a) Insurance Entities – The local capital requirement should be reported, by legal entity, at a Prescribed Capital Requirement (PCR) level.
- i. 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.
  - ii. For Bermudian subsidiaries, the Legal Entity PCR in Bermuda for medium and large commercial insurers is called the "Enhanced Capital Requirement" (ECR) and is calibrated to Tail-VaR at 99% confidence level over a one-year time horizon.
  - iii. For Brazilian subsidiaries, the PCR is reported as the Brazilian MCR (in Portuguese, CMR – Capital Mínimo Requerido).
  - iv. For Canadian life entities, the baseline PCR should be stated to be "100% of the LICAT Base Solvency Buffer". The carrying value should include surplus allowances and eligible deposits. For property/casualty entities, the PCR should be the MCT capital requirement at the target level.
  - v. For Chilean subsidiaries, the PCR is 100% of the total capital requirement which is the maximum between minimum capital, maximum debt ratios and a solvency margin.
  - vi. For Chinese subsidiaries, the PCR is 100% of the C-ROSS total capital.
  - vii. For Chinese Taipei subsidiaries, the PCR is 200% of the RBC ratio.
  - viii. Subsidiaries based in the European Union should use the Solvency II Solo SCR (Solvency Capital Requirement) as the PCR.
  - ix. 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.

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- x. For Indian subsidiaries, the PCR is a factor-based solvency approach, based on a Solvency I type model, to maintain an excess of the value of assets over the amount of liabilities of not less than 50% of the amount of minimum capital subject to the control level of a solvency ratio of 150%.
  - xi. For Japanese subsidiaries, the PCR is the solvency margin ratio of 200%.
  - xii. For Korean subsidiaries, the PCR is 100% of risk-based solvency margin ratio.
  - xiii. For Malaysian subsidiaries, the PCR is the individual target capital level calculated by individual entities based on policy requirements set by the Bank Negara Malaysia. It reflects the individual insurer's/Takaful Operator's own risk profile and risk management practices, and includes additional capacity to absorb unexpected losses beyond those covered in the Risk-Based Capital Frameworks for Insurance and Takaful Operators.
  - xiv. For Mexican subsidiaries, the PCR is the solvency capital requirement (SCR) based on a Solvency II type model, using both Value at Risk (VaR) methodologies, considering the time horizon of one year at a confidence level of 99.5%, and Probable Maximum Loss (PML) methodologies for catastrophic risks.
  - xv. For Singaporean subsidiaries, the PCR at the legal entity level under the enhanced valuation and capital framework for insurers (RBC 2) is calibrated at the 99.5% VaR over a one year period.
  - xvi. For South African subsidiaries, the PCR is 100% of the SAM SCR.
  - xvii. For Switzerland subsidiaries, the Legal Entity PCR under the "Swiss Solvency Test" (SST) is 100% of the target capital, which is calibrated to Tail-VaR at 99% confidence level over a one-year time horizon.
  - xviii. For US subsidiaries, the RBC Company Action Level of each insurer should be re-calibrated to the point at which regulatory action can be taken in any state based on RBC alone, ie, the point at which the trend test begins, which is one and a half times company action level.
  - xix. For any entities that cannot be mapped to the above categories, please use the blank categories (Regime A, Regime B, etc.). Certain legal entities subject to similar regimes are to be grouped together as described in *Simplifications*. Provide further information about these local regulatory regimes in the Questionnaire.
- b) Non-insurance Financial Entities – For reporting available and required capital, follow guidance in Section 7.7.1 *Baseline Current Regulatory Reporting* in the 2021 ICS Data Collection Technical Specifications. Include available capital resources and the capital requirement imposed by any securities, banking or other financial regulator. 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 <https://www.bis.org/bcbs/qis/index.htm>.
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18. Reference Calculations Checks – These are calculations that can serve as checks on the reasonability/consistency of entries.

- a) Sum of Subsidiaries – This automatically generated column calculates the total carrying value of the underlying subsidiaries. It is provided for reference when filling out the *Investment in Subsidiary* column. This sum will often, but not always, be equal to the *Investment in Subsidiary* column.
- b) Adj Carrying Value / Adj Req Cap – This is a capital ratio calculated using the adjusted figures. Double-check entities with abnormally large/small/negative figures to make sure that adjustments were done correctly.

### 3.5 Financial Instruments

<b>Relevant Worksheet in Template:</b>	<i>AM21.Financial Instruments</i>	<i>Due 31 August 2021</i>
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19. Volunteer Groups should provide all relevant information pertaining to paid-up financial instruments issued by the Volunteer Group (including senior debt issued by a holding company), except for common or ordinary shares and preferred shares. This worksheet aims to largely capture financial instruments such as surplus notes, senior debt and hybrid instruments. Where a Volunteer Group has issued multiple financial instruments, the Volunteer Group should not use a single row to report that information; one instrument per row should be reported. Only qualifying debt should be reported whereas other accounts such as treasury stock or retained earnings should not be reported.

- a) Surplus Notes – In all cases, treat the assets transferred to the issuer of the surplus note as available capital. If the purchaser is an affiliate, eliminate the investment value from the affiliated purchaser of the surplus note. If the purchaser is an insurer or other regulated legal entity, eliminate the purchaser’s capital charge (eg RBC charge) on the Surplus note investment.
- b) Senior Debt, Hybrid Instruments and Other Debt issued – Various levels of recognition for structurally subordinated debt will be tested to increase available capital. For purposes of recognition treat as additional capital if both of the following criteria are met:
  - The instrument has a fixed term of at least five years at the date of issue or refinance, and no call options in the first five years.
  - Supervisor’s prior review of dividends paid from an insurance subsidiary to the holding company, and in the case of extraordinary dividends, prior supervisory approval of dividends paid from an insurance subsidiary to the holding company. There shall be no expectation, either implied or through the terms of the instrument, that such approval will be granted without supervisory review.

20. Please fill in the columns as follows –

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- a) Name of Issuer – Input the name of the company that issued the financial instrument. The name of the issuer will populate automatically from the *AM21.Entity Input* worksheet using the *Entity Ref #*.
  - b) Entity Identifier – Provide the reference number that was input in the *AM21.Entity Input* worksheet.
  - c) Type of Financial Instrument – Select the type from the drop-down list. Selections include Senior Debt, Surplus Notes (or similar), Hybrid Instruments and Other.
  - d) Instrument Identifier – Provide a unique security identifier (such as CUSIP).
  - e) Entity Category – Links automatically to the selection made on *AM21.Entity Input* worksheet.
  - f) Year of Issue – Provide the year that the financial instrument was issued.
  - g) Year of Maturity – Enter the year that the financial instrument will mature.
  - h) Balance as of the Financial Statement Reporting Date – Enter the balance as reported in the general purpose financial statements of the issuer.
  - i) Amount recognised in Carrying Value on the Entity Input Tab – Enter the amount of the financial instrument that is recognised in the local regulatory regime.
  - j) Treatment on the Entity Input Tab – Select from dropdown whether the instrument is treated as a liability, an intragroup financial instrument or recognised as capital on the *AM21.Entity Input* worksheet.
  - k) Intra-group Issuance – Select whether the financial instrument was issued on an intra-group basis (issued to a related legal entity within the group). This column will be used to remove double counting. This column includes a drop-down list with the options “Y” and “N”.
  - l) Purchasing Entity Identifier – Enter the *Entity Identifier* of the legal entity that purchased the financial instrument. This column should only be completed for intra-group financial instruments.
21. Using the above inputs, this worksheet calculates an adjustment to carrying value due to intra-group financial instruments. The *AM21.Entity Input* worksheet is linked to this calculation.
- a) Base (No Adjustment) – This column is calculated automatically and represents the value recognised by the local regulatory regime.
  - b) Deduct financial instruments issued on an intra-group basis – This column is calculated automatically and feeds into the *AM21.Entity Input* worksheet. The aim is to remove

the double counting of the carrying value of financial instruments issued on an intra-group basis.

22. For senior debt and other debt with similar characteristics, please provide the following information. For all other financial instruments, these cells should be left blank.

- a) Is subordination to policyholders legal/contractual or structural?
- b) Does the financial instrument have an initial maturity of at least five years? (Y/N)
- c) [For structurally subordinated instruments] Are dividends from insurance subsidiaries of the holding company subject to prior supervisory approval? (Y/N/UC (Under Certain Circumstances)/N/A)
- d) Are distributions linked to the credit standing or financial condition of the insurance group? (Y/N)
- e) Does the financial instrument give holders the right to accelerate repayment during or outside of a winding up of the issuer? (Y/N)

23. Selections as to how these criteria will be applied are made on the *AM21.Summary* worksheet. Given those selections, the following will be calculated --

- a) Base (pre-criteria) – Amount recognised in local regulatory regime.
- b) Disallow financial instruments without selected characteristics – This column is calculated automatically and feeds into the *AM21.Summary* worksheet.

### 3.6 Scaling Options

<b>Relevant Worksheet in Template:</b>	<i>AM21.Scaling Options</i>	<i>Due 31 August 2021</i>
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24. Given differences between solvency frameworks, scalars will be used to bring the required capital for each legal entity to a common level. The Template allows for a range of scaling methodologies to be tested. Each scaling methodology will indicate one scalar per entity category to be used for the full term of the annual AM data collection. Based on an assessment of the data and the annual AM data collection process, a decision will be made as to which scaling methodology to use in the final version of the AM. The goal is to select a scaling methodology for the final AM that is meaningful from a prudential point of view, relevant for the monitoring of financial soundness and helps provide comparable outcomes to the ICS. AM results from the annual AM data collection will be recalculated using the selected set of scalars.

25. To achieve the above goal, work is underway to identify the full range of reasonable methods of determining scalars. The final scaling methodology will either be one of the tested methodologies or some combination/variation that falls within the range of options under consideration. Schedule 4A (S4A) will include the final scaling methodology, once decided,



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and allow for back-testing results of the annual AM data collection. No data inputs from volunteers are necessary on this worksheet.

26. The range of scaling methodologies under consideration are listed in Schedule 4B (S4B). Because the AM is expected to continue to evolve, the inclusion of an option here should not be taken to mean that these scalars will ultimately be used. If a scaling methodology is deemed to not be a viable option, it will be kept for reference in Schedule 4C (S4C). Annex 1 provides additional information on scaling options.

- a) For each option, required capital cannot be negative. The Template automatically applies a floor of zero at the entity level.
- b) Provisional AM – This method will serve as the default calculation while the AM is under development. Until such a determination of final scalars to use in the AM, the ‘Provisional AM’ will use scalars of 100% (ie it will be unscaled).
- c) Pure Relative Ratio Approach (Pure RRA) – This method adjusts only the capital requirement of regulated entities for each local regulatory regime within the Volunteer Group. It compares the average capital ratios relative to required capital at the first intervention level. For purposes of the Template, scalars have been developed from publically available information for certain jurisdictions where such data was available. The scalars may differ if the jurisdiction applies different formulas to the industry segments (Life, P/C and Health). The scalars will require periodic maintenance to provide for accurate scaling for each reporting year but will likely always lag by at least one calendar year. For jurisdictions where a scalar has not been provided, scalars will not be applied. Scalars will be applied using the prescribed capital requirement as the first intervention level.
- d) Excess Relative Ratio Approach – This method adjusts both available capital and required capital. It adds a step to the Pure RRA by looking at the ratio of excess capital carried over first intervention level requirement. Therefore, to calculate a jurisdiction’s excess capital ratio, one would first calculate the amount of the capital ratio carried in excess of the capital ratio required at the first intervention level. This amount would then be divided by the capital ratio required at the first intervention level. As with the Pure RRA, scalars have been provided in the Template relying on publically available information for certain jurisdictions, where such data was available. The scalars may differ if the jurisdiction applies different formulas to the industry segments (Life, P/C and Health). The scalars will require periodic maintenance to provide for accurate scaling for each reporting year but will likely always lag by at least one calendar year. For jurisdictions where a scalar has not been provided, scalars will not be applied. Scalars will be applied using the prescribed capital requirement as the first intervention level.
- e) 0.5% Probability of Default – This method will include scalars that are calibrated to a 0.5% probability of default (i.e. 99.5% VaR).



- f) Banking Equivalent – This method will include scalars that are calibrated to a level equivalent to Basel banking requirements.
- g) Internal Models – This method will include scalars that are calibrated to a level equivalent to the average level indicated by company internal model results. While awaiting further analysis, unscaled values are being used as placeholders.
- h) Supervisory Assessment Approach – This method uses the local PCR (or equivalent) as the required capital for regimes that produce comparable outcomes to the ICS based on certain criteria (eg equivalent level of solvency protection). That is, set scalars equal to 100%. This approach is a sub-set of the unscaled approach.
- i) Reverse Engineered ICS – This method uses scalars that are calibrated to a level equivalent to the average level of ICS Version 2.0 for the monitoring period. Based on discussion of results from the 2020 AM data collection, the US and interested jurisdictions decided that work on this method would be suspended to focus on viable methodologies.

27. To aid with the development of scalars, input was solicited on the reasonableness of the methodologies being tested. One response received is that scalar methodologies may need to differentiate between risk-based and non-risk based regimes. An insurance capital regime is risk-based if the amount of capital that an insurer is required to hold varies with its solvency risk. An example of a non-risk based requirement is a fixed (ie constant) capital requirement. While the appropriate choice of scalar is expected to bring different risk-based regimes to a common level, it is not yet known if this would be possible for all types of non-risk based requirements. To ensure adequate capital for non-risk based regimes, results from the AM data collection are being used to investigate the materiality of this issue and possible safeguards for mitigation. The default safeguard – which is applied automatically in the Template – floors required capital for non-risk based entities at the amount of available capital.

### 3.7 Supplementary Reporting

<b>Relevant Worksheet in Template:</b>	<i>AM21.Supp Reporting (optional)</i>	<i>Due 31 August 2021</i>
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28. This worksheet contains optional supplementary reporting that would be used for benchmark analysis. Where applicable, figures can be pasted from the ICS Template.

29. Capital modelling results should be from the internal model that is used in reporting of the group’s Own Risk and Solvency Assessment (ORSA). It is not required for the model to be approved by the group-wide supervisor. For Schedule 13 (S13), if possible, paste this value from the supplementary reporting in the ICS Template. If a value is unavailable, the Template will calculate what the ICS required capital would be if the 99.5% VaR scalar option were used as a full internal model.

30. For Schedule 14 (S14), where possible, provide the scalar implied by the ORSA capital model results for each entity category. This scalar is meant to apply to the Volunteer Group’s

current results as calibrated at a 99.5% VaR measure over a one-year time horizon. If values are left blank, the analyst will assume 100% is appropriate.

### 3.8 Summary Schedules

<b>Relevant Worksheets in Template:</b>	<i>AM21.Summary by Entity Category</i> <i>AM21.Summary</i>	<i>Due 31 August 2021</i>
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31. Summary by Entity Category – In Schedule 6 (S6), entities are aggregated by their category and then scaled. Results are shown – both scaled and unscaled – aggregated between insurance and non-insurance entities. Schedule 7 (S7) reports each *Entity Category* in total.

32. Summary – This is the main output worksheet. There are drop-down lists to select a method of calculation. The calculation itself is automatic. The options presented are meant to cover a range of possibilities and should not be taken as an indication of the final form the AM will take. Also included is a high level breakdown of results.

- a) Which scalars to use – Select a preliminary scalar. Again, these scaling options are for demonstration purposes only.
- b) Criteria for Recognising Senior Debt – Select which criteria should be applied to recognise Senior Debt.
- c) Limits Applied to Senior Debt – Select a limit as a percentage of either available or required capital (unscaled).

## Annex 1 Analysis on Potential AM Scalars

The objective of Annex 1 is to further describe the scalar methodologies that are under consideration and the analysis being conducted to evaluate reasonableness. The purpose of providing this context is to assist Volunteer Groups in completing the AM data collection package.

The American Academy of Actuaries released a paper on 10 March 2021 “Aggregating Regulatory Capital Requirements Across Jurisdictions: Theoretical and Practical Considerations” (Academy paper). The goal of the Academy paper is to assist group-wide supervisors that are creating an aggregation-based group capital standard. The Academy paper does not make a recommendation as to which scalar(s) should be used nor does it discuss comparability of the AM and ICS. Rather, it provides a useful framework for discussing scalar analysis.

### Scalar Analysis

The Academy paper describes four families of methodologies for estimating scalars. Each includes multiple variations. The following table provides a mapping of the 2021 AM data collection scalar options to the Academy methodology families:

<b>AM Scalar Option</b>	<b>Academy Methodology Family</b>
Provisional AM	No Scalar
Pure Relative Ratio Approach	Capital Ratios
Excess Relative Ratio Approach	Capital Ratios
0.5% Probability of Default	Probability of Negative Outcomes
Banking Equivalent	Equivalence of Two Points
Supervisory Assessment Method	No Scalar
Internal Model	No Equivalent Family

The Academy paper presents four *general criteria for assessment* of scalar methodologies: validity, reliability, ease of implementation and stability of parameters. Assessments are provided for each of the four families above. The Academy paper’s description of these criteria is paraphrased below. After each description, there is a discussion of related AM data collection analysis including the role of the data being collected.

Validity means that the selected methodology generates values for available and required capital for an entity in a foreign jurisdiction. There are two common ways in which validity of the scalar measures are evaluated: the reasonableness of assumptions, and the correlation of the measure with other known measures of similar quantities. The Academy paper relies on reasonableness of assumptions. The AM data collection analysis also looks at how various measures of group capital adequacy compare to AM results and to each other. This analysis makes use of output from the *AM21.Summary* and *AM21.Supp Reporting* worksheets.

Reliability means that any entity or group calculating a scalar will know with confidence they are using the same information which any other entity or group would use. This implies that the definition of the scalars must be: transparent, unambiguous and based on broadly available and understood data. Ease of implementation is based on availability of data and compatibility with existing procedures. Each Volunteer Group participating in the AM data collection use the same scalars. These are listed on the *AM21. Scaling Options* worksheet. The following table provides the sources of data used for the AM data collection scalar options. There will be further discussion on the degree to which these sources are available, understood and compatible with existing procedures for analysis.

<b>AM Scalar Option</b>	<b>Data Source</b>
Provisional AM	No Scalar (ie same as entity PCR or equivalent as identified by local supervisor)
Pure Relative Ratio Approach	Industry data as provided by local supervisors
Excess Relative Ratio Approach	Industry data as provided by local supervisors
0.5% Probability of Default	Initial factors based on jurisdictions stated calibration-level and/or level of jurisdictions they have declared themselves to be equivalent. Subject to review based on empirical estimates of probability.
Banking Equivalent	Empirical analysis done by local banking regulators
Supervisory Assessment Method	No Scalar (ie same as entity PCR or equivalent as identified by local supervisor)
Internal Model	Company internal model results

Stability of parameters is important if the parameters are to be useful. Depending on the purposes for which the scalars are to be used, more or less sensitivity to changing conditions might be appropriate. The Academy paper discusses sensitivity analysis in two different dimensions: (1) sensitivity of results to changes of parameters within a model and (2) sensitivity of results to differences in methods of calculating scalars. Sensitivity analysis is also performed on the AM data collection. This is done by reweighting figures on the *AM 21. Entity Inputs* worksheet by changing the size of different scalar options and/or looking at the impact of individual categories of entities on individual and total results.