4.1 Market adjusted valuation (MAV) approach

Q5

Q5 Section 4.1.1 Do the adjustments to GAAP specified in the 2016 Field Testing Technical Specifications for the construction of the MAV balance sheet succeed in providing a largely comparable picture of the financial situation of IAIGs and a consistent basis for the calculation of the ICS? Please explain.

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
Bermuda Monetary Authority (BMA)	Bermuda	IAIS Member	No	Yes	
China Insurance Regulatory Commission	China	IAIS Member	No	Yes	In addition, we suggest in terms of market value or fair values, MAV keep consistent with other well-adopted international reulgations, for example following the IFRS developments and keep updated if there are significant IFRS changes that are relevant to MAV.
Office of the Commissioner of Insurance	China Hong Kong	IAIS Member	No	Yes	We welcome the various reference methods and options available for this Field Testing exercise to design the best suitable yield curves for 35 currencies under the Market-Adjusted Valuation (MAV) approach. We believe that it would provide a largely comparable picture of the financial situation of IAIGs. To achieve consistent calculation, it is important to have sufficient granularity. We would like to point out that

					these reference methods and options should 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. Hong Kong is developing a risk-based capital (RBC) regime and would make reference to ICS in developing our RBC regime
Financial Supervisory Service	Korea	IAIS Member	No	Yes	GAAP adjustment would not be required in Korea as 2016 FT is conducted based on MAV approach and such adjustment will not be required after implementing both ICS and IFRS4 II in the near future. Nevertheless, the valuation approach and methodology (e.g. fair value adjustment) of both assets and liabilities other than insurance liabilities are required in more detail with some practical examples.
KNF - Polish Financial Supervision Authority	Poland	IAIS Member	No	Yes	The MAV approach focuses on comparability of valuation of assets and liabilities across IAIGs, regardless of the jurisdiction in which any IAIG's head office is located or the IAIG's legal domicile. This should ensure comparability of the exposure measures used for calculating the capital requirement as well as the amount of capital resources To achieve this, MAV requires that various IAIS prescribed adjustments are made to significant components within jurisdictional GAAP accounting valuations, including: the requirement to use current estimates for insurance liabilities; the use of an IAIS prescribed yield curve to project and discount the insurance liability cash-flows; and the use of fair value for financial instruments. According to ICP CD the MAV approach will be transparent and verifiable to supervisors Standard in a simplified manner shows how it should be calculated capital resources (surplus of assets over liabilities). The valuation basis of assets and liabilities is an integral component of the ICS. The balance sheet used for ICS purposes provides some of the underlying exposures for the calculation of the ICS capital requirement. In

					addition, the balance sheet provides the foundation for determining qualifying capital resources. The valuation of assets and liabilities other than insurance liabilities and financial instruments will be generally based on International Financial Reporting Standards (IFRS) or GAAP valuations, as applicable for consolidated audited general-purpose financial statements (or statutory amounts in the case of U.S. mutual IAIGs). The IAIG should make adjustments to the following items: 1) Insurance liabilities and reinsurance balances (adjusted to a current estimation with a margin). 2) Financial instruments, both assets and liabilities, including derivatives and mortgage/loan assets (adjusted to fair value using the fair value specification determined under the IAIG's applicable IFRS or GAAP standards for reporting or disclosure purposes). 3) Liabilities, including debt instruments issued by the IAIG (adjusted to a value that does not take into account changes in the credit standing of the IAIG). Those rules are similar to Solvency II.
National Association of Insurance Commissioners	USA	IAIS Member	No	No	Further adjustments or refinements to GAAP as specified in the 2016 Field Testing Specifications would be necessary to construct the MAV balance sheet to obtain comparability. This has to do with the level of granularity of data requested in the current specifications for certain items. For example, consolidation criteria under jurisdictional GAAPs for certain type of legal entities may differ significantly based on control, risk transfer or residual loss absorption capacity. Currently, to prevent increased administrative burden on the volunteers companies, information has not been requested at a detailed level for certain items

					before higher level data is analyzed through IAIS field tests and review of qualitative questionnaires from volunteers.
Ageas	Belgium	Other	No	No	To ensure a level playing field all IAIGs should apply MAV and value all balance sheet items at fair value or a current value that approaches fair value (for insurance liabilities as example). We have no sufficient knowledge of other GAAPs and are unable to assess if the suggested adjustments in the field test exercise that derive MAV from local GAAPs are complete.
ABIR Association of Bermuda Insurers & Reinsurers	BERMUDA	Other	No	Yes	The MAV construction is largely consistent across balance sheets save for areas of remaining ambiguity and uncertainty on measurement as referenced in Q6 below and in respect of areas where parameterisation is wholly entity specific as is the case with some of the discount rate options. In this we do however confront the question of whether we are looking for a comparable outcome of balance sheet resilience or a comparable picture of companies against a common approach and would identify the MAV basis as presenting a reasonable compromise.
Canadian Institute of Actuaries	Canada	Other	No	Yes	
CLHIA	Canada	Other	No	Yes	We agree directionally that the adjustments succeed in producing a largely comparable result. However it should be recognized there will inevitably be some lack of comparability due to market differences in each jurisdiction given the global applicability of the ICS. There could be valid reasons for some of these differences. Examples are long term discount rates and assumptions for non-fixed income investments.

Ping An Insurance (Group) Company of China Ltd.	China	Other	No	Yes	We agree with the current MAV method. We also suggest IAIS adopt relevant rules of the forthcoming IFRS when defining the market value or fair value, which enables better international comparability.
EIOPA Insurance & Reinsurance Stakeholder Group	EU	Other	No	Yes	Section 4 – Valuation - General comments by IRSG • The Valuation basis is a critical aspect of the ICS, it is important that this reflects the insurance business model and does not introduce pro-cyclicality. The use of an appropriate discount rate is essential in this regard. Under Solvency II, in a European context, this area was discussed at length and specific long term measures were introduced to address this. Under the 'MAV approach' this aspect must be given greater focus to provide appropriate solutions consistent with the long term nature of insurance liabilities, asset liability management and the ability to hold investments for the long term. In addition further work should be undertaken to explore the extent to which a bridge to 'GAAP with adjustments' can be found in this area. • ICP 14.7.1 states "Technical provisions are assets or liabilities that represent the economic value of the insurer fulfilling its insurance obligations to policyholders and other beneficiaries arising over the lifetime of the insurer's portfolio of insurance policies". This approach should be equally reflected in the MAV and GAAP+ approach. • There are some very key basic foundations that do not yet seem to be agreed and it is hard to comment definitively on the proposals until they are resolved. These include * What is the purpose of the measurement framework: To ensure a company has sufficient financial resources to meet its customer commitments to a certain confidence limit or to maintain transferability at all times to a certain confidence limit? * Is the underlying balance sheet assumption that insurers' assets and liabilities are generally exposed to 100% forced selling risk but can only

					exceptionally avoid force sales or that insurers are generally assumed to be long-term investors but exceptionally can be forced sellers of some of their assets? • Fulfilling the insurance liabilities by the IAIG suggests a wider consequence for the ICS. The impact of applying a fulfilment does have not only have consequences for the valuation (discount rate for insurance liabilities) but should also have consequences for the approach taken when determining the appropriate methodology for the capital requirements. Thus for those fixed income investments which are used to back insurance liabilities and which are not subject to forced sales should be shocked against the default risk rather the spread risk.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	Yes	There is no guidance given regarding the valuation of non-controlled participations. This could potentially lead to differences in treatment. Net asset value, adjusted equity value, cost or economic value could be used. There should be additional work on the relevant discount rate for insurance liabilities. The adjustment to the RFR curve should not be limited to an appropriate adjusted portion of the return earned on bonds & loans but also include other assets such as equity.
Insurance Europe	Europe	Other	No	No	It is key that, if the ICS targets all IAIGs, then it should be ensured that that same risks are measured in the same way, independent of the jurisdiction where a specific IAIG is based. In this context, it is key to ensure that the valuation basis is as comparable and convergent as possible, and will generate the same outcomes for required and available capital. The IAIS should therefore ensure that all necessary adjustments are made to statutory accounts in order to achieve a consistent and comparable MAV across all IAIGs. In addition, when considering the adjustments on the liabilities side, all

					the assets that are used by an insurer to cover those liabilities should be recognised (eg bonds/loans, equity).
Actuarial Association of Europe	European Union	Other	No	Yes	The underlying valuation principles as specified in the 2016 field test technical specification (see page 23 par 49) generally provide a basis for the construction of a comparable Market Adjusted Balance Sheet (MAV). Details of the approach, such as the choice of the discount methodology are subject to this consultation (see our corresponding answers).
Institut des Actuaires	France	Other	No	Yes	It would be helpful to specify more explicitly and further in paragraph 74 b) that all assets of an investment nature should be at fair value.
Allianz	Germany	Other	No	No	The underlying valuation principles as specified in the 2016 field test technical specification (see page 23 par 49) generally provide a basis for a bottom-up construction of a comparable Market Adjusted Balance Sheet (MAV), while certain details of the approach, such as the choice of the discount methodology are subject to this consultation (see our corresponding answers). From an operational standpoint – and building on experience gathered in Europe with Solvency II – it seems unclear whether a MAV balance sheet can be constructed by "adjustments" to the GAAP balance sheet or whether a bottom-up approach is required to ensure compliance with the MAV valuation principles.
German Association of Actuaries (DAV)	Germany	Other	No	Yes	The underlying valuation principles as specified in the 2016 field test technical specification (see page 23 par 49) generally provide a basis for the construction of a comparable Market Adjusted Balance Sheet (MAV). Details of the approach, such as the choice of the discount methodology are subject to this consultation (see our corresponding answers). From an operational standpoint – and building on experience

					gathered in Europe with Solvency II – it seems unclear whether a MAV balance sheet can be constructed by "adjustments" to the GAAP balance sheet or whether a more bottom-up approach is required to ensure compliance with the MAV valuation principles.
Global Federation of Insurance Associations	Global	Other	No	Yes	Achieving the comparability of MAV and GAAP+ valuation bases is a long term project. For this reason we welcome the flexibility to use appropriate standards for each jurisdiction for the purposes of ICS 1.0.
AIA Group	Hong Kong	Other	No	No	We believe the types of adjustments to GAAP specified in the technical specifications could lead to a largely comparable picture. However, as indicated from our comments in the relevant sections throughout this consultation, we have significant concern over the current methodologies proposed to derive these adjustments e.g. the approach to discounting and the treatment of MOCE.
International Actuarial Association	International	Other	No	No	If one assumes the future cash flows are fixed, then the adjustments make general sense. Section 74(c) of the specifications states that financial liabilities should be adjusted to fair value; e.g., both US GAAP and IFRS state that credit spread adjustments should be made to financial liabilities. However, note that disallowing credit spreads in IAIG liabilities is consistent with disallowing credit spreads in insurance liabilities. But, since cash flows are not fixed (due to dividends and discretionary credits for many long term products), there are several problems with all of the alternate methods proposed for the discount rate for liabilities. The IFRS approach is preferable even though we recognize some are concerned it has too few rules in it. The problems with the proposed discount rate methods include: a. The discount rate does not reflect the risk-sharing aspects of the

					company's business (e.g. participation). As a result, the discount rate must be company-specific if it wishes to reflect those aspects of risk that are mitigated via participatory risk sharing with the policyholder. b. The ultimate forward rate needs to include a credit spread. The current IAIS approach does allow a credit spread on ultimate forward rate: 10 basis point spread adjustment for segment 2 (transition period) and 3 (ultimate). (see technical specification paragraph 141). Several members have expressed that there are more reasonable calibrations to use, but they have not been able to provide them within the comment period requested.. c. There are two approaches to ensure the proper stability in MAV net worth over time: i. One is a top-down approach to get the discount rate. Here, the expected total return is reduced by a spread based on the investment risks inherent in the liabilities and the spread reduction is a stable long term estimate, not a number that fluctuates with every market movement in credit spreads. If the spread reduction moves with market spreads (as all currently proposed methods do) the result is volatility in the long term estimate of the same sort that would arise if material changes in estimates of other long term assumptions were made on every valuation date. When these liabilities are not "cashable" (liquid) in the market, and are not applied consistently across assets and liabilities, the result will be "wrong" every time the market changes until the redemption date(s). ii. The second way would be to adjust assumed bonus rates consistently with assumed investment returns. That way has the advantage that it tests bonus supportability at the same time. This is a "bottom-up" approach which is built off of a risk-free rate ("market consistent") approach. The method chosen depends on the underlying valuation framework

					objective. Since option i. looks at real world returns and participation, it more easily conforms to an actual to expected model/assumption validation process where the benefits (and hence risk margins) are larger than they would be under option ii.
General Insurance Association of Japan	Japan	Other	No	Yes	
Great Eastern Holdings Ltd	Singapore	Other	No	Yes	Assets and Liabilities would be largely comparable if all are revalued to a MAV methodology.
Swiss Association of Actuaries	Switzerland	Other	No	No	GAAP and market consistent valuation are based on fundamentally different assumptions and methodologies. Even within the market consistent framework, seemingly small differences in discount rates, MOCE etc. can lead to large differences. These differences depend critically on the positions (exposure) of the company or group under consideration. Since the solvency ratio depends on the difference between the market value of assets and the value of liabilities, where small (relative) difference in the value of liabilities can have large impacts. Therefore it is highly unlikely that comparability can be achieved – regardless how hard one tries.
Swiss Re	Switzerland	Other	No	No	In our view, the proposed adjustments to GAAP bring the valuation approach more in line with an economic valuation, but still do not fully reflect a MAV approach. Nonetheless, we recognize that ICS must be implemented in a stepwise manner, and in that sense, the GAAP+ approach is indeed a step towards convergence.

American International Group (AIG)	U.S.	Other	No	No	As discussed in our thematic overview letter, we believe that the IAIS should focus on developing an “Own Asset with Guardrails” approach to discounting, in which the liability discount rate is derived from the firm’s own assets, valued at market. AIG, in dialogue with several internationally active insurance group (IAIG) peers, is actively working on further specification of a proposal that would provide an implementable basis for a viable own assets liability discounting approach. The development of comprehensive and credible “guard rails” - encompassing both quantitative and qualitative requirements - will be essential in providing both regulators and industry peers with comfort in the rigor of the resulting liability valuations.
Bupa	UK	Other	No	Yes	We consider the MAV approach to be proportionate and reasonable.
American Council of Life Insurers	United States	Other	No	No	Paragraph 74 c) of the ICS CD requires that the adjusted value of debt instruments issued by the IAIG not reflect the credit standing of the IAIG, or in other words, not be marked to market. Current 2016 Field Testing specifications require debt instruments to be valued at IAIS liability discount curves. This results in a less efficient capital structure, raising cost of capital and increasing product pricing for consumers. ** Materially higher debt valuation due to the low discount rate used; ** Significant penalty for any debt in the capital structure, including subordinated debt; ** Counterproductive to stability as it punishes longer term and higher loss-absorbing instruments more; and ** For some long term subordinated debt, the capital deduction may be over 50% of principal.

MetLife	United States	Other	No	No	It is unclear how comparable results are to the MAV approach. 2016 Field Test specs direct companies to -- Value assets using GAAP principles for entities that prepare GAAP financial statements, largely available-for-sale (held at market value) -- Determine liabilities on a best estimate basis, including use of portfolio book yield as discount rate for products using discounted cash flow approach An AOCI adjustment is required to make the balance sheet reasonably symmetric. It -- Deducts unrealized gain on available for sale securities to bring assets closer to book value -- Should capture book-market difference of all material asset classes backing book value liabilities to avoid pro-cyclicality impacts. We propose that the current methodology has the following limitations: --Liability valuations based on company portfolios would be different by company for identical policies --Capital charges different from MAV due to different shock sensitivities. More field testing is required. Further, we believe that significant additional work is required to include non-GAAP filers in the current GAAP plus adjustments approach.
National Association of Mutual Insurance Companies	United States	Other	No	Yes	Both the U.S. GAAP+ and the U.S. SAP+ principles and guidelines included in current field testing constitute sufficient bases for the ICS Valuation. In creating the SAP+ valuation interested parties in the U.S. that file under both GAAP and SAP methodologies considered the

					differences and brought the SAP principles in line with the GAAP principles. It was determined thereafter that the differences between the GAAP+ and SAP+ approach were immaterial and insignificant. SAP+ will include an aggregation approach instead of a consolidation approach because that is all that is required under SAP+. Since aggregation is also allowed under this ICS consultation draft for non-insurance and non-financial entities it seems the ICS principle about consolidation is flexible and should be flexible in this situation as well. Our general comments will include comments on the changes that have been made to the principles consistent with this view.
RAA	United States and many other jurisdicitons	Other	No	No	We believe that further adjustments to the various GAAP starting points will be necessary to achieve a largely comparable MAV balance sheet. This can be achieved through additional and broadened field testing. The proposed adjustments appear largely consistent with jurisdictional approaches where an economic valuation approach has been adopted, but given the variety of, and forthcoming changes in, other GAAP valuation approaches further adjustments will be necessary. We support the maintenance of both the MAV and GAAP+ measurement bases as options for final ICS implementation.
American Academy of Actuaries	United States of America	Other	No	No	The adjustments to GAAP theoretically will produce comparability across firms, but they may not provide a consistent basis for the calculation of the Insurance Capital Standard (ICS). In addition to comparability, there are other important considerations with respect to the MAV balance sheet, including the appropriateness of the adjustments and the balance sheet's overall meaningfulness. In particular, the prescribed MAV discount rate may produce undue volatility and pro-cyclicality in the ICS due to some of the current designs. Appropriate design should not be sacrificed for the sake of comparability.

American Insurance Association	United States of America	Other	No	No	No. The threshold question is whether we are looking for a comparable outcome of balance sheet resilience or a comparable picture of companies against a common approach. Each IAIG is unique by virtue of its structure, global business mix, and risk portfolio. Thus, we are not convinced that MAV can ever achieve the comparability anticipated by this consultation document. The stated purpose of making adjustments under the MAV approach is to achieve comparability of valuation of assets and liabilities, in order to calculate the capital requirement and capital resources. The adjustments, however, may assume away the local idiosyncratic aspects of the components being adjusted. Assuming away the unique aspects of the IAIG runs a greater risk of making a MAV adjusted balance sheet less meaningful. A balance sheet that is no longer meaningful can never be considered comparable.
Prudential Financial, Inc.	United States of America	Other	No	Yes	While a prescriptive set of adjustments will theoretically produce comparability across firms it will not present an informative picture of the IAIG's financial situation. In their current form, the prescriptive adjustments – the most significant of which is the approach to valuation – fail to sufficiently account for jurisdictional differences. Appropriate design should not be sacrificed for the sake of comparability. Absent further enhancements to account for these differences the financial results will be of little value. In addition, as discussed in further detail in section 4.3, the margin over current estimates (MOCE) is inappropriate.
CNA	USA	Other	No	No	No. CNA continues to question the analytical benefit of developing a standardized MOCE which is rigid, overly complex, and in the case of the cost of capital method, significantly raises the ICS capital requirement above the stated calibration level. Margin is a universally accepted concept in GAAP frameworks intended to buffer against adverse development relative to a central estimate, which is the same

					fundamental role of capital. Therefore, if the IAIS is going to require firms to formulaically establish a specifically identifiable volatility buffer, which we do not support, CNA recommends releasing this buffer into capital to ensure accurate and consistent presentation for all loss absorbing funds.
Liberty Mutual Insurance Group	USA	Other	No	No	Both the U.S. GAAP Plus and the U.S.SAP Plus principles and guidelines included in the current field testing constitute sufficient bases for the ICS valuation. However, the proposed adjustments to GAAP to construct the MAV balance sheet do not provide a comparable picture of the financial situation of IAIGs. The ICS must respect and preserve the authority of local jurisdictions to apply local valuation rules. Therefore, the MAV balance sheet is inconsistent with the ICS principles, particularly those that seek to balance the ICS system with established local capital assessment methodologies. The U.S. Federal Reserve has indicated that it does not embrace MAV, because of the unnecessary volatility it injects into an insurer's balance sheet. The IAIS should abandon its efforts to develop a MAV for use in the ICS.
MassMutual Financial Group	USA	Other	No	Yes	Yes, the adjustments to MAV generally yield a balance sheet that should be comparable across IAIGs. This is based on the tenet that there is comparability when financial instruments are presented at fair value, and insurance liabilities are at current estimates. In the context of financial instruments, there is still the inherent challenge of determining the fair value of certain thinly traded asset types – however, this is generally a challenge of any reporting basis where fair value is used, and there is not an easy solution. Despite this, from a practical standpoint, we generally find the current approach practical in achieving comparability across firms.

Q6

Q6 Section 4.1.1 Are there any other material areas of divergence across existing GAAPs (or statutory accounts) that should be subject to adjustments when constructing the MAV balance sheet? If “yes”, please explain.

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
China Insurance Regulatory Commission	China	IAIS Member	No	No	
Financial Supervisory Service	Korea	IAIS Member	No	Yes	There is no clear instruction on how to calculate the policy loan on MAV basis. It is believed that policy loan should be calculated with future cash flows related with the insurance contract(as instructed by IFRS4 II). Therefore it is requested to include more detailed methodology or instruction on how to calculate the policy loan whether it should be based on the remaining balance or the projected cash flows.
KNF - Polish Financial Supervision Authority	Poland	IAIS Member	No	No	
National Association of Insurance Commissioners	USA	IAIS Member	No	Yes	GAAP differs significantly amongst jurisdictions, both in principles and in the method of their application. For example, consolidation criteria, definition of reinsurance, etc. could differ amongst jurisdictions. Not all material items have been identified. We understand that these are being analyzed

					through ongoing field testing and review of qualitative questionnaire from volunteers.
Ageas	Belgium	Other	No	Yes	See question 5.
ABIR Association of Bermuda Insurers & Reinsurers	BERMUDA	Other	No	Yes	There remains scope for divergent valuation approaches for financial instruments due to remaining ambiguity in the valuation principles as the principles outlined in 49 of the technical specification introduce a valuation option basis which could be valued either in a top down approach of fair value minus adjustment for own credit risk or a bottom up calculation which discounts future obligations at a risk free rate. There is a gap between these valuation approaches, in particular as regards to recognition of market liquidity and cost of risk as such the bases are not consistent. We would advocate adopting the top down approach of fair value minus credit adjustment as this is a basis familiar in a number of jurisdictions, such as under Solvency II, and will lead to a valuation that will be closer to the face value of instruments as included in the capital resources template.
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	No	
EIOPA Insurance & Reinsurance Stakeholder Group	EU	Other	No	Yes	The current market adjusted valuation proposals fail to appropriately address the issue of artificial balance sheet volatility. This was a key concern in Solvency II and could equally be a key concern in the ICS. The IAIS should test options that fully capture the link between insurers' assets and their liabilities and should check the effectiveness of the valuation options by assessing the level of residual volatility in the available capital. The testing needs to include extreme

					market periods such as the recent financial crisis to ensure the framework really works as intended.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	Yes	The valuation of participations embedded in the balance sheet of the IAIG; How are they to be valued? Which definition is used to define the participation? In any case it should be ensured that any MAV approach will lead to the same outcomes or starting point for determining the capital requirements.
Institut des Actuaires	France	Other	No	No	
AIA Group	Hong Kong	Other	No	Yes	For the valuation of financial liabilities, we agree that changes in the IAIG´s own credit standing should be excluded. We believe that the value of the liability at issue should be the amount of proceeds raised and that post issue the spread over risk-free rates should be locked in. .
International Actuarial Association	International	Other	No	No	
General Insurance Association of Japan	Japan	Other	No	No	
Great Eastern Holdings Ltd	Singapore	Other	No	No	
Swiss Association of Actuaries	Switzerland	Other	No	Yes	Discount rate, valuation of options and guarantees, MOCE, the up-to-dateness of parameters.
American International Group (AIG)	U.S.	Other	No	Yes	AIG generally supports the ICS proposed valuation requirements for financial liabilities, as an increase in a

					company's own credit risk should not lead to a reduction in the value of its liabilities and a concomitant increase in available capital resources. Instead of using the prescribed yield curves calibrated for insurance liabilities, AIG recommends that the valuation of financial liabilities should (i) exclude changes in an IAIG's own credit standing and (ii) the credit spread adjustment component of the discount curve should be kept constant after its initial recognition. This treatment would be consistent with various established capital frameworks (e.g., Basel III, Solvency II) and leverages transparent and auditable information based on accounting standards (GAAP, IFRS). AIG is in the process of developing further research and analysis on this alternative treatment and plans to share this work, once completed, with the IAIS to inform further dialogue.
MetLife	United States	Other	No	Yes	Paragraph 74 c) of the ICS requires that the adjusted value of debt instruments issued by the IAIG not reflect the credit standing of the IAIG, or in other words, not to be marked to market. Current 2016 FT specs require debt instruments to be valued at IAIS liability discount curves. This results in a less efficient capital structure, raising cost of capital and increasing product pricing for consumers. --Materially higher debt valuation due to the low discount rate used --Significant penalty for any debt in the capital structure, including surplus notes and subordinated debt a)Counterproductive to stability: Punishes longer term and higher loss-absorbing instruments more b)For some long term surplus notes and subordinated debt, the capital deduction may be over 50% of principal

					We propose instead that the ICS discount debt at IAIS risk free curves plus the credit spread at the issue of the debt. While this approach would not put the debt exactly at market value, it has the result of adjusting for changes in the underlying base rate without lowering the value of debt due to weakening of credit.
RAA	United States and many other jurisdicitons	Other	No	Yes	There is ambiguity in the valuation principles for financial instruments. The technical specification introduce valuation basis options which could be valued either by: 1) a top down approach of fair value minus adjustment for own credit risk, or 2) a bottom up calculation which discounts future obligations at a risk free rate. There is a gap between these valuation approaches, in regard to recognition of market liquidity and cost of risk as the bases are not consistent. Some RAA members prefer the top down approach of fair value minus credit adjustment as this is used in Solvency II and will lead to a valuation that will be closer to the face value of instruments as reported in the capital resources template.
Prudential Financial, Inc.	United States of America	Other	No	Yes	Intangible assets, while not discussed explicitly in the section, should also be excluded from the MAV balance sheet.
MassMutual Financial Group	USA	Other	No	No	

Q7

Q7 Section 4.1.3 Should MAV include a more economic approach to contract boundaries (eg renewal rate and stability of premiums) rather than focusing on contractual or legal aspects? If “yes”, why would this provide a better assessment of the solvency position of IAIGs?

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
Bermuda Monetary Authority (BMA)	Bermuda	IAIS Member	No	No	
China Insurance Regulatory Commission	China	IAIS Member	No	Yes	We agree to consider economic approach for the following cases: 1) There is strong evidence for high and stable premium persistencies, and ICS should provide specific requirements for that evidence. 2) For products that companies have the premium adjustment right when the market experience significantly deteriorate (often in health products), such adjustment is not for individual policies, and often can be a market behaviour across many insurers, so the impact to policy lapsation is likely to be low, We would view that such premium adjustment right be within the boundaries and be treated the same as long term policies with no premium adjustment right. In addition, ICS requires that “a liability should be recognised and valued as soon as the Volunteer IAIG becomes party to a contract, without any possibility to amend or cancel it, even though the insurance coverage has not started yet.” We view that even when the IAIG becomes party to a contract, the

					insurer does not have any obligation until the insurance coverage starts. We PRC GAAP requires companies to only recognize the insurance liabilities at the date when the insurance coverage starts, premiums received before it is recorded as an “advanced premium liability” in the GAAP balance sheet. We suggest ICS consider accepting the PRC GAAP treatment.
EIOPA	EIOPA	IAIS Member	No	No	The so-called “economic approach” is not appropriate for supervisory purposes. It would include in the solvency assessment profit that is highly uncertain and risks that the insurer may take in the far future (or not). It thereby distorts the value of insurance liabilities and makes them less usable for risk assessment, risk management and supervisory action
BaFin	Germany	IAIS Member	No	No	
Financial Supervisory Service	Korea	IAIS Member	No	No	
Swiss Financial Market Supervisory Authority (FINMA)	Switzerland	IAIS Member	No	No	
National Association of Insurance Commissioners	USA	IAIS Member	No	No	While there are various options of where to draw the line in the definition and setting the delineation will affect the cost of group insurance contracts, we note that: - Convention in the work of the ICS is to start with the GAAP balance sheet and go with contractual provisions (the substance above form expression does not override this framework)

					- Currently, accounting convention under all accounting standards (SAP, GAAP, IFRS, Etc.) is to exclude renewals; notwithstanding accounting being based on a going concern approach. - While we appreciate that the ICS is meant to be on a going concern basis as well as capturing the economic risk and substance, including renewals would open the door to all kinds of additional issues such as new business based on the economic substance notion and the use of internal models. - Inclusion of renewals could lead to the immediate recognition of future profits. In fact in a number of cases, the more business the company writes the more profitable it will appear, which is not our preferred prudential approach. We therefore support maintain the contract boundaries status quo as described above
Ageas	Belgium	Other	No	Yes	The MAV to determine the Net Asset Value should consider to be embedded in the renewals while the solvency capital requirement should consider the possibility to re-price. Given the purpose to protect policyholders in case of a crisis scenario, the limited contract boundaries might reflect the worst-case scenario. Future alignment with Solvency II would be preferred.
ABIR Association of Bermuda Insurers & Reinsurers	BERMUDA	Other	No	Yes	While this section appears to be focused on Life insurance issues around contract boundaries, we want to comment here on contract recognition issues as they relate to Non-Life insurers: -Bound But Not Incepted (BBNI) contracts [gross insurance liabilities] -Reinsurance correspondence [ceded reinsurance assets]:

					-Losses Occurring contracts: recognition of Losses Occurring reinsurance renewals expected to be purchased over the coming year which will cover existing insurance contracts currently in force -Risk Attaching contracts: limiting Risk Attaching reinsurance to only cover existing insurance liabilities and exclude coverage for insurance contracts not yet entered in to. We believe that such features are consistent with an economic valuation framework and should be included within the MAV basis.
Canadian Institute of Actuaries	Canada	Other	No	Yes	We encourage consistency with the IASB's direction with IFRS 17 for Insurance Contracts. The IASB's definition is generally more economic in nature. We encourage the IAIS to adopt the same definition because (1) it is more practical to have one approach instead of two, and (2) the definition is generally more consistent with current company pricing and reserving methods.
CLHIA	Canada	Other	No	Yes	The effective dates of both version 1.0 and version 2.0 of the ICS are likely to precede the effective dates of the IASB's new insurance contracts standards, IFRS 17. However from operational, continuity and alignment perspectives, we encourage the development of the ICS to be in the context of the IASB's direction for their standard.
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	Yes	We agree to adopt a more economic approach and at the same time suggest make the following modifications to contract boundaries:

					(1) For products that the company can adjust the premium at the aggregate level rather than at the policy level, the renewal premium should be considered within contract boundaries For products that the company can adjust the premium at the aggregate level, and are regarded as long term insurance from business management perspective, we think their renewal premium should be included within contract boundaries. For example in China market, there are a few accelerated critical illness riders for which the company has the rights to adjust the premium rate at the whole product level, that is, the insurance companies would have the rights to adjust the premium for the product if the critical illness incidence rates have substantially changed at the aggregate level. Such premium adjustments apply to all policies, and are different from the premiums for short term business, which is based on individual underwriting results and are individually adjusted. Additionally, if critical illness incidence rates have changed substantially, the premiums of most prevailing products in the market would increase accordingly. As a result, the policyholders' willing to terminate the policies will be relatively low even if such premium adjustment right is exercised. CIRC (China Insurance Regulatory Committee) also discourages such premium adjustment practice as it is disadvantageous to the policyholders and has prohibited this kind of clause for critical illness insurance products sold since late 2014. With the consideration of market competition, the possibility of adjusting premiums for these policies is also very low for us. From the business management perspective, we treat this kind of business as long term insurance rather than short term in terms of asset liability management and agency commissions. These policies are also treated as long term insurance under PRC

					GAAP and C-ROSS basis. Based on the principle of substance over form, we treat this kind of policies as long term insurance in the field testing. (2) For the policies that have not become effective, definition of contract boundaries should be modified. According to paragraph 82, if there is no possibility for an IAIG to amend or cancel the contract, it should be recognized within the contract boundaries even if the insurance coverage has not started yet. Under PRC GAAP, insurance companies will not calculate reverses for the policies which are sold before the valuation date but become effective after the valuation date. Instead, insurance companies record the same amount of premiums in the account of “premiums received in advance” as a liability. For these policies, we think as the insurance coverage has not started yet, if any incident happens before the insurance coverage period, insurance companies do not have to pay the related claims but only return the premiums paid. So we suggest modifying the definition of contract boundaries as follows: For situations that there is no possibility for an IAIG to amend or cancel the contract, 1) if the company is not responsible for paying the claim but only needs to return the premiums before the policies become effective, the policies before the effective date should not be included in contract boundaries; 2) if the company is responsible for paying the claim upon the receipt of premium, the policies should be included in contract boundaries. In conclusion, we suggest that the contract boundaries should not be determined by considering only legal and contractual aspects, the insurance company’s management logics, industry

					practices and the regulator's intention should also be taken into considerations.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	No	
Actuarial Association of Europe	European Union	Other	No	No	
Institut des Actuaires	France	Other	No	No	
Allianz	Germany	Other	No	No	
Coburg University of Applied Sciences (Hochschule für angewandteWissenschaften Coburg)	Germany	Other	No	No	
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	No	
German Association of Actuaries (DAV)	Germany	Other	No	Yes	No more economic approach necessary, should be ideally the same as for S II.
Munich Re	Germany	Other	No	No	
Global Federation of Insurance Associations	Global	Other	No	Yes	GFIA recognises that the right balance needs to be struck between, on one side, the reflection of economic substance indicated in the ICS principles and, on the other side, the

					complexity of calculations. While some GFIA members believe that it's key for the valuation to reflect economic substance rather than to simply focus on the legal format, other GFIA members believe that contract boundaries should be considered of simplicity over complexity.
AIA Group	Hong Kong	Other	No	Yes	An economic approach by definition provides a more realistic picture of the insurer's liabilities. The main issue of concern to regulators appears to be taking credit for future profits on cancellable products on the grounds that the insurer can cancel the contract. This, however, flies in the face of reason. Why would an insurer cancel a contract on which it expects to make a profit based on its best estimate assumptions, which in turn are based on experience? We are of the view that the assumptions for future cash flows should be based on the expected cash flows under the contract.
International Actuarial Association	International	Other	No	Yes	We prefer an economic approach to these items. Over the last several years, this became a large issue of discussion that IASB had with various stakeholders in developing its insurance accounting standards, which are now in exposure draft form. The IASB settled on a definition that is generally more economic in nature. We feel the IAIS should settle on the same definition, because (1) it is more practical to have one approach instead of two, and (2) the definition is generally more consistent with current company pricing and reserving methods.
Dai-ichi Life Holdings, Inc.	Japan	Other	No	Yes	・MAV should include more economical approach with regard to the boundaries. The evaluation of IAIG´s soundness should be based on the premise which is the highest probability and

					economic rational. ・If the profitability of the insurance contract block is secured, it is rational that the insurance companies continue the contract on the same conditions and this probability is high. If the contract boundaries are set based on only the legal requirements of contract with ignoring economic rationality, insurance liabilities are evaluated with no feasibility premise. ・The risk management of insurance companies are focused on actual economic condition rather than the legal requirements of the contract. In other words, insurance companies control the duration of assets based on the continuation rate of the contract. ・If contract boundary is based on the legal requirements, insurance companies will shorten the duration of assets to reduce the interest rate risk on the regulation. That is wrong incentive. As a result, the vulnerability of insurance companies to interest rate fluctuations may grow rather.
General Insurance Association of Japan	Japan	Other	No	No	
The Life Insurance Association of Japan	Japan	Other	No	Yes	・MAV should be a more economic approach. If the MAV focuses on contractual or legal aspects, the principle of "substance over form" would not be reflected and inappropriate incentives would be given to the insurers´ risk management practice. ・With regard to contract boundaries, many concerns have been raised in the previous Observer Hearings and so on. This

					is because the definition of contract boundaries proposed by the IAIS does not properly reflect insurers´ reality of risk management (such as ALM) and economic rationality. ・When a certain portfolio of the insurance contracts steadily maintains profitability, it must be the most probable and economically rationale assumption that the insurer continues their business operations on the portfolio under the same terms and conditions. If contract boundaries are determined only by focusing on legal aspects and without giving adequate consideration to the economic reality of the contracts, the results in the measurement of insurance liabilities will be based on unrealistic assumptions. Such a measurement of insurance liabilities cannot reflect economic realities of the insurer. ・Insurers are managing risks taking into account the persistency rate of contracts and the probability of renewals with experience as described above. IAIGs´ soundness should be measured on the assumption which reflects "the best probability and economic rationality." ・If the definition of the contract boundaries currently suggested by the IAIS is applied, the operation of group insurance business in Japan would be adversely affected and the real economy could be impacted. We would like the IAIS to well recognise that the group insurance business in Japan has been playing an important social role which support self-help efforts of the Japanese. The group insurance business has been offering simple insurance coverage continuously at low rates by joint underwriting, and backing up welfare programs within companies and groups.
Great Eastern Holdings Ltd	Singapore	Other	No	No	

Swiss Association of Actuaries	Switzerland	Other	No	Yes	Any approach that is more realistic leads to a better assessment of the solvency position. Of course the corresponding risks need to be comprehensively taken into account. This is challenging, as the underlying risks are both behavioural as well as driven by the state of financial markets. In particular the dependencies of the financial markets lead to a more realistic understanding of the underlying risks and their valuation.
Swiss Re	Switzerland	Other	No	Yes	A more economic approach is desirable in order to recognise contracts when the IAIGs start to be at risk. This might deviate from a pure contractual / legal approach. The approach should remain however principles-based and exceptions should be allowed in order to not generate complexities due to IT systems and recognition of contracts that are for instance in discussions, etc.
Aegon NV	The Netherlands	Other	No	Yes	Consistent with our view that the ICS should avoid cliff effects, Aegon strongly supports an economic approach to contract boundaries. Although MAV is intended be linked to the perspectives of market participants, the current approach is divorced from how market participants view additional premiums on existing contracts. It is also misaligned with the “current estimate” concept, in which non-economic assumptions other than premium persistency are based on expectations. In some instances the current language creates additional valuation prudence (i.e. higher technical provisions) in specific insurance liabilities, as additional premiums would be expected to create a positive economic benefit for the insurer. In other instances, however, the current language effectively allows

					certain risks and guarantees to be ignored, particularly when the payment of additional premiums allows the policyholder to benefit from guarantees. These distorted outcomes conflict with ICS Principle 1, which positions the ICS as “comparable” and “risk-based“. Moreover, the current restrictive contract boundaries harm risk management—and therefore policyholder protection—by producing incentives for companies to make unwisely short investments to back artificially short liabilities. We therefore urge that IAIS to adopt an economic approach to contract boundaries.
American International Group (AIG)	U.S.	Other	No	Yes	AIG is supportive of an economic approach to contract boundaries, which is consistent with the economic basis of the ICS, grounded in realistic, best estimate assumptions and observable data. A more economic approach to contract boundaries would also enable stronger alignment with (i) the direction of IASB/IFRS; and (ii) companies’ own internal pricing, reserving, ALM and risk management practices.
Association of British Insurers	United Kingdom	Other	No	Yes	A more economic approach to contract boundaries would be preferable, consistent with the principle that the ICS should endeavour to reflect an economic rather than legal reality. This should be balanced with the practicalities of implementing such an approach.
American Council of Life Insurers	United States	Other	No	Yes	While ACLI recognizes that conservatism in a prudential context is appropriate, we have consistently argued against the application of a strict legal definition of contract boundaries to

					select products, including short-term renewable products, for balance sheets that are designed to be economic in nature, like the ICS balance sheet. The ICS MAV approach is an economic approach based on realistic, best estimate assumptions and observable data. The GAAP plus adjustments approach will similarly lead to a valuation of liabilities on a best estimates basis. Applying a strict legal/accounting definition of contract boundaries is inconsistent with this economic approach.
MetLife	United States	Other	No	Yes	While we recognize that conservatism in a prudential context is appropriate, we have consistently argued against the application of a strict legal definition of contract boundaries to select products, including short-term renewable products, for balance sheets which are designed to be economic in nature, starting with the BCR and carried over into the ICS. As was the BCR MAV approach, the ICS MAV approach is an economic approach based on realistic, best estimate assumptions and observable data. The GAAP plus adjustments approach will similarly lead to a valuation of liabilities on a best estimates basis. Applying a strict legal/accounting definition of contract boundaries is inconsistent with this economic approach.
National Association of Mutual Insurance Companies	United States	Other	No	No	NAMIC supports the current legal/contractual approach to contract boundary estimation. It is more consistent with the accounting requirements and for that reason makes the most sense. This approach enables the proper valuation of several innovations in insurance that should not be discouraged. For

					example: 1. In the last several years, innovative policy benefits offered by property/casualty companies have included features like claim forgiveness, waiver of deductibles and other benefits that carry forward from one contract year to another. This innovation would be stifled by a contract boundary requirement limiting benefits to a more economic approach. 2. Many commercial insurers offer customers the option to purchase coverage applicable either to claims made during the contract period or to incidents occurring during the contract period. This innovation addressed a commercial insurance availability crisis providing options for customers. If an economic contract boundary requirements had been in place, these options would have come at a higher price. 3. Some commercial policies require premium audits after the end of the contract term to assess actual premium owed. These future cash flows may or may not be included within the contract boundary. Should this practice be restricted because of a new capital standard? NAMIC asserts that capital standards should not have the effect of restricting innovation. The current approaches have evolved with the industry practice and have not diminished innovation. The current application of contract boundaries in the U.S. should be allowed under the new capital standards to keep consistency between the valuation used and the risk measurements.
Prudential Financial, Inc.	United States of America	Other	No	Yes	For both MAV and GAAP Plus, Prudential believes that the valuation basis should include a definition of contract boundaries that aligns with the best estimate principle. Under

					the current contract boundaries definition, cash-flows related to certain group life and retirement products – which have short term contracts subject to rate guarantee periods and for which renewals are typical – would be excluded. An approach that aligns with the best estimate principle would include these cash-flows and thereby better reflect product economics. Contract boundaries that align with best estimate assumptions would include these cash-flows and expected associated risks, thereby resulting in a more appropriate measurement of available and required capital.
CNA	USA	Other	No	No	No. CNA supports the current legal/contractual approach to contract boundary discussed in the consultation draft which is an approach consistent with existing GAAP frameworks. In addition, assuming existing policies will renew is inconsistent with the non-life business model where policies are typically one year long and risks are reassessed and re-priced before new contracts are written. Stressing a firm's balance sheet by assuming an average or flat renewal rate is a flawed premise since insurers typically exit lines of business after large or sustained losses. From our perspective it is more conservative to retain the current contractual approach. However, we do believe it is important that the contract boundaries for reinsurance contracts be consistent with the policies the company underwrites and the intended risk mitigation of the reinsurance contract.
MassMutual Financial Group	USA	Other	No	Yes	Renewal assumptions for products with contract termination dates, such as group annual renewable policies, should be allowed and taken into consideration when a significant level of renewal is expected. These renewals are often part of the business strategy, and the asset liability management strategies

					supporting the product line are developed with these renewal expectations.

Q8

Q8 Section 4.1.3 If an economic approach were adopted, would that make the determination of the contract boundaries more complicated? Please explain.

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
Bermuda Monetary Authority (BMA)	Bermuda	IAIS Member	No	Yes	
China Insurance Regulatory Commission	China	IAIS Member	No	Yes	We agree to consider using an economic approach, but at the meantime balance between the practicability and complexity, the defination cannot be overly complicated to implement.
EIOPA	EIOPA	IAIS Member	No	Yes	The so-called “economic approach” would heavily rely on assumptions about the future business that will be complex to derive and validate.
BaFin	Germany	IAIS Member	No	Yes	We consider that where an economic approach is followed, this endangers comparability of the valuation across firms as results would heavily rely on assumptions about the future development of the business. This would add an additional layer of complexity and would be a challenge to validate by national supervisory authorities.
Financial Supervisory Service	Korea	IAIS Member	No	Yes	

Swiss Financial Market Supervisory Authority (FINMA)	Switzerland	IAIS Member	No	Yes	
National Association of Insurance Commissioners	USA	IAIS Member	No	Yes	Knock on effects include changes in current estimates, capital requirements and comparable MOCE: For instance: - Current estimates would likely decrease as one would think insurers would only be renewing the business if they expected some kind of profit. - Given that current estimates are affected by this change, then balance sheet stresses should be too. This should lead to unquantifiably fewer renewals under stressed conditions. - Since the margin over current estimates (MOCE) is related to the capital requirements, the methods of calculation would have to be reviewed and likely revised.
Ageas	Belgium	Other	No	Yes	For the calculation of the best estimate liabilities, the extended contract boundaries should be used i.e. including future renewals. For the calculation of the capital requirement the contract boundaries as defined under ICS and similar under Solvency II should be applied. The main reason is that repricing of products are possible in order to mitigate risks. Having said that, this would entail a considerable amount of work to have 2 different valuation scopes.
ABIR Association of Bermuda Insurers & Reinsurers	BERMUDA	Other	No	Yes	We would advocate against the creation of a new set of boundaries beyond that applying for existing GAAP and existing group regulatory reporting (e.g. Solvency II or Bermuda's Economic Balance Sheet); thus a company should apply its existing regulatory basis for contract boundaries and recognition where one exists and if one does not exist then a default to either a GAAP or an ICS standard.

					In particular the creation of new bases for contract recognition and contract boundaries on top of those existing is likely to have a disproportionate operational cost and governance.
Canadian Institute of Actuaries	Canada	Other	No	No	It would be more complicated than the approach of no renewals, but not more complicated than work that will already be done for IFRS.
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	Yes	Adopting an economic approach will lead to certain complications in the determination of the contract boundaries as it requires evaluation of economic approach's influence. In practice, we recommend that the economic approach is set by considering the insurance company's management logics, industry practices and the regulator's intention and standard. Such approach will be consistent with the company's current management approach and will not create more complications in implementation.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	Yes	Although using renewal dates is not complicated, the use of a "more" economic rather than risk sensitive approach has some other drawbacks which should be considered. As the purpose of the ICS is to assess the risks an IAIG has on the balance sheet, the focus should also be on the manner in which the IAIG actually manages and mitigates these risks. The current proposal for determining the contract boundary provides this opportunity and information. If the IAIG is able to change the risk profile of the insurance contract this should be reflected. There is also a close link with the calculation of the capital requirements (underwriting risk) and "expected profit in future premiums". Using the renewal dates will also result in some health

					insurance contracts changing from short term to long term and changing risk driver.
Actuarial Association of Europe	European Union	Other	No	Yes	Policyholder behaviour has to be modelled, e.g. lapse assumptions. Management rules might affect the duration.
Institut des Actuaires	France	Other	No	Yes	Yes it would be more complicated, several other notions would need to be considered for eligibility such as option take up rates at maturity, maturity extensions, maturity conversions, implicit renewals,etc. Each notion would also entail additional assumptions for the purposes of current estimates. This could reduce the level of comparability across countries.
Coburg University of Applied Sciences (Hochschule für angewandteWissenschaften Coburg)	Germany	Other	No	Yes	
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	Yes	The reflection of customer behaviour in the models would lead to higher complexity.
Munich Re	Germany	Other	No	Yes	Definitely, as in that case also customer behavior would have to be modeled.
AIA Group	Hong Kong	Other	No	No	This is the approach we currently use for our embedded value reporting. It would be more complicated for us to “undo” this for ICS reporting.
International Actuarial Association	International	Other	No	No	This should not be complicated, as long as the approach is identical to that chosen by IASB for IFRS. Insurance

					companies are already establishing probabilistic assumptions for renewals for some of these contracts.
Dai-ichi Life Holdings, Inc.	Japan	Other	No	No	・In our company, the setting of the contract boundaries based on the legal requirements is different from the internal management approach. Therefore we have to manage two approaches and that is more complex treatment. · In addition, as the treatment is legal requirements based on respective jurisdiction, it will get difficult to manage with the consistency within the group.
General Insurance Association of Japan	Japan	Other	No	Yes	Adoption of an economic approach would increase the discretion of IAIGs, making the determination of contract boundaries more complicated. This would also not be desirable from the comparability point of view, and the focus should be on the contractual or legal aspects of contract boundaries.
The Life Insurance Association of Japan	Japan	Other	No	No	・The adoption of an economic approach would not necessarily make the determination of the contract boundaries more complicated. ・For example, most of the life insurers in Japan calculating their EV are already conducting internal management and making disclosures using an economic approach. ・The consistency of using the assumption of "the most probable" in the measurement of insurance liabilities would be ensured and the ICS capital requirement would therefore be determined at the level that better reflects economic realities.

					・If adopted, we believe that this approach would provide more benefits than its cost.
Great Eastern Holdings Ltd	Singapore	Other	No	Yes	Additional parameters and guidance would need to be prescribed for insurers to ascertain, for example, whether premiums are stable. Furthermore, since likelihood of renewal has to be calculated, more judgement would be used by insurers in determining contract boundaries, which could cause the financial situation of IAIGs to be less comparable. Contractual and legal frameworks are already established and in force, so there is no need for an entirely new framework to be produced to determine contract boundaries.
Swiss Association of Actuaries	Switzerland	Other	No	No	
Swiss Re	Switzerland	Other	No	Yes	A fully economic approach for the recognition of insurance contracts might require a significant change in IT systems in order to identify and report contracts that are not yet binding from a legal perspective. So the approach should used should be principle-based and pragmatic to avoid undue complexities.
Aegon NV	The Netherlands	Other	No	No	Aegon believes that the determination of contract boundaries would not be more complicated if an economic approach were adopted. On the contrary, in many respects an economic approach would simplify the valuation. A current estimate of future premium payments would need to be established, but companies (especially IAIG's and G-SII's) already do this in their own economic models. This is not inherently more difficult than any other element of policyholder behavior, such as lapse or benefit utilization. For life insurance products, the

					economic approach actually simplifies valuation, avoiding difficult interpretive questions.
American International Group (AIG)	U.S.	Other	No	No	No; insurance companies are already using best estimate assumptions for some of these contracts as part of business pricing and reserving activities, and a similar economic approach is also being considered by the IASB for IFRS.
National Association of Mutual Insurance Companies	United States	Other	No	Yes	This should not even be a question for property-casualty insurers. If the premium is paid, the claims occurring during the policy term are paid. When the premium is not paid the claims are not insured. We should not be complicating the boundaries for property/casualty policies.
RAA	United States and many other jurisdicitons	Other	No	Yes	We oppose the creation of a new set of contract boundaries for the ICS and prefer applying existing GAAP and existing group regulatory reporting for contract boundaries and recognition. If an economic approach were adopted customer behavior would have to be modelled and it may also create inconsistencies in recognition of contracts by cedents and reinsurers. Separate ICS rules for the determination of contract boundaries will add significant complexity and operational costs, since it would require yet another basis for contract recognition added to general purpose reporting and supervisory capital requirements.
Prudential Financial, Inc.	United States of America	Other	No	No	An economic approach would place increased reliance on the assumption setting process and related governance. Supervisors likely already have a thorough knowledge of assumptions employed by the IAIGs they supervise but may determine further transparency or certain guardrails are

					needed to provide comfort with an economic approach. Prudential believes the improved measurement of risk justifies use of an economic approach and warrants further discussion between the IAIS and stakeholders to address concerns that exist.
MassMutual Financial Group	USA	Other	No	No	Cash flow models already incorporate projections where renewals are expected to continue past contract boundaries, reflecting an economic approach of the business. Breaking this assumption to assume 100% lapse creates more complication.

Q9

Q9 Section 4.1.3 If an economic approach were adopted, the calibration of some ICS risk charges would need to be revised to capture the different exposure to risks (eg Lapse risk). What areas of the ICS capital requirement would be affected and how? Please explain in terms of the defined risks in the ICS capital requirement.

Organisation	Jurisdiction	Role	Confidential	Answer
Bermuda Monetary Authority (BMA)	Bermuda	IAIS Member	No	Premium, expense, lapse, mortality, longevity, mortality, morbidity/disability, CAT and credit risks.
EIOPA	EIOPA	IAIS Member	No	The treatment of lapse risk would need to be revised. Further revisions or changes of the capital requirements may be necessary, in particular to address the risk inherent in the assumptions that need to be made under the so-called "economic approach".
BaFin	Germany	IAIS Member	No	The treatment of lapse risk would need to be analysed on whether this is still adequate to the business under consideration. This would necessitate an in depth analysis on future business recognized by undertakings and its inherent lapse risk.
Swiss Financial Market Supervisory Authority (FINMA)	Switzerland	IAIS Member	No	Including future new business/renewals in the contract boundaries would arguably affect all risk charges in the ICS that have an impact on the value of insurance liabilities and likely make the calculation significantly more complex: (1) Technically, currently most risk charges are calculated by applying a factor to or stressing values of positions in the balance sheet, specifically the insurance liabilities. Hence the risk charges would be affected by the definition

				of the contract boundaries. (2) In contrast to the current approach, with wider contract boundaries, future business would be included which has not incepted (or expired) at the reference date or at the end of the one-year time period. The ICS capital requirement would be affected by changes during the one-year time period in the likelihood that such future business can and will be written and the value of the future business written. This is not something currently considered within the ICS. (3) Arguably, the ICS capital requirement would also need to consider the risk that the assumptions on future new business/renewals would be different from expectation, further complicating the calculations.
Ageas	Belgium	Other	No	For risk charge we would propose to remain within the contract boundaries of the contract as explained in question 8.
ABIR Association of Bermuda Insurers & Reinsurers	BERMUDA	Other	No	In the context of adjustments described above, this would lead to differences in the premium exposure measure for Premium Risk modules and Man-Made Catastrophe Risk modules which use premiums as exposure measure. There will be less significant impacts also on Credit Risk for reinsurance (relating to additional exposures), Operational Risk (premium measure component) and any other risks which look holistically at the balance sheet such as Interest Rate Risk and Currency Risk.
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	We agree to adopt the economic approach. We think the method of capital measurement should be defined based on the contract boundaries determined under economic approach. For example, if the renewal business of certain products is within the contract boundaries under the economic approach, its lapse risk and expense risk should be measured according to long term

				insurance approach. Such measurement method is consistent with the current minimum capital measurement principles.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	The following capital requirements would be affected (besides lapse risk): - Insurance risk: if multiple periods are included additional consideration should be given to the impact of the defined shocks on the lapse assumptions after the occurrence of the instantaneous shock; - Premium risk: the current inputs only focus on last year or coming year. Having multiple periods will understate the premium risk if there is no change in the methodology.
Institut des Actuaires	France	Other	No	Additional assumptions at the level of the current estimate calculation would need to be accompanied by additional stresses in the ICS capital requirement step. Risk of reducing comparability.
AIA Group	Hong Kong	Other	No	This would affect the majority of the risks. The economic liability would be subject to interest rate risk, expense risk, as well as lapse, morbidity and mortality risks. Some of the existing shocks might need to be revised for specific cancellable products.
International Actuarial Association	International	Other	No	Lapses are the principal exposure. See our answers to Question 131.
Dai-ichi Life Holdings, Inc.	Japan	Other	No	·ICS risk charges need not to be revised. Risk exposure can be captured without revision.
General Insurance Association of Japan	Japan	Other	No	Non-life insurance would be significantly affected, as the valuation of liabilities and the approach towards measurement of non-life and catastrophe risks would be fundamentally changed by taking into consideration renewals which

				are currently not included Life risks would also be affected since changes in the amount of reserves are regarded as risks.
The Life Insurance Association of Japan	Japan	Other	No	·We believe that the exposure to risks can be captured without revising the calibration of the ICS risk charges. ·Because the current Field Testing Technical Specifications have not adopted an economic approach, there would appear to be differences in net cash flows for renewed contracts if the economic approach is adopted. If adopted, various risks would be calculated reflecting those differences, which would be the difference from the amount of risk in the current Field Testing. ·To cite an example of the lapse risk, under the economic approach, cash inflows and outflows are calculated assuming that a certain portion of contracts remains. Therefore, given that the stress level is the same, the lapse risk would be calculated higher under the economic approach than under the currently proposed one and an adjustment would be made inevitably.
Great Eastern Holdings Ltd	Singapore	Other	No	If economic approach were adopted, when assessing the various market risks (e.g. interest rate risk), insurers might need to account for the probability of higher lapse rate under an interest rate rise scenario.
Swiss Re	Switzerland	Other	No	Yes, lapse risks are the principle exposures.
Aegon NV	The Netherlands	Other	No	Because contract boundaries involve policyholder behavior, Aegon believes that it may be necessary to change the calculation of Lapse risk charges. However, the true risk profile would be reflected better when using an economic approach for contract boundaries because the customer's expected actions would be reflected properly and in full. Within the MAV approach this is essential for its validity.

Prudential Financial, Inc.	United States of America	Other	No	Given stresses are intended to cover current and future period cash-flows at a 1-in-200 stress over a one-year timeframe calibration, we believe minimal - if any - design and calibration changes would be needed. In general, the stresses essentially already do reflect a long term manifestation of risk, rather than a one-year horizon. Even given a long term stress perspective, in certain cases the calibration of certain stresses is exorbitant and the design improper. Aside from stress calibration, revisions to the management action section may be necessary if an economic approach is employed to account for. By way of example, group life/disability premium rates would likely be revised at the time of renewal if renewal occurred after the event prescribed by the catastrophe stress. The management action section should be revised to clearly state that these management actions are allowed as long as the product contains such a feature
MassMutual Financial Group	USA	Other	No	In general, more contracts would be subject to the following risks - mortality, longevity, lapse, expenses, pandemic as well as interest rate and equity market. This would occur simply because those contracts were inforce for a longer period than terminating at the contract boundaries. The calibration of the stress level however should not be impacted.

Q10

Q10 Section 4.1.3 To ensure the overall consistency of the framework, the definition of MOCE would need to be reviewed following the adoption of an economic approach to contract boundaries. Would a change to an economic approach to contract boundaries impact the specification of MOCE? Please explain.

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
China Insurance Regulatory Commission	China	IAIS Member	No	Yes	MOCE calculation should be consistent with the definition of contract boundaries, again as we answered in Q9, the definition cannot be too complicated to implement.
EIOPA	EIOPA	IAIS Member	No	Yes	If the so-called “economic approach” is adopted, the calculation of the MOCE should be revised.
BaFin	Germany	IAIS Member	No	Yes	The choice of an economic approach would impact the MOCE in particular with respect to the assumptions underlying the valuation with respect to future new business. It is questionable whether this would be adequate in case of transfer of the business.
Financial Supervisory Service	Korea	IAIS Member	No	Yes	
Swiss Financial Market Supervisory Authority (FINMA)	Switzerland	IAIS Member	No	Yes	

Ageas	Belgium	Other	No	Yes	Please refer to question 8.The MOCE is calculated based on discounted future capital requirements. These capital requirements shall be based on the current definition of contract boundaries.
ABIR Association of Bermuda Insurers & Reinsurers	BERMUDA	Other	No	No	In the context of the adjustments described above, the MOCE would change in value due to increase / decrease in insurance contracts recognised. However we believe the definition of MOCE for Non-Life insurers is robust enough that is does not need to be re-specified.
Canadian Institute of Actuaries	Canada	Other	No	No	We believe the specifications for MOCE would still be appropriate as is. However, we expect that the resulting amount of the MOCE would likely increase given the longer term of the liability.
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	Yes	We think the measurement of MOCE should be consistent with the contract boundaries in liability measurement, no matter which method is adopted.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	No	
Institut des Actuaires	France	Other	No	Yes	Conceptually the CoC MOCE is related to the amount of capital required to run off “existing business” (existing business in the scope of contract boundaries) and meet its ICS capital requirement. At a minimum, if the specification was not changed it would require a separate calculation of the capital requirement to be possible for the existing business before

					taking into account eg future renewals. Summary: Definition of CoC MOCE should be consistent with cashflows included in the projection of current estimate.
Global Federation of Insurance Associations	Global	Other	No	No	Please refer to our response on MOCE – we do not believe that its introduction is necessary for the attainment of IAIS objectives.
AIA Group	Hong Kong	Other	No	No	We believe the same approach should continue to be used. However, it is applied to a different set of cash flows.
International Actuarial Association	International	Other	No	Yes	A different definition of contract boundaries would impact both the current estimate portion of the liabilities and the MOCE.
Dai-ichi Life Holdings, Inc.	Japan	Other	No	Yes	Consist treatment will be achieved by including cash flows after renewal.
General Insurance Association of Japan	Japan	Other	No	Yes	Since MOCE is "Margin Over Current Estimate", so if the methodology for determining current estimates is changed, the definition of MOCE would need to be reviewed as well.
The Life Insurance Association of Japan	Japan	Other	No	Yes	・From the perspective of the consistency, under the CoC MOCE approach, it is natural that cash flow after the renewal of the contract is incorporated in the development of the run-off pattern.
Great Eastern Holdings Ltd	Singapore	Other	No	Yes	Under an economic approach, certain risks, such as lapse risk, would have been taken into account in determining contract boundaries as the economic approach requires IAIGs to

					calculate the likelihood that in-force contracts will be renewed. Hence, using the run-off pattern for lapse risk (or other risks) could result in some double-counting.
Swiss Association of Actuaries	Switzerland	Other	No	Yes	In the cost of capital approach, the diversification between lines of businesses would differ between an approach with contract boundaries and one without. See also answer to Q7
Swiss Re	Switzerland	Other	No	Yes	A different definition of contract boundaries would impact both the current estimate part of the liabilities and the MOCE.
Aegon NV	The Netherlands	Other	No	No	Aegon believes that any change to MOCE as a result of an economic approach to contract boundaries would not be significant. If the prudence concept of MOCE is pursued, then a change to an economic approach to contract boundaries would not necessarily have a concomitant impact on MOCE. Under the prudence approach to MOCE, the MOCE is not inherently linked to the valuation approach. If the transfer value concept of MOCE is pursued, then a change to an economic approach might impact certain calculation mechanics, such as which risks are included in the "cost of capital" method. However, the transfer value approach is inherently consistent with an economic approach to contract boundaries, as both are based on the theoretical perspectives of market participants.

Association of British Insurers	United Kingdom	Other	No	Yes	Please refer to our approach on MOCE – its introduction is not a pre-condition for achieving the ICS's objectives, and would introduce additional unnecessary complexities.
National Association of Mutual Insurance Companies	United States	Other	No		It is difficult to answer "yes" or "no" to this question as we suggest that MOCE be eliminated altogether. For non-life contracts, we assert that the MOCE, especially the derivation of MOCE included in the P-MOCE proposal, simply adds back the conservatism included in non-discounted reserves and should be eliminated and non-life reserves left undiscounted except where currently allowed in GAAP, to address this issue altogether in a less complicated manner.
Prudential Financial, Inc.	United States of America	Other	No	Yes	Prudential considers a MOCE unnecessary in an appropriately designed and calibrated capital framework. Uncertainty with liability cash flows – beyond that already captured in the current estimate liability – should be captured in required capital. Should the IAIS continue to include a MOCE in the ICS we do not believe movement toward an economic approach to contract boundaries would require changes to the MOCE. In general, the stresses essentially already do reflect a long-term manifestation of risk, rather than a one-year horizon. Even given a long-term stress perspective, in certain cases the calibration of stresses is exorbitant and the design improper. It is not unreasonable to apply a long term view of risk in capital for long-term liabilities, however refinements to certain stresses is still warranted to ensure appropriate design and calibration. Since the ICS stresses reflect a long term manifestation of risk, the risks reflected in the MOCE are essentially double-counted in the ICS framework.

					Should the IAIS continue to include a MOCE in the ICS despite the above issues, we do not believe movement toward an economic approach to contract boundaries would require changes to the current MOCE design. To the extent that P-MOCE is dependent on the underlying ICS standard method stresses, ensuring that the stress calibration remains appropriate after revising contract boundaries would be the primary design change needed. CoC-MOCE would require the same stress calibration considerations. In addition, to the extent that CoC-MOCE is dependent on the run-off of the liabilities or the net amount at risk, the run-off patterns need to incorporate the cash-flows included from the revised contract boundaries definition.
MassMutual Financial Group	USA	Other	No	No	First, this should not apply to new business, but simply to additional premiums on existing business. Second, we do not believe that it should impact the definition of MOCE – it is simply an alternative lapse assumption.

Q11

Q11 Section 4.1.3 If material amounts of future business were included in the valuation of insurance liabilities through the consideration of future expected renewals, would the resulting capital resources (future profits) continue to meet the criteria for inclusion in Tier 1 (eg regarding the criterion on availability)? Please explain.

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
EIOPA	EIOPA	IAIS Member	No	No	Profit stemming from future business outside of contract boundaries is highly uncertain and does not meet the criteria for inclusion in Tier 1. The availability of such capital resources to meet losses incurred by the IAIG would be highly questionable, given that they depend on the materialization of future events (renewals) which are out of the control of the IAIG (which is why they fail the current definition of contract boundaries). It is highly unlikely that, under a situation of stress which implies substantial losses to the IAIG, policyholders would continue to renew their policies as expected or that the portfolios could be transferred to a third party for the same value they would have had before the occurrence of the stress event.
BaFin	Germany	IAIS Member	No	Yes	For reasons of comparability, we consider that future profits in a total balance sheet approach always need to be considered Tier 1 capital – independent their source (whether it is future expected renewals or not). The adequacy of the calibration of the capital requirements however is key to ensure that the risks that the obligations are exposed to are adequately captured, see also Q9. We acknowledge that this will become more

					complex where an economic approach to contract boundaries would be applied.
Financial Supervisory Service	Korea	IAIS Member	No	Yes	As required capital is measured for expected renewals, the resulting capital resources (future profits) generated within the same contract boundary should be included in Tier 1.
Swiss Financial Market Supervisory Authority (FINMA)	Switzerland	IAIS Member	No	No	
Ageas	Belgium	Other	No	Yes	Yes this forms part of the total own funds, but not distributable.
Canadian Institute of Actuaries	Canada	Other	No	Yes	The IASB's definition limits the amount of future premium, disallows the front-ending of profits, and has safeguards against onerous contracts.
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	Yes	If ICS deems this business as within the contract boundaries, the resulting future profits arising from this business should be included in Tier 1. This is a crucial point - it is not reasonable when the capital resources contributed by future premiums are not recognized but the risks arising from the obligations of these future premiums are considered in the required capital. When an unexpected loss incurs to the policy, the capital resource as mentioned above can absorb this loss directly and so should be included in Tier 1.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	Yes	Future profits are embedded in the prudential balance sheet when an economic approach is adopted. They are available to absorb losses on a going concern basis and in the case of winding up. They are not dated and have an infinite duration in

					the case of mutual groups. However, future expected renewals are quite uncertain. In a stress scenario, the IAIG would not be able to determine the actual amount of future renewals and the impact of a 99.5% VaR stress scenario on renewals / lapses.
Institut des Actuaires	France	Other	No	Yes	Refer to answers on Qu 7 and Qu 11. Criteria for loss absorption capacity of this Tier I soft capital would need to be considered , as well as its proportion in total capital (eg rating agency haircut approach or maximum thressholds when calculating solvency cover.)
AIA Group	Hong Kong	Other	No	No	We think that new business should be excluded from the valuation. However, renewals of renewable products are not new business.
International Actuarial Association	International	Other	No	Yes	The IASB rules will not allow material amounts of future new business. E.g., it will not allow premiums on most group insurance coverages to be included. In addition, there is no front ending of profit allowed in this framework. Thus, it would be preferable to align with the IASB.
Dai-ichi Life Holdings, Inc.	Japan	Other	No	Yes	It fulfills Tier1 requirement because it reflects actual economic situation.
The Life Insurance Association of Japan	Japan	Other	No	Yes	・We believe that the resulting capital resources (future profits) meet the criteria for inclusion in Tier 1. ・The calculation of the appropriate future profits (capital resources) that better reflects the economic reality of the insurer would be possible by using the reasonably expected cash flows

					considering the probability of renewals. ・As the cash flow is limited to the extent it can be projected reasonably, it should also meet the criterion on availability.
Great Eastern Holdings Ltd	Singapore	Other	No	Yes	If expected future profits are meet the criteria for inclusion in Tier 1 under contractual approach, there is no reason for expected future profits to be excluded from Tier 1 under economic approach.
Swiss Re	Switzerland	Other	No	Yes	ICS should not recognize material amounts of future business. What should be recognized are future profits of existing business. They are qualifying as Tier I.
National Association of Mutual Insurance Companies	United States	Other	No	No	No, they should not meet the criterion. Under this methodology they would not include the certainty or availability that should be required for Tier 1 assets.
Prudential Financial, Inc.	United States of America	Other	No	Yes	To the extent that future premiums/fees and the profits associated with them are included in the current estimate derived using a best estimate principle, there is no need to distinguish between those profits before or after renewal when determining Tier 1 available capital.
MassMutual Financial Group	USA	Other	No	Yes	Yes, these profits would be available and should be considered.

Q12

Q12 Section 4.1.3 Would other components of the ICS, be affected by such change? If “yes”, please specify those components and provide an explanation.

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
Bermuda Monetary Authority (BMA)	Bermuda	IAIS Member	No	Yes	Possibly the tax adjustment.
China Insurance Regulatory Commission	China	IAIS Member	No	No	
EIOPA	EIOPA	IAIS Member	No	Yes	As stated in previous responses, a change of the definition of contract boundaries towards a so called “economic approach” would imply a review of MOCE, capital requirements and capital resources, which basically covers all the components of the ICS.
BaFin	Germany	IAIS Member	No	Yes	As stated in previous answers, where an economic approach is applied with respect to the determination of the contract boundaries, this would require a review of the MOCE and capital requirements.
Financial Supervisory Service	Korea	IAIS Member	No	No	

Ageas	Belgium	Other	No	Yes	Please refer to question 8, the Best estimate liabilities should reflect the economic approach where future expected renewals on a best estimate basis should be reflected in there.
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	No	
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	Yes	Furthermore the calculation of the risk mitigation effect of reinsurance arrangements and derivatives would have to be re-assessed.
Institut des Actuaires	France	Other	No	Yes	Yes, potential other knock on effects like for example expense assumptions. New assumptions would need to be set.
AIA Group	Hong Kong	Other	No	No	
Dai-ichi Life Holdings, Inc.	Japan	Other	No	No	
General Insurance Association of Japan	Japan	Other	No	Yes	If an economic approach were to be adopted for MAV, a similar approach would also need to be considered for GAAP Plus.
The Life Insurance Association of Japan	Japan	Other	No	No	
Great Eastern Holdings Ltd	Singapore	Other	No	No	
American Council of Life Insurers	United States	Other	No	Yes	We recognize that a change in approach to contract boundaries will impact other elements of the balance sheet and propose we undertake to look into and comment on impact on calibration of risk charges, MOCE, capital resources, and how the

					"extension" of the boundary might be impacted by confidence level/time horizon.
MetLife	United States	Other	No	Yes	Yes. As indicated in our response to Q.131 below, if economic contract boundaries were implemented into the IAIS model as we have requested, the lapse risk charges would significantly increase. This would be an appropriate economic result, reflecting the value of short term business and the risk to that business of increased lapses. As currently structured with a "legal" definition of contract boundaries, the value of short term business (that allows for renewals) is understated, as is the corresponding impact of increased lapses. We recognize that a change in approach to contract boundaries will impact other elements of the balance sheet and undertake to look into and comment at a later date on the impact on calibration of risk charges, MOCE, capital resources, and how the "extension" of the boundary might be impacted by confidence level/time horizon.
Prudential Financial, Inc.	United States of America	Other	No	Yes	As mentioned in our response to question 9, management action specifications would need to clarify that risk charges can be reduced as long as a product contains a feature that would allow the company to adjust the products' cash-flows following the emergence of a risk event such as a catastrophe.
MassMutual Financial Group	USA	Other	No	No	

Q13

Q13 Section 4.1.4.3 Is the current 3-segment approach to the definition of IAIS base yield curves a sound basis to determine the base yield curve? Please explain.

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
Bermuda Monetary Authority (BMA)	Bermuda	IAIS Member	No	Yes	
China Insurance Regulatory Commission	China	IAIS Member	No	Yes	We agree with the 3-segment approach, which is also consistent with C-ROSS in China.
EIOPA	EIOPA	IAIS Member	No	Yes	We believe the current approach is appropriate.
BaFin	Germany	IAIS Member	No	Yes	
Financial Supervisory Service	Korea	IAIS Member	No	Yes	
Swiss Financial Market Supervisory Authority (FINMA)	Switzerland	IAIS Member	No	No	One particular issue with the 3-segment approach is the extrapolation to a completely fixed long term interest rate (or a LTFR) which does not depend on current market data. This has the following three consequences. We note that they are more related to the concrete implementation of extrapolation methods

					rather than the mere fact of using extrapolation. In particular, it may well be possible to recalibrate the long term interest rate (in every computation of the yield curve) so that the consequences do not appear, cf. our answer to Q 18. The first consequence is that fixed long term interest rates in combination with a relatively low “last maturity for which market information can be observed in deep, liquid and transparent markets” impair the risk sensitivity of the ICS with no gain in simplicity (ICS principle 8) and its ability to promote sound risk management (ICS principle 6). This is because they reduce the extent the yield curve is sensitive to financial market changes which may negatively impact the solvency situation of IAIGs. Secondly, such long term interest rates may typically lead to yield curves are not consistent with existing market quotes of bonds with long term maturities. Thirdly, there is an implication on the valuation of insurance liabilities which we explain in the following. To explain the third consequence, we note that a market standard for the valuation of life insurance liabilities, which is at least in Europe often used, is based on so-called valuation ESGs (economic scenario generators). In this approach, yield curves are not directly used for discounting cash-flows but as “calibration targets” for the valuation ESGs. Valuation ESGs are set up on assumptions about trading and hedging techniques, from which a market consistent value of liabilities is derived. At least implicitly, the value of life insurance liabilities is then given by the costs of a specific (not necessarily perfect) replicating strategy.

					If ESGs are calibrated to yield curves that are not consistent with market quotes, the ESG will produce values based on (implicit) costs of hedging strategies which do not correspond to the value a company has to pay to replicate the insurance liabilities in reality. In particular, if the yield curve is too high, the costs calculated in the model will be lower than the real costs. Related to this, if two different really risk-free possibilities for long term bonds would exist (one consistent with market quotes of risk-free bonds and one consistent with a different risk-free yield curve), this would allow arbitrage opportunities. But absence of such arbitrage opportunities is the most important assumption behind these ESGs. For another consistency issue cf. our answer to Q 17.
Ageas	Belgium	Other	No	Yes	Conceptually we support this approach and this is also in line with Solvency II.
Canadian Institute of Actuaries	Canada	Other	No	Yes	We support the general idea of a three-segment approach, because it does the following: 1. Uses relevant asset market data where available, ensuring, where possible, consistency between measurement of assets and liabilities (at least as far as movements in risk-free interest rates are concerned); 2. Uses a stable Long-Term Forward Rate (LTFR) where market-consistent data is not available, and since current market conditions are a poor predictor of longer-term market conditions, this avoids projecting current market conditions out forever and by extension avoids/reduces volatility in amount of available capital; and 3. Aligns with the broad approach expected to be used for IFRS 17 for Insurance Contracts.

					However, we have some suggestions for improving on the idea. Most importantly, we encourage minimizing any differences with the approach to be used for IFRS 17 for Insurance Contracts. The IASB has long debated the discounting approach; it doesn't seem beneficial to have this debate all over again. Short of explicit alignment with IFRS 17, more suggestions are provided in the responses below.
CLHIA	Canada	Other	No	Yes	The three segment approach is a good working assumption, but the IAIS should be flexible in adjusting if other constructs prove over time to be superior. Furthermore, we encourage minimizing any differences with the approach to be used for IFRS 17 Insurance Contracts. The IASB has debated the discounting approach for many years so we strongly recommend the IAIS leverage their deliberations.
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	Yes	We agree with the current 3-segment approach to determine the discount rate assumption. Segment one reflects the data of liquid market, Segment two provides smooth transition to Segment three, and Segment three ensures the stability of liability valuation through a fixed long term forward rate to avoid large solvency volatility due to the long duration of liabilities.
EIOPA Insurance & Reinsurance Stakeholder Group	EU	Other	No	Yes	• Discount rate and procyclicality - whilst a number of options were tested in the Market Adjusted Valuation basis as part of the field study, none of these appropriately and sufficiently captures the underlying economic reality for well-matched illiquid liabilities

					portfolios such as annuities where the asset rate will be earned and the only exposure is default • There is nothing equivalent to the Matching Adjustment which is available under SII, which enables sufficiently granularity by liability type to capture this, hence such liabilities may be substantially overstated • When considering options for calculating the long-term forward rate (LTFR), the IAIS appears to be proposing a method based on availability of data rather than on economic logic. • The LTFR can be disaggregated into the sum of long-term expected real interest rates and expected inflation and calibrated by estimating each of these elements. In Europe there are sources of data for both of these elements. However, the IAIS proposed methodology is to disaggregate the LTFR into long-term growth rates and inflation. This produced a number but is not a correct derivation of the LTFR. The decision to calibrate in this way appears to be driven by the fact that consistent historical data sources are available for both of these elements for many currencies while such data sources are not available for the correct disaggregation of real interest rates and inflation. • The IRSG recommends that the LTFR is calibrated based on long-term real interest rate + long-term inflation using either direct data sources (as is available in Europe and is already used for SII) and where not available proxy estimates should be used, for example long-term growth rates may be considered a reasonable proxy for long-term real interest rates in some markets.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	Yes	

Insurance Europe	Europe	Other	No	Yes	Insurance Europe supports the three segment approach proposed by the IAIS.
Actuarial Association of Europe	European Union	Other	No	Yes	In absence of deep, liquid, transparent capital markets for very long durations a mark-to-model approach is inevitable considering durations of liabilities. A fixed long-term expectation for the (very) far future can help to avoid artificial volatility. The convergence period (segment 2) helps stabilising the valuation
Institut des Actuaires	France	Other	No	Yes	
Allianz	Germany	Other	No	Yes	
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	Yes	The proposed 3-segment is a sound basis. It reflects current market values of reliable short and medium maturities from deep and liquid markets and at the same time includes a stable modelling for the long-term maturities.
German Association of Actuaries (DAV)	Germany	Other	No	Yes	
Munich Re	Germany	Other	No	Yes	It captures appropriately current market values in deep and liquid markets for short/medium-term maturities. Overall, it is a reasonable approach used already in other regimes.
Global Federation of Insurance Associations	Global	Other	No	Yes	GFIA agrees with the three segment approach to the definition of IAIS base yield curves for life insurers. Given the long-term nature of insurance business, excessive volatility in insurers' balance sheets caused by short-term market fluctuation should be avoided.

					If insurers are able to earn stable spreads through appropriate risk taking, reflecting management actions on the valuation of insurance liabilities is an effective approach. Particularly regarding long-term contracts, valuation should be carried out carefully and we support an adjustment based on the long-term forward rate (LTFR).
AIA Group	Hong Kong	Other	No	Yes	The approach is sound. The approach matches asset and liability valuation approaches for terms where there is a liquid market. This means that such cash flows move consistently in the first segment. We also believe the stabilized long term rate concept is appropriate for discounting liability cash flows at longer durations (segment 3) as this should stabilize the valuation. It would not be appropriate to use a discount rate that moves due to unobservable movements of interest rates. Segment 2 is simply an interpolation between the other two segments that gives a smooth transition.
International Actuarial Association	International	Other	No	No	The three-segmented approach to the definition of the IAIS base yield curve has been thoughtfully developed, but it is the spreads that are added to get to an adjusted discounting yield curve that need to change. We also feel there is a better option. As the IASB has comprehensively debated and now defined their prescription for a discount rate for IFRS Phase II, we would rather the IAIS follow the IASB approach for practical reasons. The IFRS definition allows insurers to use either a top down or bottom up approach. Since IAIS is more concerned with solvency than the IASB is, the IAIS could require an adjustment so that no company can discount at a rate higher than a BBB bond, which is consistent with one of the proposed IAIS adjustments.

Dai-ichi Life Holdings, Inc.	Japan	Other	No	Yes	We support implementing LTFR and 3-segment approach, because it excludes artificial volatility.
General Insurance Association of Japan	Japan	Other	No	Yes	
The Life Insurance Association of Japan	Japan	Other	No	Yes	・We support the introduction of the long-term forward rate (LTFR). In this context, we support the 3-segment approach. ・In many jurisdictions, ultra long-term discount rates basically cannot be observed in the markets and even if observed, the levels of liquidity are extremely low. Therefore, we believe it is a reasonable approach to set a specific assumption of ultra long-term discount rates and to start implementing the LTFR at the point where the levels of liquidity in the market decline. ・While there are various approaches for setting assumptions of ultra long-term discount rates, we support the adoption of the ultimate forward rate (UFR) or LTFR, which is commonly accepted and is effective from the perspective of restraining excessive volatility of the insurers´ financial soundness due to short-term market fluctuations. ・In addition, the introduction of the LTFR is consistent with the insurers´ long-term nature of business. Additionally, it is expected to contribute to the financial stability through restraining excessive volatility.
Great Eastern Holdings Ltd	Singapore	Other	No	Yes	The first segment relies on yield curve data directly available in the market. Since data is not available for 2nd and 3rd segment, an extrapolation is done, which is reasonable.
Swiss Association of Actuaries	Switzerland	Other	No	No	We give a qualified 'no'. The 3-segment approach could in theory be sound, depending on the calibration. We would like to

					note that we are not aware of any peer-reviewed analyses and papers that consider the 3-segment approach (or LTFR approach) to be market consistent.
Swiss Re	Switzerland	Other	No	Yes	
Institute and Faculty of Actuaries	UK	Other	No	Yes	The approach uses market yields as far as they are available and reliable, combined with an objective approach to fixing the far end of the yield curve. The method of grading should be explained. From figure 2 it appears to be straight-line interpolation. This could give discontinuities depending on the shape and relative levels of the market yield curve and long-term anchor yield.
National Association of Mutual Insurance Companies	United States	Other	No	Yes	We do not claim to have the perfect answer for the life industry and we believe that the 3 segment approach to the base yield curve is primarily an issue for life insurers and one that should be based on their recommendations. Property/casualty insurers should be exempted from reserve discounting. This three segment approach has been proposed by life insurers and may be preferred to other methodologies for determining the base yield curve for evaluating life insurance reserves, but non-life reserves should not be discounted at all. Discounting non-life liabilities to achieve the market consistent valuation adds another significant cost consideration and is non-material for most short duration contracts. The current business model for short-duration property/casualty insurers is inconsistent with a discounting requirement except where discounting is currently allowed in GAAP. Insurers are not able to settle claims with policyholders on a present value basis,

					therefore the discounting of reserves would result in an inflation of equity that will indicate more dividend capacity than should exist. Overall, application of discounting required by the consultation draft is fraught with uncertainties, assumptions and formidable challenges that will significantly increase direct costs to insurers to implement and maintain. In the U.S. the costs will increase from a solvency perspective as well. Property/casualty insurers and regulators have always managed claim reserves on a more conservative, nominal, undiscounted basis using management's best estimate approach. Reserves are an important feature that protect the policyholders and assure that the money needed to pay claims is available. Insurers holding inadequate reserves often struggle to meet their claim obligations when they are due. A.M. Best reports that inadequate reserving is the number one reason for insurer insolvencies. NAMIC members care about this issue because insurance insolvencies affect all companies in the U.S. All insurers doing business in every state are assessed for the costs of the policyholder claims filed against insolvent insurance companies through the guaranty fund system. So all solvent companies have a stake in appropriate company reserving practices for their competitors. Trends toward a present value measurement will not produce more adequate reserves. Instead these trends may lead to less reserve discipline. Appropriate discount rate setting is not a precise science and minor errors in assigning the appropriate rate can have disastrous results in this industry.
American Academy of Actuaries	United States of America	Other	No	Yes	It is reasonable to utilize current market information and long-term/ultimate forward rate assumptions, with grading in between, for the base yield curve. However, certain aspects of the base yield curve warrant further refinement, as discussed in

					the response to Question 14. Response to Question 14: No. Government bond curves are more appropriate as the base yield curve. Government bonds are the primary risk-free investments used by insurers; swaps are used to a very limited extent. In the interest of an appropriately representative yield curve—including both the base curve and the spread adjustment—government bonds should be used to form the risk-free component of the curve.
Prudential Financial, Inc.	United States of America	Other	No	Yes	Prudential generally agrees with the 3-segment approach of constructing the base yield curve and the utilization of current market information and long term / ultimate forward rate assumptions – with grading in between – for the yield curve. We believe that certain aspects of the discount curve warrant further refinement (see our responses to other questions within section "4.1.4 Discounting").
CNA	USA	Other	No	Yes	Yes. Under the MAV approach, the use of the US swap curve to determine base level interest rates is reasonable based on the overall liquidity and transparency of yield information out to 30 year tenors. The establishment of the base yield curve based on any single point-in-time introduces the possibility of rate volatility due to idiosyncratic events that drive temporary capital market dislocations. A smoothed approach to establishing the base yield curve would help mitigate the risk of unintended volatility in rates.

MassMutual Financial Group	USA	Other	No	Yes	We are comfortable with the current 3-segment approach and methodology.

Q14

Q14 Section 4.1.4.3 The base yield curves are based on either swaps or government bonds, depending on the liquidity of the underlying markets. Are any of the IAIS' choices of either swaps or government bonds as a basis for determining individual currency yield curves as set out in Table 4 inappropriate? If "yes", for which currencies is the choice inappropriate? Please explain your answer.

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
China Insurance Regulatory Commission	China	IAIS Member	No	No	
Office of the Commissioner of Insurance	China Hong Kong	IAIS Member	No	Yes	In the current Field Testing, a 3-segment approach is adopted to derive the IAIS base yield curve under MAV. The aim of the 1st segment is to use markets that are deep, liquid and transparent, and by default, expecting that swap markets are more liquid than government bond markets. We believe that this is particularly important to revisit in ICS 2.0 for Asian currencies and Asian insurance groups. This is because the Asian bond and currency markets are not as deep and liquid and issued bonds are relatively not long-dated.
EIOPA	EIOPA	IAIS Member	No	Yes	In our view the use of swaps should be the default approach for the derivation of the yield curve. Government bonds should only be used where swap markets are not sufficiently liquid. According to our analysis the swap markets for the yuan-renminbi, the yen, the South Korean won, the Mexican peso and the rand are sufficiently liquid. In any case the liquidity of swap and government bond markets

					should be analysed regularly and the choice of instrument revised accordingly.
BaFin	Germany	IAIS Member	No	No	
Financial Supervisory Service	Korea	IAIS Member	No	No	
Swiss Financial Market Supervisory Authority (FINMA)	Switzerland	IAIS Member	No	Yes	As a basis for base yield curve, government bonds and swaps both have their advantages and disadvantages. E.g. government bonds from countries without superior credit rating which are part of a monetary union can be exposed to credit risks. If unadjusted swaps are used for the construction of a risk free yield curve in markets where risk free government bonds or other risk free instruments exist, it is possible that spreads between two risk-free instruments would appear that would potentially not be fully consistent with the assumptions behind valuation ESGs that are calibrated to this yield curve, cf. our answer to Q 13. Eliminating this spread by considering adjusted swaps could in theory lead to more consistent risk-free yield curves, but an issue is that such adjusted swaps no longer correspond to deeply and liquidly traded instruments unless there is a very liquid CDS market. A potential empirical issue for practical implementations is that the spread between e.g. swaps and risk free government bonds (or OIS quotes) is sometimes not constant over the time.

Ageas	Belgium	Other	No	No	In general, where the swap rates exists and can be justified that these rates meet the criteria deep, liquid and transparent, these rate should be used. Whereas in countries such criteria are not met or the data are not available, the government bond rates can be used.
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	Yes	We think it's reasonable to determine the CNY yield curves based on China government bond yield curves, because the China government bond market is liquid with sufficient transactions.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	No	
Actuarial Association of Europe	European Union	Other	No	No	
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	No	
Munich Re	Germany	Other	No	No	
AIA Group	Hong Kong	Other	No	Yes	In our internal economic capital calculations, we base USD/HKD yield assumptions on swap rates and CNY/SGD/MYR/THB/KRW yield assumptions on government bond rates. This differs from the IAIS choice of swap rates for SGD/MYR/THB and government bond yields for the other currencies. Our choices are based on the experience of our investment professionals in these markets.

Dai-ichi Life Holdings, Inc.	Japan	Other	No	Yes	・Although the use of the Japanese government bonds for the Japanese yen is not devoid of rationality from the view of market size and liquidity, we will note that the shape of the yield curve has been controlled by the central bank in the current Japanese market. The yield curve of risk-free has been pushed down by the central bank´s operation, deviates from the yields considered to be economically rational by general market participants. Based on this fact, during the central bank has conducted operations in long-term bond market, adding a correction in risk-free should be taken into account.
The Life Insurance Association of Japan	Japan	Other	No	Yes	・We believe the basis for determining individual currency yield curves should be judged on the liquidity of the government bond markets and the swap markets in each jurisdiction. For the Japanese Yen, selecting government bonds is reasonable to some extent from the perspectives of their market size and liquidity. ・However, Japanese Government Bonds are currently traded at a price far from the risk-free price that an ordinary market participant would assume to be economically reasonable because of the central bank´s massive operation. It needs to be noted that downward pressure is being placed on the Japan Yen yield curve due to political intention and the IAIS should consider possible measures to adjust the yield curve.
Great Eastern Holdings Ltd	Singapore	Other	No	No	
Swiss Association of Actuaries	Switzerland	Other	No	No	
Swiss Re	Switzerland	Other	No	No	

American Academy of Actuaries	United States of America	Other	No	No	No. Government bond curves are more appropriate as the base yield curve. Government bonds are the primary risk-free investments used by insurers; swaps are used to a very limited extent. In the interest of an appropriately representative yield curve—including both the base curve and the spread adjustment—government bonds should be used to form the risk-free component of the curve.
Prudential Financial, Inc.	United States of America	Other	No	No	We believe that government bond rates should be used rather than swap rates provided that there is sufficient market liquidity. This approach would better align the valuations of assets and liabilities given that supporting asset portfolios are largely made up of cash bonds, not derivatives. For example, government bond rates should be used for USD and GBP given their liquid markets.
CNA	USA	Other	No	No	No. Under the MAV approach, the use of the US swap curve to determine base level interest rates is reasonable based on the overall liquidity and transparency of yield information out to 30 year tenors. The establishment of the base yield curve based on any single point-in-time introduces the possibility of rate volatility due to idiosyncratic events that drive temporary capital market dislocations. A smoothed approach to establishing the base yield curve would help mitigate the risk of unintended volatility in rates.
MassMutual Financial Group	USA	Other	No	No	

Q15

Q15 Section 4.1.4.3 For each currency, the extrapolation period begins at the point where the market for the instruments used no longer fulfils the criteria for being considered deep, liquid and transparent. Is the starting point of Segment 2 inappropriate for any currency? If “yes”, for which currencies is the starting point inappropriate? Please explain.

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
China Insurance Regulatory Commission	China	IAIS Member	No	No	
EIOPA	EIOPA	IAIS Member	No	Yes	According to our analysis, the starting point for the extrapolation should be 50 years for the pound sterling and 30 years for the Canadian dollar.
BaFin	Germany	IAIS Member	No	No	
Financial Supervisory Service	Korea	IAIS Member	No	No	
Swiss Financial Market Supervisory Authority (FINMA)	Switzerland	IAIS Member	No	Yes	The issues we see are less about the concrete starting points of Segment 2 for specific currencies but as mentioned under Q13 apply more generally to methodologies that lead to results that are not consistent with existing market data after a fixed cut-off point.

Ageas	Belgium	Other	No	No	
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	Yes	According to our observation on transaction data of government bonds with different terms, we think it's appropriate to adopt 10~15 year term as the last liquid point for CNY, which fits with the distribution of government bonds' transaction volume with different terms.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No		It is difficult to provide a clear answer to this question as there are no concrete definitions explaining how the IAIS derives the last liquid point. Based on market data a LLP of 20 years for the Euro seems to be too low. If the swap market is used as the basis, the IAIS could use data derived from the Central Clearing Parties. Many CCPs use longer duration than 20 years for the swap markets.
Actuarial Association of Europe	European Union	Other	No	No	
Institut des Actuaires	France	Other	No	Yes	For Euro, it is consistent with S2.
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	No	
Munich Re	Germany	Other	No	No	
AIA Group	Hong Kong	Other	No	No	

Dai-ichi Life Holdings, Inc.	Japan	Other	No	Yes	・It is inappropriate for Japanese yen market. Please refer to the answer for Q14.
The Life Insurance Association of Japan	Japan	Other	No	Yes	・However, it needs to be noted that downward pressure is being placed on the Japanese Yen yield curve due to political intention, as due to the central bank's massive intervention the Japanese Government Bond is currently traded at a price far from the risk-free price an ordinary market participant would assume to be economically reasonable. If the price would not be adjusted to be deemed reasonable by market participants, the IAIS should consider proper measures such as earlier extrapolation until the market returns to normal.
Great Eastern Holdings Ltd	Singapore	Other	No	Yes	In Singapore, 30-year Singapore Government bonds are available in the market. Hence, extrapolation could begin at the 30th year for Singapore.
Swiss Association of Actuaries	Switzerland	Other	No	Yes	We only comment on the CHF. There segment 2 should start earlier, at around 15 years. This is further corroborated by the fact that segment 2 for the CHF and the EUR are both set to 20 years, which implies that the CHF is as liquid as the EUR, which obviously is wrong.
Swiss Re	Switzerland	Other	No	No	
Prudential Financial, Inc.	United States of America	Other	No	Yes	We believe that the starting point of Segment 2 should be the "last observable" point typically of a government bond market rather than defining "deep, liquid, and transparent" market which depends on subjective judgment.

CNA	USA	Other	No	No	No. Under the MAV approach, the use of the US swap curve to determine base level interest rates is reasonable based on the overall liquidity and transparency of yield information out to 30 year tenors. The establishment of the base yield curve based on any single point-in-time introduces the possibility of rate volatility due to idiosyncratic events that drive temporary capital market dislocations. A smoothed approach to establishing the base yield curve would help mitigate the risk of unintended volatility in rates.
MassMutual Financial Group	USA	Other	No	No	

Q16

Q16 Section 4.1.4.3 Currently, the IAIS has adopted the simplification that Segment 3 should start at maturity 60 for all currencies. Should the IAIS continue with this simplification? If “yes”, are there any necessary amendments to that approach? If “no”, should the IAIS seek to adopt a different approach to determining the start of Segment 3 based on one of the following options?

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
Bermuda Monetary Authority (BMA)	Bermuda	IAIS Member	No	Yes	There are no necessary further amendments to that approach.
China Insurance Regulatory Commission	China	IAIS Member	No	No	We suggest set the starting point of Segment 3 separately for different currencies. 60 years for all currencies is inappropirate, and it’s especially too long for CNY for the following reasons: 1) Considering CNY only has a LLP of 10 years, an interpolation of 50 years is too long. We suggest the interpolation period be set based on the LLP, for example a LLP of 10 years requires an interpolation of 20 years, a LLP of 20 years requires an interpolation of 40 years, and so on. 2) C-ROSS also use an interpolation period of 20 years. 3) Developing and emerging markets are commonly lack of longer term assets to manage the long-term liabilities, insurers in such markets are often difficult in hedging the interest volatilities, and we may suggest not to use an overly long interpolation period to create artificial balance sheet volatilites.
EIOPA	EIOPA	IAIS Member	No	Yes	We support option 2. The start of Segment 3 should be at the maximum of

					(1) the end of Segment 1+40 years and (2) 60 years. Please note that a fixed start of Segment 3 at 60 years may result in unnatural yield curves where the end of Segment 1 is at a higher number of years, for example at 50 years.
BaFin	Germany	IAIS Member	No	Yes	
Financial Supervisory Service	Korea	IAIS Member	No	Yes	
Swiss Financial Market Supervisory Authority (FINMA)	Switzerland	IAIS Member	No	No	Cf. answer to Q 13 (we see some issues related to a fixed LTFR).
Ageas	Belgium	Other	No	Yes	60 years for all currencies might oversimplify things and it is possible to take the end of segment 2 (LLP) into account by using the formula as described by EIOPA for all non Euro currencies: MAX(LLP +40; 60Y). This formula is according to EIOPA the most stable and least influenced by expert judgement.
Canadian Institute of Actuaries	Canada	Other	No	No	We suggest that markets that are “less mature” today should eventually be expected to reach the same LTFR as markets that are "more mature" today. Less mature markets may reach that common LTFR some years later than more mature markets, allowing them time to catch up in "maturity". This line of thinking would not support a uniform length for Segment 2, or even a uniform starting date for Segment 3. Since more mature markets tend to have a longer Segment 1, this line of thinking may in fact suggest that countries/currencies featuring a longer Segment 1 should have an earlier start date for Segment 3.

CLHIA	Canada	Other	No	No	Markets differ in their levels of maturity, so until and if their maturities converge, year 60 is not an appropriate starting year for Segment #3 for all territories
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	No	Based on our understanding, the purpose of setting LTFR is to provide a stable mechanism of liability valuation. For developing countries, there are no or barely assets with similar durations to match liabilities with durations of more than 20 years. Especially, Ping An's liabilities have an average duration of 20 years, and there are large amounts of cash flows after 20 years that cannot be matched with assets. To ensure the asset liability matching and solvency stability, we think adopting 60 years as the starting point of Segment 3 for China cannot achieve the above purpose of stability. Therefore, we recommend adopting 30 year term rather than 60 year term as the starting point of Segment 3. Moreover, we are still exposed to the high interest rate volatilities for terms of 10 to 30 years which cannot be hedged. In addition, we suggest the extrapolation period of Segment 2 be set based on the term of the last liquid point (LLP), and there could be a proportional relationship between the extrapolation period and the term of LLP. For instance, if LLP is 15 years, the extrapolation period will be 15 years; and if LLP is 20 years, the extrapolation period will be 40 years etc.

AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	No	This simplification results in differences in the lengths of the convergence periods due to the differences in the LLP. This implies for several currencies a too short convergence period and a steep rise in the discount rate. The convergence period to the LTFR should be the same for all currencies. A longer convergence smooths the importance of the LTFR as well as it lowers sensitivity towards changes in the LTFR.
Insurance Europe	Europe	Other	No	No	
Actuarial Association of Europe	European Union	Other	No	No	Setting the start of segment 3 at 60 years does not fit well with currencies where there are no available bonds or swaps of a 60 year term. See also following questions 16.1 and 16.2 In addition IAIS could think about more guidance concerning the extrapolation/gradation method and quality. For example recommending Smith-Wilson technique (or comparable) with a predefined convergence tolerance, which is stated in Solvency as 1bp
Institut des Actuaires	France	Other	No	No	Confirm that this is currently consistent with S2 (convergence over 40 years for Euro)
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	Yes	
Munich Re	Germany	Other	No	Yes	
AIA Group	Hong Kong	Other	No	Yes	We believe 60 is a reasonable choice and we know of no scientific basis for a different one.

Dai-ichi Life Holdings, Inc.	Japan	Other	No	Yes	・Since it appears that there is no clear answer about the convergence point to the long-term forward rate, there is a rationality on the current method (segment 3 should start at maturity 60 for all currencies) as a simplification.
The Life Insurance Association of Japan	Japan	Other	No	No	・We do not think there is a single correct solution regarding the starting point of extrapolation for the LTFR. However, it should be ensured that each currency and jurisdiction is both fairly treated and any disadvantageous condition is carefully removed. ・Also, please refer to the comment(s) on Question 15.
Great Eastern Holdings Ltd	Singapore	Other	No	Yes	No
Swiss Association of Actuaries	Switzerland	Other	No	No	If the 3-segment approach is to be used, then at least the calibration has to be done specific for each currency, in order to be realistic and to mitigate competitive disadvantages.
Swiss Re	Switzerland	Other	No	Yes	No
Institute and Faculty of Actuaries	UK	Other	No	No	Using 60 years in all situations may not be appropriate in the case of a long segment 1 (say 40 or 45 years), with a significant gap between the yield at the end of segment 1 and the long-term yield. There should be a minimum length of segment 2, say 30 or 40 years. In addition, many of the countries listed on page 39 of the consultation do not have bond or swaps of a 60 year term. Forcing a segment 3 of 60 years may lead to a distortion of the long term forward rate.

Prudential Financial, Inc.	United States of America	Other	No	Yes	
MassMutual Financial Group	USA	Other	No	Yes	We are comfortable with the current approach and methodology.

Q16.1

Q16.1 Section 4.1.4.3	Should the IAIS harmonise the length of Segment 2 at a set number of years? If “yes”, what should be the length of Segment 2?

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
China Insurance Regulatory Commission	China	IAIS Member	No	Yes	As we answered in Q16, we suggest set the length of Segment 2 based on each currency’s LLP.
EIOPA	EIOPA	IAIS Member	No	Yes	See answer to Q16
BaFin	Germany	IAIS Member	No		We would generally vote for “No”. However, if the overall vote is “yes”, we suggest 40 years. This period has proven to provide an acceptable balance between speed of convergence to segment 3 and smoothness in the curve in the sense of overall stability of the framework.
Financial Supervisory Service	Korea	IAIS Member	No	No	
Swiss Financial Market Supervisory Authority (FINMA)	Switzerland	IAIS Member	No	Yes	If the difference between the LTFR and the last market quote used for the yield curve is large, we can, roughly speaking, say that “the longer the better” holds for the length of segment 2, because this tends to produce fewer

					deviations between the yield curve and existing market quotes.
Ageas	Belgium	Other	No	No	An assessment should be made on the points (deep liquid and transparent).
Canadian Institute of Actuaries	Canada	Other	No	No	
CLHIA	Canada	Other	No	No	
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	Yes	Please refer to Q16, and we suggest adopting 20 years as the length of Segment 2 for CNY.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	Yes	A convergence period between 40 and 60 years could be used. No minimum convergence point should be used. See also answer to question 16.
Actuarial Association of Europe	European Union	Other	No	No	
Institut des Actuaires	France	Other	No	No	
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	No	
Munich Re	Germany	Other	No	No	

AIA Group	Hong Kong	Other	No	No	
International Actuarial Association	International	Other	No	Yes	It should be proportional to the length of liquid market segment (example, 20 years for Canada).
Great Eastern Holdings Ltd	Singapore	Other	No	No	
Swiss Association of Actuaries	Switzerland	Other	No	Yes	If the 3-segment approach is to be used, then at least the calibration has to be done specific for each currency, in order to be realistic and to mitigate competitive disadvantages.
Swiss Re	Switzerland	Other	No	No	
American International Group (AIG)	U.S.	Other	No	No	The length of Segment 2 should reflect market realities, as the starting point of the Segment should align with the point where the market is deep, liquid and transparent.
Institute and Faculty of Actuaries	UK	Other	No	No	
Prudential Financial, Inc.	United States of America	Other	No	No	
MassMutual Financial Group	USA	Other	No	No	

Q16.2

Q16.2 Section 4.1.4.3 Should the IAIS consider determining a minimum convergence point as well as a consistent convergence time and take a maximum of the last point of Segment 1 plus the consistent convergence time and the minimum convergence point? If “yes”, what should be the consistent convergence time and minimum convergence point?

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
China Insurance Regulatory Commission	China	IAIS Member	No	No	
EIOPA	EIOPA	IAIS Member	No	Yes	See answer to Q16.
BaFin	Germany	IAIS Member	No	No	
Financial Supervisory Service	Korea	IAIS Member	No	No	
Swiss Financial Market Supervisory Authority (FINMA)	Switzerland	IAIS Member	No	No	Cf. answer to Q 13 (we see some issues related to fixed LTFR).
Ageas	Belgium	Other	No	Yes	If this is stable over time and appropriate for certain currencies, this could be a good solution.

Canadian Institute of Actuaries	Canada	Other	No	No	
CLHIA	Canada	Other	No	No	
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	Yes	Please refer to Q16.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	No	
Actuarial Association of Europe	European Union	Other	No	Yes	Depends on Q 16, 16.1
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	No	
Munich Re	Germany	Other	No	No	
AIA Group	Hong Kong	Other	No	No	
The Life Insurance Association of Japan	Japan	Other	No	No	
Great Eastern Holdings Ltd	Singapore	Other	No	No	
Swiss Re	Switzerland	Other	No	No	
Institute and Faculty of Actuaries	UK	Other	No	Yes	This deals with both of the shortcomings above. For example, segment 3 starts at length of

					segment 1 + 40 years, subject to a minimum of starting at 60 years.
Prudential Financial, Inc.	United States of America	Other	No	No	
MassMutual Financial Group	USA	Other	No	No	

Q17

Q17 Section 4.1.4.3 The proposed LTFR is based on a macroeconomic approach using OECD information. Is this methodology appropriate? Please explain.

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
Bermuda Monetary Authority (BMA)	Bermuda	IAIS Member	No	Yes	
China Insurance Regulatory Commission	China	IAIS Member	No	Yes	
EIOPA	EIOPA	IAIS Member	No	No	In general we can support the definition of the LTFR. However it would be more appropriate to base the LTFR on the long-term expectation of the real rate instead of the long-term expectations of economic growth. Real rate and economic growth can differ. For the investment return of insurers the real rate is more relevant than economic growth.
BaFin	Germany	IAIS Member	No	No	There might not be sufficient independent research to compare the OECD figures against other figures. Therefore, we abstain from commenting on the levels proposed in the OECD study. However, we believe that the link between expected real GDP growth and the nominal long-term interest rate is not as close as indicated by the method to determine the LTFR. Therefore, we consider the current LTFR as a means to advance on the yield

					curve for the field test exercise rather than a “good” level for the near or far future. For the latter assessment, we believe it is important to wait for the short-term low interest rate environment to settle before drawing conclusions on the long-term interest rate environment.
Financial Supervisory Service	Korea	IAIS Member	No	Yes	
Swiss Financial Market Supervisory Authority (FINMA)	Switzerland	IAIS Member	No	No	We have not been able to find a detailed description of the macroeconomic approach used to derive the proposed LTFR. However, general macroeconomic approaches are based on real-world expectations of future variables. Interest rates have two components (which can be seen as axes), the reference date, i.e. point in time at which they apply (first axis), and the time to maturity (second axis). The LTFR is the limit if the maturity goes to infinity. But this is not the limit for the reference date going to infinity, which is considered in the general macroeconomic approaches. In arbitrage pricing theory, which is the basis of the market standard for the valuation of life insurance liabilities using ESG (see also Q13), there exists a link between the two axes, which is, however, not trivial. This link is known as the “expectation hypothesis”. This hypothesis is usually systematically wrong with respect to real world probabilities (it is correct with respect to a so-called T-forward measure). Hence, if valuation models based on arbitrage pricing theory are calibrated to the yield curves based on real-world expectations, we usually end up with a bias. Thus, we should use an approach for fixing the LTFR which is in line with arbitrage pricing theory (they are related to the T-forward measures). If such an

					approach would be of interest, we would clearly be willing to discuss possibilities.
Ageas	Belgium	Other	No	Yes	
Canadian Institute of Actuaries	Canada	Other	No	No	A LTFR based on a forward-looking macroeconomic approach has appeal. However, forward-looking estimates are normally more subjective than those based on historical data, and the further into the future we look, the more subjective it becomes. Importantly, we do not believe that the OECD forecasts are meant to be extended for the next 60+ years. Given that the impact of the LTFR in years 60+ is material in some (several?) jurisdictions, we do not believe these estimates are appropriate benchmarks to use for setting the LTFR so far into the future. It´s unlikely that some markets will be able to perpetually outperform other markets in terms of GDP growth. It seems equally unlikely that current currency-specific inflation targets will persist for the next 60+ years. In our view, it's impossible to forecast with any confidence differences in market conditions between countries/currencies 60 years from now or even if the same currencies will exist then. As a result, it seems more appropriate that, in the very long term, all markets would have the same LTFR. Having different LTFR by currency also means that the relationships between the various LTFRs will have to be reviewed and adjusted periodically. Such inevitable adjustments would create shocks to capital resources in affected currencies when the LTFR parameters are adjusted. This type of relative shock could perhaps be avoided or significantly reduced if all currencies have the same "ultimate" LTFR. The common LTFR could be some middle ground best estimate for the global economy.

					Finally, we believe that defining the long-term discount rates as spot rates instead of forward rates would help to reduce undue volatility in the valuation of the long-term liability cash flows.
CLHIA	Canada	Other	No	No	We believe the OECD's forward-looking macroeconomic approach is flawed. As one example, the September 24th 2016 edition of The Economist magazine cites the results from a study from the University of California: "the historical relationship between real interest rates and economic growth is weak". The IAIS should be flexible if alternative approaches emerge as superior.
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	Yes	We do not have any disagreement with this method. As the LTFR assumption aims to provide a stable valuation mechanism in the long run and is also derived based on the long-run judgement, we think it should not be changed in a certain time period.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	No	The macroeconomic approach of the OECD is based on prospective views of the future. Since prospective views change over time and are generally not met, we fear this will introduce too much volatility and instability in the framework. We would support the derivation of a stable long term view for the LTFR based on historical data series.
Insurance Europe	Europe	Other	No	No	Insurance Europe does not support the current approach, and notes that the OECD data is not replicable. A better alternative would be to derive the LTFR based on long-term interest rates and inflation.

Actuarial Association of Europe	European Union	Other	No	Yes	Solvency II has a different bucketing of inflation rates (4 buckets instead of 6). This will lead to different LTFR / UFR in EU countries (Poland, Hungary). Harmonization would be desirable
Institut des Actuaires	France	Other	No	Yes	There is a consultation underway for the Ultimate Forward Rate by EIOPA to take into consideration which proposed alternative sources of data and different methods. This could be useful to increase robustness of approach – validate the assumptions.
Allianz	Germany	Other	No	No	The LTFR setting needs to be based on transparent data, methodology and processes, which is not the case for OECD data, that represent the result of an analysis process that is not transparent to stakeholders.
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	No	In general, a macroeconomic approach based on the future expectations of interest rates is reasonable and supported. Furthermore, we support the inflation target of central banks as the indicator for the expected inflation. However, we disagree with the OECD data for the long-term expectations of economic growth. The category OECD vs. non-OECD countries leads to unrealistic results. For example Chile or Mexico as OECD countries will use a 1,5 % expectation for long-term growth whereas Brazil as a non-OECD country will use 2,5 %. Altogether a different approach (see answer to Q 17.1) should be envisaged that leads to more reasonable results and is performed in a transparent and reliable manner based on publicly available data.
German Association of Actuaries (DAV)	Germany	Other	No	No	In order to increase transparency and allowing a projection of the LTFR for planning purposes it should be based on a long-term

					average of short term interest rates and inflation targets of relevant central banks. In order to avoid unwarranted volatility that could affect insurance pricing, it should be reasonably stable. One option is to align the LTFR method to the UFR under Solvency II.
Munich Re	Germany	Other	No	Yes	
AIA Group	Hong Kong	Other	No	Yes	We believe the approach is broadly sound.
International Actuarial Association	International	Other	No	No	We are concerned that this approach is too general and prefer that it should be jurisdiction specific. The grouping just between OECD and non-OECD is too broad. It is not predictable or projectable.
Great Eastern Holdings Ltd	Singapore	Other	No	Yes	Utilising OECD information is reasonable.
Swiss Association of Actuaries	Switzerland	Other	No	No	By comparing the current CHF yields (which are negative for all durations) with the LTFR approach, which converges to 3.5%, it is obvious that the approach is not appropriate. If such an approach is followed, supervisory authorities that would have to put a distressed company into run-off, would incur losses in future years in expectation. This is because the duration of the liabilities decreases and therefore the remaining liabilities benefit less and less from the LTFR. These losses are not recognised on the balance sheet ab initio – i.e. the balance sheet is not realistic.

Swiss Re	Switzerland	Other	No	Yes	
Institute and Faculty of Actuaries	UK	Other	No	Yes	The proposed LTFR derived is based on a macroeconomic approach using information based on long-term expectations of economic growth from the OECD. We believe that using global economic data from the OECD is appropriate given the level of detail available from this source.
American Council of Life Insurers	United States	Other	No	No	While we conceptually agree with the two-component approach, The LTFR should take into consideration of both long-term forecasts and realized historical data. Long-term forecasts should be based on a broader set of surveys rather than relying on the OECD study as a sole source. The use of the asset earned rate (or something close) for RDR in discounting future liability cash flows would potentially circumvent the need for a LTFR or minimize its relevance.
Prudential Financial, Inc.	United States of America	Other	No	No	According to Paragraph 104, the LTFR assumption is derived from OECD's study on expected annual growth rate (1.5% for OECD and 2.75% for non-OECD countries) along with central bank's inflation target. While we conceptually agree with the two-component approach, the LTFR assumptions for certain economies appear to be unreasonably high (e.g., 3.5% for JPY and 6.8% for TWD) compared with market data and subject matter experts' forecasts. For example, the inflation target for JPY is set to 2% even though Japan's realized inflation rate in the last twenty years has been 0.1%.

CNA	USA	Other	No	Yes	Yes. The macroeconomic approach for determining the long term forward rate (LTFR) is appropriate, but (LTFR) of 3.50% for the United States seems low relative to historical normative target levels and should be reviewed annually to ensure alignment with Segment 1 (US Swap curve) of the base yield curve. The extrapolation between the first and third segments is reasonable.
MassMutual Financial Group	USA	Other	No	No	We are not yet comfortable that the current approach to developing the LTFR will be stable over time. We urge the IAIS to field test variances in the LTFR.

Q17.1

Q17.1 Section 4.1.4.3 If “no” to Q17, should the IAIS develop an alternative methodology to derive the LTFR? Please provide an outline of such an alternative methodology.

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
EIOPA	EIOPA	IAIS Member	No	Yes	See answer to Q17.
BaFin	Germany	IAIS Member	No	Yes	The methodology should be able to react very slowly as the long-term expectations should not be volatile in times of high volatility in short-term rates (or short-term market expectations). Therefore, we believe that the current status quo is too immature to develop an alternative methodology and would see this as an exercise to be conducted only a few years from now.
Financial Supervisory Service	Korea	IAIS Member	No	No	
Swiss Financial Market Supervisory Authority (FINMA)	Switzerland	IAIS Member	No	Yes	Derive the LTFR based on market data with a relatively long term to maturity (e.g. define the LTFR to be equal to the quote for the instrument with the longest time to maturity).
Canadian Institute of Actuaries	Canada	Other	No	Yes	We offer a few suggestions for your consideration: 1. As mentioned earlier, we have a strong preference for the methodology to be the same as that proposed for IFRS 17 for

					Insurance Contracts. We offer more comments on this approach starting in Q20 below. 2. Alternative 1: Set a target start date for Segment 3 (e.g., 60 years) but subject to a fixed or maximum annual rate of change (annual decrease no more than N bps, or some form of non-linear decay) towards the Global LTFR, such that currencies that currently have a rate that is significantly higher than the common LTFR could reach the LTFR at a later date 3. Alternative 2: Markets that are less mature today could eventually be expected to reach the same Global LTFR as markets that are currently "mature", even if they reach that Global LTFR some years later, recognizing those markets may need time to catch up in "maturity". This line of thinking would not support a uniform length for Segment 2 or even a uniform starting date for Segment 3. Since more mature markets tend to have a longer Segment 1, this line of thinking may in fact suggest that countries/currencies featuring a longer Segment 1 should have an earlier start date for Segment 3. 4. Alternative 3: Use a four-segment approach: a. Segment 1 would be the same as currently proposed; b. In Segment 2, current forward rates would grade to a country/currency-specific LTFR (CLTFR) over a period of 10–20 years. This country/currency-specific LTFR could be based on a country/currency-specific historical average over the most recent 20 years, which would allow for automatic, gradual, and objective updates of this parameter over time; c. Segment 3 would grade from the country/currency-specific LTFR to a “Global LTFR” (GLTFR) in a manner as described above for alternative 1; and d. Segment 4 would be the GLTFR, a best estimate (i.e., without undue implicit conservatism) for the global economy.

CLHIA	Canada	Other	No	Yes	We assume the IAIS will be presented with many suggestions in this public consultation for alternatives. We encourage the IAIS to seriously consider all these proposals as the impact of the LTFR is substantial for long term products.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	No	
Insurance Europe	Europe	Other	No	Yes	Insurance Europe believes that the IAIS should develop an alternative methodology to derive the LTFR, by which the LTFR should be defined as the sum of: • long-term expected real interest rates; and • expected inflation. In order to derive the long-term expected interest rates, the IAIS should consider an approach based on historical averages. LTFR should be stable and robust, representing a very long term equilibrium of short term nominal rates
Actuarial Association of Europe	European Union	Other	No	No	
Institut des Actuaires	France	Other	No	No	See Q17
Allianz	Germany	Other	No	Yes	The LTFR should be based on data from long term averages of short term interest rates and inflation targets of relevant central banks and set/reviewed regularly (e.g. every 10 years) by an expert group comprising relevant stakeholders (regulators, supervisors, industry, and technical experts).

GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	Yes	We believe that the LTFR should reflect the expectations of long-term interest rates and therefore it should be based on the expected inflation and the expected long-term real interest rates. The best estimate for long-term expected inflation is the inflation target from central banks. For the expected long-term real interest rates, a long-term average of historical data seems a good estimation since forward-looking interest expectations for a time horizon of 60 years does not seem reliable. For example a 40-years moving average of short-term interest rates for the Euro on the basis of data from the AMECO database of the European Commission leads to a stable parameter of more than 2 %. For Solvency II purposes a current LTFR of 4,2 % is used which definitely better reflects the outlined methodology and can be calculated transparent on the basis of data from this AMECO database.
German Association of Actuaries (DAV)	Germany	Other	No	Yes	See answer to Q17.
Great Eastern Holdings Ltd	Singapore	Other	No	No	NA
Swiss Association of Actuaries	Switzerland	Other	No	Yes	It would make sense to set the LTFR equal to the last observation of the liquid point. This is equivalent of setting the curve to constant after segment 1. Alternatively – given the importance of the discount rate – the IAIS might initiate a research project with a university to arrive at a sound extrapolation method that will be peer-reviewed and market-consistent.

Prudential Financial, Inc.	United States of America	Other	No	Yes	The LTFR should take into consideration of both long-term forecasts and realized historical data. Long-term forecasts should be based on a broader set of surveys rather than relying on the OECD study as the sole source. A possible approach could be to use midpoint of multiple reputable sources such as those referred to above.
MassMutual Financial Group	USA	Other	No	Yes	We support including a credit spread within the development of the LTFR. We believe the 10 bps applied to the LTFR in 2016 field testing to reflect a credit spread is too low. Although this was noted as a placeholder, it would be helpful to have transparency and field testing around the development of a long term credit spread.

Q18

Q18 Section 4.1.4.3 The discounting approach is based on a stable macro-economic long-term anchor while the methodology to derive it may show drifts or even steps over time. Should the IAIS also address the issue of frequency of assessment and ways to update the LTFR? If “yes”, please provide details of how the IAIS should address the issue of frequency of assessment and ways to update the LTFR.

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
Bermuda Monetary Authority (BMA)	Bermuda	IAIS Member	No	Yes	LTFR may be recalibrated from time to time if there is a material change in long term expectations (such as occurred between the 1970‘s and the present date).
China Insurance Regulatory Commission	China	IAIS Member	No	Yes	LTFR is assumed to be a stable long term equilibrium interest rate, therefore should not be frequently updated. However when OECD has a material change in the long term expectation, LTFR should be updated accordingly.
EIOPA	EIOPA	IAIS Member	No	Yes	The IAIS should develop a clearly specified methodology to derive the LTFR on an ongoing basis. The LTFR should only change when long-term expectations change.
BaFin	Germany	IAIS Member	No	Yes	The frequency of updates should be low. Whether or not 3,5% is the right level is not the most central question to us. Instead, the stability of this figure is much more important. Therefore, we believe that a revision of this parameter should not be more frequent than every 10 years, unless there are significant and

					stable indicators that suggest a much earlier revision of this parameter.
Financial Supervisory Service	Korea	IAIS Member	No	No	
Swiss Financial Market Supervisory Authority (FINMA)	Switzerland	IAIS Member	No	Yes	Cf. our answer to Q17, in particular if a given LTFR leads to yield curves that are not consistent with market data, it should be adjusted to be consistent with existing market data.
National Association of Insurance Commissioners	USA	IAIS Member	No	Yes	The ICS methodology should be subject to periodic review and the discounting approach should be part of that review.
Ageas	Belgium	Other	No	Yes	The key purpose of this LTFR should be to target stability. On the other hand, long term expectations could change but these change should filter in gradually. As such, we would suggest to review frequently the LTFR but to adjust only gradually over time e.g. by limiting the change to e.g. 10bps per year. The revision of the LTFR shall be done by EIOPA early 2017, we would strongly advise to align both methodologies.
Canadian Institute of Actuaries	Canada	Other	No	Yes	We expect that all stakeholders would agree that it is undesirable to have a valuation or capital regime under which a foreseeable and simple update to a parameter into the calculations causes sudden and industry-wide changes to the valuation of insurance liabilities or to the assessment of capital adequacy. With country/currency-specific LTFRs, it is likely that these types of shocks would be regionalized, which some may view as a worse outcome than a global shock, especially if the LTFR is subjective (which it necessarily is). We believe two

					elements could alleviate these concerns: (1) a Global LTFR as described in our response to Q17.1; and (2) a transition mechanism that grades in the impact of any change to the LTFR.
CLHIA	Canada	Other	No	Yes	The IAIS should address the issue of frequency of updates to the LTFR. To avoid unwarranted volatility it should not be updated too frequently.
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	Yes	Referring to Q17, we think LTFR is a long-run judgment based on stable market data and should not be changed in a certain time period.
EIOPA Insurance & Reinsurance Stakeholder Group	EU	Other	No	Yes	• The LTFR should be defined as a stable long-term parameter and it should be avoided that the LTFR becomes in itself a source of volatility. • The IAIS should aim to avoid both volatility and uncertainty regarding the prudential valuation of technical provisions and capital requirements. • For example a recalibration of the LTFR could be done every 5 years and changes to the LTFR, once identified, should be spread in a predictable way over a number of years. An annual limit for the change in the LTFR should be defined eg 10bs. This would achieve the desired and needed long-term stable outcomes.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	Yes	The goal of the LTFR is to minimize the volatility of the discount rate especially for the longer maturities. The components of the LTFR are also chosen with that objective in mind. This would imply that a change in the LTFR is only warranted if there are fundamental changes in the underlying components.

					Depending on the length of the convergence period, the impact of a change in the LTFR can be significant and have disruptive consequences. IAIGs should be able to prepare themselves for such a change. The IAIS should assess on an annual basis whether fundamental changes have occurred and whether these changes will be short term or not. If there is a fundamental permanent change, one would expect the LTFR also to change. This change should be phased-in over multiple years enabling the IAIGs to raise capital if needed. Depending on the change this phasing-in could last for multiple years. The IAIS could also define a minimum threshold for a change of the LTFR in order to reduce the number of annual changes. For example, if the change is less than 10 bp no change is implemented. A maximum of 20 bp change per year could be applied.
Insurance Europe	Europe	Other	No	Yes	The issue of frequency of assessment and ways to update the LTFR is a key element of the valuation framework and should be given appropriate consideration. Insurance Europe proposes the following: • The UFR should be based on long-term expectations and thereby provide a stable anchor for the calculation of discount yields. • The LTFR should be defined as a stable long-term parameter and the LTFR should not in itself become a source of volatility. The IAIS should aim to avoid both volatility and uncertainty regarding the prudential valuation of technical provisions and capital requirements. The IAIS should therefore aim to recalibrate the UFR at sufficiently relevant intervals, that allow insurers an appropriate projection of expectations. Insurance Europe supports a recalibration of the LTFR every 10 years. • Changes to the LTFR, once triggered by the methodology,

					should be spread in a predictable way over a number of years. An annual limit for the change in the LTFR should be defined. Insurance Europe supports an annual limit of 10 basis points
Actuarial Association of Europe	European Union	Other	No	Yes	It is important to have a process for calculating the LTFR and updating it regularly subject possibly to a change in long-term expectation.any given period. The respective mechanisms should include reviews by an expert group including participants from regulators, supervisors, actuarial associations and the industry. In order to avoid cliff-effects when the expert group adjusts the LTFR a change should be phased in over a period of time.
Institut des Actuaires	France	Other	No	No	
Allianz	Germany	Other	No	Yes	See response to Question 17.1
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	Yes	The IAIS should make sure that the LTFR is stable over time and does not change frequently. Only in cases where a change of the components (e. g. the inflation target of a central bank or the expectations of long-term real interest rates) is materially and expected to be permanent a change of the LTFR could be considered. In such a case, the modification of the LTFR should be limited per year to a maximum of 10 basis points.
German Association of Actuaries (DAV)	Germany	Other	No	Yes	A set of candidate mechanism should be established and field tested. The mechanisms should include periodic reviews by an expert group including participants from regulators, supervisors, actuarial associations and industry. In order to avoid cliff-effects

					when the expert group adjusts the LTFR a change should be phased in over a period of time in order for undertakings to adjust without negative short term impacts on markets.
Munich Re	Germany	Other	No	No	
Global Federation of Insurance Associations	Global	Other	No	Yes	Considering its purpose, the LTFR should not change in the short term and, even if it changes, the change should take adequate time and be moderate. Since there is a concern that the artificial alteration of assumptions caused by an update of the LTFR may influence insurers´ investment behaviour, whether to update the LTFR should always be considered carefully. Even in the case an update, restrictive measures could be implemented such as setting a floor and ceiling to the fluctuation range of the LTFR or limiting the frequency of updates to every few years.
AIA Group	Hong Kong	Other	No	Yes	We think a frequency of updating should be no more often than every two years unless extraordinary economic events occur that are believed to permanently change the fundamentals of the economic environment. The size of each update should be subject to limits.
International Actuarial Association	International	Other	No	Yes	Abrupt changes are a concern. While we would prefer a smoother methodology, we do not have a detailed one to recommend other than recommending methods which would smooth the changes in the LFTR over time. The use of moving averages of medium and/or long term tenors over a period such as 10 or 15 years might be the answer.

Dai-ichi Life Holdings, Inc.	Japan	Other	No	Yes	・The LTFR doesn´t have the nature that it frequently changes.
General Insurance Association of Japan	Japan	Other	No	Yes	LTFR should be updated when its macroeconomic anchors (e.g. OECD growth forecast revisions, inflation-target revisions of central banks etc.) are changed. The triggers and timing of LTFR updates should be predetermined to ensure foreseeability for stakeholders, and frequent changes should be avoided. Furthermore, transitional measures to mitigate drastic change should be considered as required.
The Life Insurance Association of Japan	Japan	Other	No	Yes	・Considering its purpose, the LTFR should not change in the short terms. Even if it changes, the change should occur over an adequate period and be moderate. ・Whether to update the LTFR should always be considered carefully, since there is a concern that the artificial alteration of assumption caused by updates of the LTFR may influence insurers´ investment behaviour. Even in the case of updating, restrictive measures could be implemented such as setting a floor and ceiling to the fluctuation range of the LTFR or limiting the frequency of updating to every few years.
Great Eastern Holdings Ltd	Singapore	Other	No	No	
Swiss Association of Actuaries	Switzerland	Other	No	Yes	The LTFR should be assessed annually, based on most recent market information, see first alternative in Q17.1; or if the second alternative in Q17.1 is chosen according to the updated information that enters into the determination of the LTFR. Obviously the riskiness of the LTFR needs to be taken into account in both, the capital requirement and the MOCE.

Swiss Re	Switzerland	Other	No	No	
Institute and Faculty of Actuaries	UK	Other	No	Yes	The long-term anchor rate affects the yield curve throughout segment 2, not just in segment 3. It is therefore very important to have (a) an objective process (as far as is possible) for deciding what the long-term anchor rate is and (b) a rule for how quickly changes in the long-term anchor rate are reflected in actual yield curves. For (b), one might have a maximum of (say) 20 basis points movement in the anchor rate per annum.
New York Life	United States	Other	No	Yes	It is important that the LTFR be stable over time; however, there may be instances where significant changes to the long-term outlook necessitate an update to the LTFR assumption. The IAIS should consider establishing a threshold for updating the LTFR. For example, it could specify that a change of over 50 bps to a 5 year moving average would require refreshing the LTFR assumption. The specific mechanism for limiting volatility of the LTFR assumption will depend on the source data utilized in its derivation and how regularly it is updated. As such, in addition to the information from the OECD, other sources should also be considered in crafting and updating the LTFR assumption.
American Academy of Actuaries	United States of America	Other	No	Yes	Similar to other long-term assumptions for insurance valuation, assumptions should be reviewed and updated periodically. For instance, the long term forward rate (LTFR) could be set every year based on the defined approach/source established by the IAIS. The overall approach to setting the LTFR for the ICS also could be subject to review every few years.

Prudential Financial, Inc.	United States of America	Other	No	Yes	The LTFR should be reviewed and updated on an annual basis using the approach suggested in our responses to question 17 and 17.1. We would not expect to see large volatility from the annual review/update process. In addition, the overall approach to setting the LTFR for the ICS could also be subject to review every few years.
CNA	USA	Other	No	Yes	Yes. The macroeconomic approach for determining the long term forward rate (LTFR) is appropriate, but (LTFR) of 3.50% for the United States seems low relative to historical normative target levels and should be reviewed annually to ensure alignment with Segment 1 (US Swap curve) of the base yield curve. The extrapolation between the first and third segments is reasonable.
MassMutual Financial Group	USA	Other	No	Yes	The LTFR should be a stable assumption within the ICS framework in order to avoid unnecessary volatility. That said, we would agree that all assumptions within the ICS should be subject to periodic review and if material changes to the LTFR are deemed necessary, the IAIS should determine an appropriate and transparent process to grade in the change. As previously stated, we believe the LTFR should be field tested so that the IAIS has an understanding of the magnitude of potential volatility a change to the assumption will bring.

Q19

Q19 Section 4.1.4.3 Do you have any other proposals for refinement of the methodology to derive the base yield curves? If “yes”, please provide a detailed rationale for your suggestions.

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
Bermuda Monetary Authority (BMA)	Bermuda	IAIS Member	No	No	
China Insurance Regulatory Commission	China	IAIS Member	No	No	
EIOPA	EIOPA	IAIS Member	No	Yes	Where government bonds are used to derive the yield curve, their rates should be adjusted for credit risk. We do not agree with the statement that government bonds are risk-free as it is not in line with experience.
BaFin	Germany	IAIS Member	No	Yes	Experience has shown that government bonds are not risk-free. Where government bonds are used as reference instruments to derive the yield curve, their rates should be adjusted for credit risk.
Financial Supervisory Service	Korea	IAIS Member	No	No	

Swiss Financial Market Supervisory Authority (FINMA)	Switzerland	IAIS Member	No	Yes	Use curves from central banks if available and of good quality (in particular if they are consistent with quotes from instruments with a relatively long term to maturity). If you would like to slightly “stabilize” them, take the average of the yield curves from e.g. the last 10 days of the year. This latter approach would not systematically contradict market data. If necessary, use extrapolation methods to an LTFR that is derived from market data, cf. 17.1.
Ageas	Belgium	Other	No	No	
Canadian Institute of Actuaries	Canada	Other	No	No	
CLHIA	Canada	Other	No	No	
Insurance Bureau of Canada	Canada	Other	No	Yes	Paragraph 58 indicates that the main objective of prescribing yield curves is comparability. There is a trade-off between comparability and the ability to construct yield curves based on the most relevant data available in each jurisdiction. We believe that the IAIS should consider a more principle-based approach to discounting for ICS version 2.0. As part of that approach, IAIGs should have the option of constructing base yield curves based on high-level principles developed by the IAIS and with input from the actuarial profession, including the International Actuarial Association.
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	Yes	We think the methodology of having 3 segments, the starting point of each segment and the setting of LTFR are all determined by judgment based on

					market data in the long run. Therefore, they should not be changed in a certain time period.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	No	
Actuarial Association of Europe	European Union	Other	No	No	
Institut des Actuaires	France	Other	No	No	
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	No	
Munich Re	Germany	Other	No	No	
AIA Group	Hong Kong	Other	No	No	
International Actuarial Association	International	Other	No	Yes	LTFR needs to include a spread assumption, appropriately determined. See, our comments in Question 5
General Insurance Association of Japan	Japan	Other	No	No	
The Life Insurance Association of Japan	Japan	Other	No	Yes	・As for Question 16 (2), while we do not think there is a single correct solution regarding the convergence time, it should be ensured that each currency and jurisdiction is fairly treated and any disadvantageous condition is carefully eliminated. We do

					not support the idea that the convergence points differ by jurisdictions, as it would only increase complexity.
Great Eastern Holdings Ltd	Singapore	Other	No	No	
Swiss Re	Switzerland	Other	No	No	
MetLife	United States	Other	No	Yes	Documentation: In the 2016 FT technical specifications, there are no further details on how the last point of liquidity and level of LTFR were set and whether swaps or government bonds were used as the risk-free rates and why. It would be useful if the IAIS would provide detailed explanation of the assumptions used. For example, why is the last point of liquidity for China 10 years? Are the risk-free rates based on swap rates? In China, the government bond market is quite mature compared with swaps and there are 30-year government bonds being traded. We believe that the benchmark risk-free curve for China should be based on government bonds with a 30 year last point of liquidity. USD LTFR: The USD LTFR of 3.5% is the same as that for Japan. It seems low compared with Japan given that the economic growth in the US has been higher than Japan for many years. The LTFR for developed markets including the US and Europe seems low at 3.5% compared with the 4.2% Ultimate Forward Rate assumed under Solvency II. Last points of liquidity: GBP – The last point of liquidity is assumed to be 30 years. This

					seems low given that the swap market in the UK is highly liquid up to 50 years. EUR - The last point of liquidity is assumed to be 20 years. This seems low given that the Euro swap market is liquid up to 30 years. PLN - The last point of liquidity is assumed to be 15 years c.f. 10 years under Solvency II.
Prudential Financial, Inc.	United States of America	Other	No	No	
MassMutual Financial Group	USA	Other	No	No	

Q20

Q20 Section 4.1.4.4 Which approach to portfolio selection, as a basis for the calculation of the credit spread adjustment, is more appropriate for the MAV approach, taking into account the need to ensure a balance between complexity, comparability and basis risk? Please explain.

Organisation	Jurisdiction	Role	Confidential	Answer
Bermuda Monetary Authority (BMA)	Bermuda	IAIS Member	No	The BMA supports the use of a credit spread adjustment to account for undue volatility in the balance sheet, caused by short term market volatility (noise as opposed to signal). A spread adjustment should have due regard for the nature of insurance liabilities, asset liability management and mitigate pro-cyclical behaviour. Accounting mismatches should be mitigated but not completely eliminated because otherwise the valuation approach would no longer be an economic approach and therefore unsuitable to be the foundation of a risk based ICS formula. We believe that the final answer should strike a balance between theoretical/design considerations but also calibration, as different methods may lead to similar results depending on the calibration of the different factors (portfolio selection is just one of them). As such we are somewhat agnostic as to the approach to be chosen as long as the final package results in a balanced holistic solution, capable of being implementable by firms and monitored by supervisors without a disproportionate use of resources.

				We acknowledge the pros and cons of the different methods and conclude that there is not a single perfect answer. We believe that the final answer should strike a balance between theoretical/design considerations but also calibration, as different methods may lead to similar results depending on the calibration of the different factors (portfolio selection is just one of them). As such we are somewhat agnostic as to the approach to be chosen as long as the final package results in a balanced holistic solution, capable of being implementable by firms and monitored by supervisors without a disproportionate use of resources.
China Insurance Regulatory Commission	China	IAIS Member	No	We may prefer to use company portfolio as a reference in setting credit spreads, so that the liability valuation can reflect the information of corresponding assets backing the liabilities. In addition, there are special difficulties in setting spreads for developing and emerging markets like China, and we suggest ICS address these issues in ICS 1.0: 1) Alternative investments: we understand that the ICS given spreads are derived based on corporate bonds, which may be overly conservative for alternative investments. Due to a lack of long term financial instruments, insurers in China invest in significant amount of alternative assets to get long term stable cash flows. Such assets include infrustrcutre plans, trust products and asset management plans. They are not publicly traded, with no market observable spreads, and their liquidity are much lower than corporate bonds, therefore a higher spread is expected. 2) Asset and liability mismatch: the market observable information of CNY corporate bonds are often shorter term, the majority is less than 10 years. Such short term asset spreads do not reflect the long term liquidity of liabilites, and therefore may be unreaonble to

				use for 60 years' liability projection (till the start of Segment 3). In addtion, use a short asset information to very long liabilities may also create artificial balance sheet volatilities which is unmanageable to insurers. We suggest consider some smoothed spreads for liabilities after the 10 year LLP, for example an average market spread of X years or a constant spread.
EIOPA	EIOPA	IAIS Member	No	The adjustment should be based on a single representative portfolio linked to typical jurisdictional/currency asset holdings. A single reference portfolio should not be used because it would include high basis risk as spreads evolve differently for different jurisdictions and currencies. A reference portfolio linked to the assets held by the firm should not be used because it would incentivise insurers to hold bonds of lower credit quality. Having said that, we believe it is appropriate to base the adjustment on the spreads calculated from the actual assets of the insurer for a certain type of business where asset and liability cash-flows are matched and the insurer can uphold that matching during the lifetime of the insurance obligations.
BaFin	Germany	IAIS Member	No	The portfolio should be as common as possible for all IAIGs. There may be some leeway to reflect market practices where they materially differ among jurisdictions or currencies. In this sense, we favor the "single reference portfolio" portfolio. We might accept the "single reference portfolio linked to typical jurisdictional/currency asset holdings, where there is sufficient evidence of material differences among jurisdictions or currencies.
Financial Supervisory Service	Korea	IAIS Member	No	Single representative portfolio linked to typical jurisdictional/currency asset holdings

Swiss Financial Market Supervisory Authority (FINMA)	Switzerland	IAIS Member	No	Since in our market it is standard to use valuation models based on standard arbitrage pricing theory (where no liquidity premium is assumed) and to calibrate these models to the initial yield curves, we suggest to use non-adjusted risk-free interest rate curves. Otherwise, we would be faced with many serious problems, e.g. the drift of all tradeable instruments would be systematically inconsistent with the applied arbitrage pricing theory, insurance cash-flows depending on future interest rates would be wrong, etc. It would be almost impossible to control the aggregated mistake. From a different point of view, it is not clear to us that the spread adjustment is not just a construct that would not be operational in the real world and could thus impair policyholder protection. The construct is the removal of the estimated credit spread from the total spread of e.g. corporate bonds to be left with a residual spread. It is assumed that, given suitable insurance liabilities, this residual spread can be earned by an IAIG in a risk free manner. But to be operational in the real world, the theoretical construct would have to be able to be implemented in the real world, i.e. there need to be existing assets or asset portfolios which produce the residual spread while having no credit risk. It would have to be shown how this would be possible.
National Association of Insurance Commissioners	USA	IAIS Member	No	At least when writing longer term business such as life insurance, it is desirable for assets and liabilities to match. Since the liabilities should be addressed on the individual insurer's portfolio (see our response to Q21), we would like to see a parallel approach to the ICS portfolio selection (i.e. spreads calculated by firms based on actual asset returns or a weighted average of multiple reference portfolios linked to the assets held by the firm).

Ageas	Belgium	Other	No	Spreads calculated by firms based on own actual assets held.
ABIR Association of Bermuda Insurers & Reinsurers	BERMUDA	Other	No	Options 1 and 2 are suitable bases for implementation for a company with predominantly short to medium term liabilities and for whom the asset and liability profile are not interdependent. Of these we see Option 2 being the most preferred approach as it reflects an appropriate compromise between complexity and comparability.
Canadian Institute of Actuaries	Canada	Other	No	Most importantly, we recommend that ultimately the ICS discount rates align with IFRS 17 for Insurance Contracts for the determination of discount rates more generally; and therefore, also for the determination of spreads above the base yield curve. In general terms, IFRS 17 allows two approaches (top-down and bottom-up) but both approaches aim to arrive at a similar total discount rate meant to represent a "risk-free" rate plus a spread/premium for the illiquidity of the liability being valued (i.e., not a spread for credit risk). In practice, we expect the similarity of IFRS 17 discount rates will be greatest during the observable market period (Segment 1). Beyond the observable market, each company will define long-term rates based on the characteristics of the liability. As such, discount rates may vary by company and product, based on the company's view of the liabilities' illiquidity, and possibly the company's view of long-term rates and spreads. No reference portfolio is currently specified by the IASB for this assessment, so this may allow for some company-specific practices in how to interpret historical market data to develop long-term assumptions. In addition, IFRS allows discount rates for products with pass-through features to reflect assets held by company. We expect that global accounting firms and peer reviewers, together with the development of international actuarial standards

				and guidance, will act to narrow the range of practice across IAIGs, especially for the determination of parameters that are not company-specific, such as long-term risk-free rates and total spreads, if not for the selection of a representative portfolio. However, it will likely take some time to achieve convergence in the setting of discount rates that reflect the characteristics of the liabilities as part of IFRS 17. The challenge is then how best to represent this in the early versions of the ICS. We believe that the portfolio selection decision also needs to consider how bucketing is applied to the liabilities. We see two ways to combine these decisions into an interim discount rate solution for the observable market horizon (Segment 1) that could be a reasonable proxy for IFRS 17: 1. Use a blended spread derived from combining the IAIG's asset mix with asset class-specific and currency/country-specific (but possibly not rating-specific) spreads defined by the IAIS. The specified spreads would enhance comparability and mitigate perverse investment incentives (paragraphs 116 and 120). In principle, no adjustments are needed for bucketing, as the IAIG's investment choices are assumed to already be designed to match the characteristics of the liabilities. This solution also addresses/mitigates basis risk (paragraph 114). OR 2. Use multiple reference portfolios to determine the short-term spread for each jurisdiction (applying to all companies equally), but apply bucketing to address product differences. Ideally, the bucketing would be granular enough to represent the potential variations in company discount rates in IFRS 17; however, as noted in paragraph 125, this is extremely challenging. If the bucketing approach is too simple, basis risk is introduced, as the movement of market value (MV) assets and present value (PV) of liabilities is artificially dislocated. This could be resolved through further testing, but the calibration is challenging.

				In either of the above proposals, we suggest spread assumptions that are specific to each jurisdiction. It makes sense to recognize structural differences in asset markets between jurisdictions, as insurers do not have control over asset markets in which they operate, but not to recognize differences in asset quality/ratings between insurers within a jurisdiction, thereby avoiding manipulation of liability discount rates by individual IAIGs by simply changing investment quality. For the long-term (Segment 3 and/or 4), we recommend the use of a single representative portfolio linked to typical jurisdictional/currency IAIG asset holdings (i.e., not recognizing IAIG-specific asset mix), using spreads defined by the IAIS. Differentiating by jurisdiction could recognize that each jurisdiction has potentially different investment options at its disposal and different market conditions, but enhances comparability by also recognizing that an IAIG's current asset mix may not be representative of the very long term.
CLHIA	Canada	Other	No	We commend the IAIS for exploring the three References/Options. At this point it is premature to conclude definitively on the best approach. We believe in principle that the "WAMP" approaches (Option #3, Reference #3) that reflect the company's own asset mix are most promising, but still need development from the basis tested in 2016 field testing. We encourage the continuation of the robust analysis and dialogue with the volunteer IAIGs. Our one overriding comment however is the IAIS should ultimately strive for as much consistency as possible with how discount rates will be set under IFRS17 Insurance Contracts. Specifically, IFRS17 allows both "top down" and "bottom up" approaches which both strive to provide an end result of a risk free rate plus an illiquidity premium (but not further increased for credit spreads). Discount

				rates are likely to vary by company as a result of this allowance for both top down and bottom up approaches. Also, there is flexibility in the choice of reference benchmarks a company may use in setting the rates. Over time, as IFRS17 is implemented, the range of practices will narrow. Similar to the ICS, the IASB construct contemplates three segments: Segment #1 discount rates are set based more on observable market prices; Segment #3 discount rates are based on long term assumptions; and Segment #2 transitions from Segment #1 to Segment #3. We expect the degree of consistency across companies and jurisdictions will be highest for Segment #1. Segment #3 will be one that is most company-specific, as companies will reflect the specifics of the liquidity and other characteristics of their liabilities and their own approaches to utilizing historical data in deriving (long term) assumptions. Ultimately, we would like to see an ICS that uses the company's own discount rates from IFRS 17 valuation. But until IFRS 17 is fully implemented, we suggest the following approach be used in earlier versions of the ICS: - ICS could prescribe jurisdictional specific spreads to ensure a prudent and comparable basis - ICS should provide two distinct sets of spread assumptions: current market based spreads for Segment #1, while Segment #3 spreads should be based on a long term view of the spreads that are achievable in insurance portfolios (much higher than the 0.10% tested in the 2016 field testing) - ICS should include a non-zero spread for NFI and other non-eligible assets (or gross up the eligible assets to reflect the full asset portfolio); the current approach in the 2016 field testing assigns zero spread to the non-eligible assets, which is too punitive to long term products that require a portion of NFI assets in the

				balanced asset strategy - IAIGs would segment the assets into product segments, to get an asset mix supporting short term products, and a second asset mix supporting long term products (more granular product groupings could also be considered) - Then the IAIG would derive the weighted average spread for each product segment by applying current asset mixes to the ICS prescribed spreads for Segment #1 and Segment #3 rates (as a simplification, using current asset mix at all durations assumes a constant asset mix over time) - This would provide a better recognition of differences between the asset mixes of Life and Non-Life companies - With this "WAMP" approach split between short and long term products, no application ratios are needed to adjust for varying illiquidity characteristics of the liabilities - For "WAMP" methods that are applied at the product segment level, the company's asset mix is the proxy for the characteristics of the liability, and once the spreads are risk adjusted for defaults (and NFI market risk), no further adjustment is needed to reflect the illiquidity characteristics of the liabilities - Application ratios to reflect the illiquidity characteristics of the liabilities are only needed if the ICS prescribes the same weighted average spread for all products (for example, with a representative portfolio, or with the "WAMP" at total company level). In that situation, the application ratios help to match the spread to the characteristics of each distinct product segment. - We note the application ratios tested in the 2016 field testing are too low, as the weighted average of the application ratios should get back to 100%, since the representative portfolio is defined as the spread assumed for the total of the insurer's entire product segments combined. As such, the highest application ratio needs to be > 100%.

Ping An Insurance (Group) Company of China Ltd.	China	Other	No	We prefer calculating the credit spread adjustment based on the company's actual asset portfolio. However, for the credit spread of each asset category provided by IAIS, we suggest adopting a method similar to Reference Method 2 for developing economies, which can adopt a stable credit spread for each asset category or set the credit spread of each asset category based on historical moving average. The reasons are stated as follows: 1. Short-term market data of credit spread cannot reflect the liquidity and predictability of liabilities in the long run: a. Short-end liquidity is likely to be driven by monetary loosening or stimulation policies of the government, which do not reflect the long-term liquidity and predictability. b. It is difficult to find a proxy for long-term liquidity and predictability in China given the short-supply of long-term credit and unsophisticated derivative market. 2. Short-term market driven adjustment introduces unnecessary balance-sheet volatility due to the large asset-liability mismatch. a. Corporate bonds over 10 years only accounts for less than 10% in China market, while the liabilities are primarily long term with an average duration of about 20 years. Current market data is not sufficient for liability valuation. b. It is very common to Chinese insurers to use alternative investments to manage the long-term liabilities but the spread adjustments for these assets are often not market observable, for example, the debt type infrastructures, asset management plans or trust plans.

				3. For certain assets, especially the alternative assets, as there is no active trading market,the market spread data is not observable. So it's still arguable whether it is reasonable to determine the credit spreads of these assets based on the corporate bond data with less than 10 year's term. In conclusion, for emerging markets where the capital markets are still developing, to derive the spreads for liability valuation, we suggest the credit spread of each asset category should be stable or based on historical moving average, and a long-term spread should also be introduced. Moreover, such approach enables easy implementation and comparability.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	A reference portfolio per currency is a reasonable approach as a default option. However, an option based on a "weighted average of multiple reference portfolios linked to the assets held by the firm" should be available for more complex asset portfolios based on the group's assets' composition. It is important that this composition should not be limited to bonds & loans but also include other assets such as equity, mortgage loans and property in line with industry practice. In fact, insurers manage their assets based on a holistic balance sheet approach, where all the liabilities are considered including own funds and free surplus. The ability to adopt and maintain a long-term view in the management of assets is provided by the duration of the liabilities at large, in a sort of weighted average, including free surplus with long durations. Insurers managing their assets with a long term view are not exposed to forced sales on a

				one-year basis and the short-term volatility of assets is "hedged" by the duration of the holdings, be it on a line by line basis (bonds held to maturity) or through the percentage of a target asset allocation (common stocks). Such asset management strategies permit enhanced diversification of the asset portfolio improving key indicators such as profitability, liquidity and solvency. They also lead to a countercyclical investment behaviour whereby insurers not only avoid forced sales but actively manage their assets on the underlying risk factors of the assets. Therefore, from a holistic balance sheet approach and in line with asset/liability management, equity holdings should be reflected in the calculation of the spread intended for the adjustment to the risk free curve. The IAIG should include the use of the CSA in its risk management and should assess the impact of applying the CSA in its policies for capital adequacy and disclosure. This should ensure that any wrong incentives from using the CSA are mitigated.
Insurance Europe	Europe	Other	No	Insurance Europe supports a consistent valuation basis to be part of the ICS. This should ensure that the long-term nature of the business and asset/liability management are appropriately reflected and artificial volatility in available capital is avoided. The ICS should rely on an economic approach in which: - Assets are valued at market value. - Liabilities are valued based on current estimates and projected cash-flows are discounted using a discount rate that reflects the nature of the business and how assets match liabilities. Insurers' investments are a consequence of the nature and profile of their liabilities, therefore it makes perfect sense, from an economic perspective, that the valuation approach for liabilities reflects the assets that cover the liabilities. Such reflection would in fact act as a good risk management incentive and it can be implemented with a bucketing approach, by creating buckets of

				liabilities and matching them with the corresponding assets, as a starting point for the valuation. When calculating the credit spread adjustment for the discounting of the liabilities, the IAIS should consider not only fixed income assets, but also equity assets - in line with industry practice. The ability to adopt and maintain a long-term view in the management of assets is provided by the duration of the liabilities at large, including free surplus . Insurers are not exposed to forced sales on a one-year basis and the short-term volatility of assets is" hedged" by the duration of the holdings, be it on a line by line basis (bonds held to maturity) or through the percentage of target asset allocation (common stocks). Such asset management strategies permit enhanced diversification of the asset portfolio improving key indicators such as profitability, liquidity and solvency. They also lead to a countercyclical investment behaviour whereby insurers not only avoid forced sales but actively manage their assets on the underlying risk factors of the assets. Therefore, from a holistic balance sheet approach and in line with asset/liability management, equity holdings should be reflected in the calculation of the spread intended for the adjustment to the risk free curve. Insurance Europe supports the IAIS objective of avoiding excessive balance sheet volatility caused by short-term market fluctuations. Asset/liability management practices are different across insurers and they should have an impact on the valuation of the liabilities. More specifically, for those assets and liabilities subject to the same ALM approach, a similar valuation is needed to ensure consistency. As a general comment on valuation, Insurance Europe highlights that, in order to reflect the differences in ALM between insurers, there should be flexibility to choose a discounting method that reflects the link between assets and liabilities and the way in which assets and liabilities are managed. From this perspective, it makes sense that the IAIS proposes alternatives that are, together, able to cover and reflect differences in ALM across companies. Given the

				valuation solutions currently proposed by the IAIS, Insurance Europe would like to share the following comments: - Insurance Europe supports, as a valuation alternative, a discounting approach based on spreads calculated on actual asset returns. This approach needs to also have as option to take into account the appropriate hypothecation of assets to liability buckets at firm level for the purpose of liability valuation. In such a case the liquidity of the liabilities is the most appropriate criteria to allocate liabilities to different valuation buckets and differences in characteristics of liabilities should justify the identification of more than one bucket. Where liabilities are illiquid and cannot be surrendered or withdrawn, as a minimum there should at least be one bucket with a 100% application ratio. For other liabilities, Insurance Europe would expect the liquidity of hypothecated assets should already reflect the liquidity necessary to meet liabilities - and therefore would already be reflected in the adjustment to the discount rate. As a consequence, a 100% application ratio should also be used. - Some companies may take asset/liability management strategies that would not justify a bucketing approach for liabilities, but would still be expected to earn spread over time. Insurance Europe supports, as a valuation alternative, an approach based on a representative portfolio, taking into account the liabilities and the asset earned rate at currency/jurisdiction level. This approach is in line with liability-driven investment strategies and Insurance Europe supports a discounting approach based on spreads calculated by firms on actual asset returns in the representative portfolio. - In addition, an option based on a "weighted average of multiple reference portfolios linked to the assets held by the firm" should be available for more tailored asset portfolios based on the group's assets composition. As highlighted above, it is important that any approach recognizing the link between assets and liabilities is not limited to bonds and

				loans, but also includes other assets, such as equity, mortgage loans and property. As a general comment, Insurance Europe believes that the IAIS should continue the to test the proposed valuation alternatives, and also consider, in its analysis, the potential impact of a range of financial and economic environments.
Institut des Actuaires	France	Other	No	Single representative portfolio linked to typical currency asset holdings
Allianz	Germany	Other	No	A company specific approach is most adequate, as it reflects most accurately the risk profile of the company thereby contributing to comparability.
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	In the 2015 field test specifications, the provided adjustment was based on a representative investment grade corporate bond or broad market index. However, with the large variety of insurers and investment strategies even in regional markets, it is difficult to find such an index, which not only fits all IAIGs in one jurisdiction, but also compares to those indices chosen for other jurisdiction in order to ensure global consistency. A sensible approach would therefore be a more granular, company-specific one, which uses the individual insurer's investment portfolio.
German Association of Actuaries (DAV)	Germany	Other	No	Portfolio selection should be based on companies own portfolios. A potential usage of an industry wide portfolio would not capture the individuality of the companies' portfolios, see also answers to Q21.1 and Q21.2.

Global Federation of Insurance Associations	Global	Other	No	The valuation of liabilities is of key importance to GFIA members. GFIA recognises that the right balance needs to be struck between, on one side, the ability of the valuation approach to capture the link between assets and liabilities in a way that avoids artificial balance sheet volatility and, on the other side, the complexity of calculations. While some GFIA members believe that it's key for the valuation to reflect the actual holdings of assets on the liabilities side, other GFIA members believe that a reference portfolio approach should be used to favour simplicity over complexity. GFIA therefore believes that a valuation based on actual assets and liabilities should be proposed by the IAIS, but companies should be allowed, for simplicity reasons, to use a valuation based on a reference portfolio.
AIA Group	Hong Kong	Other	No	We favour spreads to be calculated from actual assets being held because this reflects reality. The balance sheet records the market value of the actual assets we hold, therefore the liability valuation should also be fully based on the characteristics of these assets. This method is also objective in that there is no need to make assumptions about spreads. Safeguards should be built into the system. These would include credit risk charges specified by the IAIS and limiting the spread recognized to that on investment grade bonds. For longer durations where there are no backing assets market rates grading to a long term stable rate can be used. We believe that an own assets approach can serve as the basis for a single method that combines the best characteristics of the MAV and GAAP Plus approaches.
International Actuarial Association	International	Other	No	We suggest the use of company own assets, aligned with IFRS 17 methodology. See again, our response to Question 5.

Dai-ichi Life Holdings, Inc.	Japan	Other	No	· Inherently, it is inconsistent that capital is required for investment risks but the investment return is not reflected to the capital resources. Excess return to risk free rate should be reflected to discount rate. · Life insurance companies have ability to gain spreads stably from markets due to the long and illiquid liability structure, so it should be crucial that spread is reflected to discount rate. In this sense, we support the methodology to reflect the credit spreads on the reference portfolio based on IAIGs' one. · However, we oppose to the methodology of reflecting the spread based only on the currency in which the liability is denominated. The current methodology is excessively unfavorable to Japanese insurance companies that take advantage of foreign credit spreads under appropriate control of currency risk due to the thinner Japanese corporate bond market in terms of limited issuance, distribution and tight spread. · Matching adjustment of Solvency II is not appropriate as a benchmark of considering credit spreads since its condition of application is excessively strict, thus, the relaxed measure should be considered. For instance, in RBC2 which is under consideration in Singapore, the relaxation of conditions is discussed and it aims to be based on the actual investment practice in the jurisdiction. · Besides, the treatment that hedge costs are deducted from credit spreads is unreasonable because the main source of hedge costs is not the difference of credit spreads but the difference of risk free rates of two currencies. · On the other hand, as pointed out in paragraph 116 of the consultation document, excess spread to high yield assets could

				create incentives detrimental to sound risk management, thus we support the IAIS's proposal to limit the degree to which spreads from lower quality assets are included in the adjustment.
General Insurance Association of Japan	Japan	Other	No	If spreads are calculated based on IAIG-specific assets, this would lead to increased complexity and a significant decline in comparability. It is desirable for the spread adjustment to be based on single or multiple reference portfolios. A method based on IAIG-specific assets should be carefully considered.
The Life Insurance Association of Japan	Japan	Other	No	·Considering the long-term nature of the life insurance business, excessive volatility of the insurers´ financial soundness due to short-term market fluctuations should be restrained. To that end, provided an insurer is earning the stable spread through appropriate risk-taking, the insurer's management would be properly reflected in valuating liabilities. Therefore, we support the approach referring to portfolios linked to the assets held by the firm to some extent. ·For similar reasons, we do not support the current IAIS´s idea that when assets backing insurance liabilities are denominated in a different currency from those insurance liabilities, those assets should be assumed to generate the same spread adjustments as that calculated based on the assumption that those assets are denominated in the same currency compared to those liabilities. Japanese insurers are earning sufficient excess spread even taking into account hedging costs through holding assets denominated in a different currency compared to the corresponding liabilities. Such reality should be reflected appropriately. ·On the other hand, the creation of incentives detrimental to sound risk management caused by excessive pursuit of return should be avoided as pointed out in paragraph 116 of the CD. We support the IAIS´s suggestion to limit the degree to which spreads from lower

				quality assets are included in the adjustment. ·If the adjustment is intended to mitigate potential excessive volatility in capital resources due to periods of exaggeration of credit spreads in financial markets (paragraph 107 of the CD), the reference to the spread from actual invested assets would be appropriate for purpose. In this case, we do not think it is reasonable to apply different levels of spread adjustments depending on the currencies of insurance liabilities. ·Considering the major factor of the hedging costs stems from the difference between base rates, deducting hedging costs from the spread would be less reasonable as well. ·The current suggested approach is disadvantageous for Asian life insurers as their corporate bonds markets are insufficient (limited amounts of bond issuance/circulation, tight spreads). Accordingly, the level playing field is not ensured. ·As interest rates continue to be extremely low around the world, abovementioned concerns could appear to any jurisdictions in the future.
Great Eastern Holdings Ltd	Singapore	Other	No	Single representative portfolio linked to typical jurisdictional asset holdings. Insurers located in the same region are more likely than not to have more similar investment portfolios. For example, asia-pacific insurers are more likely to have higher percentage holdings of asia-pacific securities in its investment portfolio.
Swiss Re	Switzerland	Other	No	Swiss Re remains committed to a fully market-consistent valuation. We prefer to have the option to use unadjusted discount curves for liabilities.
Aegon NV	The Netherlands	Other	No	Consistent with our view that the ICS should be simpler, more modestly calibrated, and less volatile, Aegon supports the use of

				spreads calculated by firms based on actual asset returns as the a potentially appropriate approach to liability valuation that needs further investigation. Alternatively, a reference portfolio approach with a broad 100% application ratio is a more simple approach that could work in a less-sophisticated form of ICS. The use of actual asset returns reflects the fact that investments by insurers are closely connected to their liability profiles. It also minimizes volatility due to basis risk. An earned rate approach therefore provides the truest representation of value on an insurer's balance sheet. A single reference portfolio has the virtue of minimizing complexity and achieves maximum comparability of input (every insurer uses the same curve). But the output is not comparable as individual insurer valuations would not reflect the actual situation on the insurer's balance sheet in terms of expected asset yield generation based on actual assets and the liability liquidity profile. Nevertheless, a reference portfolio can provide an acceptable outcome if the application ratios avoid undue prudence and "cliff effects" that create vast valuation differences arising from minor differences in product features. Aegon believes that on valuation, the IAIS should take more time to develop suitable approaches for the ICS. The current Field Testing approach is not appropriate to draw out the needed insights and is unduly limited in scope. The ICS needs to apply and "work' across the globe for a range of insurance products, investment markets and economic situations.
American International Group (AIG)	U.S.	Other	No	We believe that an "Own Assets with Guardrails" approach offers the most promising path forward for valuation underlying the ICS.

				As described in our thematic overview, we view the currently proposed MAV and GAAP+ constructs as fundamentally flawed in several respects, flaws which can largely be obviated by designing and developing a single discounting methodology based on own assets coupled with appropriate quantitative and qualitative guardrails.
Institute and Faculty of Actuaries	UK	Other	No	The basis for the spread adjustment could reflect the nature of the liabilities: Where liabilities are predictable, a cash-flow matching investment strategy would largely immunise the insurer from market fluctuations not related to underlying credit risk (e.g. for annuities in payment). In such cases the spread adjustment could be based on the underlying asset spread in order to provide appropriate risk management incentives. For liabilities with less predictable cash-flows, the insurer would be exposed to some market fluctuations, and the spread adjustment could reflect the greater uncertainty as well as the typical investment strategy.
Association of British Insurers	United Kingdom	Other	No	We do not believe that any of the options tested as part of the field testing address the requirement for achieving appropriate counter-cyclicality for long-term business. The options tested are expected to result in more short-term volatility than on the GAAP Plus methodology and will reduce comparability. We believe that the best outcome is achieved if, from the options included within the field testing, the following modification are made to Reference Method 3: 1. The method should allow for hypothecation of assets by liability

				buckets as this will better reflect the ALM for each liability segment. Insurance ALM will usually reflect different asset allocation strategies for different liability segments and these strategies will reflect the nature and liquidity of the liabilities; 2. Following hypothecation of assets to liability buckets, there is no justification for applying an application ratio of less than 100% for illiquid liabilities such as annuities. For other liabilities, we would expect the liquidity of hypothecated assets to already reflect the liquidity necessary to meet liabilities (and therefore would already be reflected in the adjustment to discount rate), and as such, the justification for applying an application ratio of less than 100% for other liabilities is not clear. This would also be more consistent with the current approach to GAAP Plus. 3. No other approach will appropriately reflect the long-term business of insurance groups and the way it is managed.
American Council of Life Insurers	United States	Other	No	At this early stage of development, we propose that the IAIS continue to test different base yield curve adjustments options, but narrow the options under consideration to two approaches: [i] a firm-specific approach (Option 2) with appropriate guardrails to avoid excessive risk-taking and [ii] either Option 1 (single reference portfolio) as it's currently defined, or a hybrid approach to Options 1 and 2. We believe both Option 1 and Option 2 require further refinement: more specifics are needed on the reference portfolio for Option 1 and guardrails for Option 2 need to be developed. Option 2, with the appropriate guardrails, recognizes each insurer's unique portfolio while affording regulators some control by implementing guardrails to eliminate any improper risk-taking.

				We recommend the following principles for a firm-specific approach: [1] An own portfolio approach should recognize additional asset classes beyond corporate bonds, including equities; [2] Guardrails such as limiting the spread for below investment grade bonds or equities, could apply. Other guardrails may include limits on the recognition of certain assets in the discount rate, as well as transparency to regulators into the company's investment portfolio and ALM practices, can apply. A benefit of a firm specific approach is that it recognizes that insurance companies mitigate interest rate and liquidity risk by employing sophisticated Asset Liability Management (ALM) techniques where asset portfolios are tailored to the company-specific liability profiles. Mandating a reference portfolio for all insurance groups will likely result in an inaccurate measurement of risk for many companies as it would not properly allow for the risk-reducing benefits of ALM or, worse, may conceal poor ALM practices. However, we agree with the IAIS that the potential for improper risk-taking with respect to an own-portfolio approach should be addressed. We note that this should be considered holistically in ComFrame, and not considered the sole responsibility of the ICS through an arbitrary prescribed standard discount rate. Examples of ways that this risk is currently addressed in the ICS and ComFrame include: [1] Within the ICS, there are capital charges for market risk, credit risk, and asset concentration which will directly apply capital requirements based on the asset risk and ALM mismatch risk that an insurer is exposed to;

				[2] There are other elements of ComFrame, including those directly related to ERM and ALM, which enable regulators to evaluate a company's investment behaviour, risks and risk management. [3] Furthermore, guardrails, including limits on the recognition of certain assets in the discount rate, as well as transparency to regulators into the company's investment portfolio and ALM practices, can apply. In addition, the ICS should reflect an appropriate long term spread adjustment aligned with the spread adjustment that is applied in the observable and grading portions of the curve. A reference portfolio based approach - Option 1- may also be appropriate with certain adjustments, which is why we believe the ICS should test both approaches. We recommend the following adjustments to Option 1: [1] An appropriately tailored representative portfolio approach would utilize a peer group of companies to set the representative spread adjustment, with limits on the asset allocation based on the IAIG's own portfolio. We believe that this would produce a comparable spread adjustment to an own portfolio approach described above. [2] Constructing the reference portfolio based on assets held by comparable market participants (e.g., Life vs. P&C) only, instead of all IAIGs in the respective currency. [3] Using more granular asset classes (e.g., publics/privates/structured securities) in addition to credit quality to construct spread adjustments.

				[4] Applying tenor-specific spread adjustments rather than a single adjustment across all tenors. [5] Recognizing additional "spread" based on equity premiums for equity / real estate / alternatives investments. [6] Deducting expected default losses and investment expenses (instead of "Risk-correction" for credit risk) as the "spread adjustment".
MetLife	United States	Other	No	Referring to Figure 4 (p.43) we prefer a model such as that described as a single representative portfolio linked to typical jurisdictional/currency asset holdings as reflected in Option 1 in Table 5. This approach provides appropriate recognition of asset liability matching and is comparable across companies.
New York Life	United States	Other	No	We believe either Option 1, the reference portfolio method or Option 2, the company-specific approach have merit if appropriately constructed in a way that properly reflects portfolios of companies without incentivizing excessive risk-taking. For Option 1, it is important that the reference portfolio be appropriately constructed at a level that reflects the characteristics of companies that have similar profiles otherwise this method could introduce additional surplus volatility due to basis risk. Properly reflecting the typical portfolio of companies to which it is applied may require more granularity and additional reference portfolios. For example, creating a reference portfolio by blending Life and P&C companies may not be appropriate. For Option 2, a cap on spreads for risky assets is appropriate to prevent incentives for excessive risk-taking. With respect to the

				concern that adoption of a firm-specific adjustment creates inconsistency in the valuation of otherwise identical insurance liabilities across companies, this is not necessarily true. For participating products, an insurer's actual asset holdings impact the benefits expected to be paid out and will cause differences in crediting rates, dividends, and other methods of passing through investment experience. Consistency should be maintained to the extent possible between the valuation of the assets backing the liabilities and the liabilities.
RAA	United States and many other jurisdicitons	Other	No	Options 1 and 2 are suitable bases for implementation for a company with predominantly short to medium term liabilities and for whom the asset and liability profile are not interdependent. We prefer Option 2 as it reflects an appropriate compromise between complexity and comparability.
American Academy of Actuaries	United States of America	Other	No	An economic approach should reflect the asset-liability management (ALM) performed by insurers. This aligns with a fundamental actuarial concept relating the present value of future liability cash flows to the assets supporting those liabilities.
Prudential Financial, Inc.	United States of America	Other	No	Among the 3 discount rate options evaluated as part of this year's IAIS Field Testing, we consider Options 1 and 2, with refinements, to be most appropriate. Prudential supports an own portfolio approach (Option 2), with appropriate "guardrails." Such an approach recognizes each insurer's unique portfolio while affording regulators prudential controls to prevent improper risk-taking. + Insurance companies mitigate interest rate and liquidity risk by

				employing sophisticated Asset Liability Management (ALM) techniques where asset portfolios are tailored to the company-specific liability profiles. Mandating a reference portfolio for all insurance groups will likely result in an inaccurate measurement of risk for many companies as it does not properly allow for the risk-reducing benefits of ALM or, worse, may conceal poor ALM practices. + An own portfolio approach should recognize additional asset classes beyond corporate bonds, including equities. + Guardrails such as limits on the recognition of certain assets in the discount rate, as well as transparency to regulators into the company's investment portfolio and ALM practices, should apply to manage the potential for improper risk-taking with respect to an own portfolio approach should be addressed. We note that the development of guardrails should be done within the broader context of ComFrame, and not considered the sole responsibility of the ICS, and specifically the approach to discounting. Examples of tools that already exist within ComFrame include: + Capital charges within the ICS for market risk, credit risk, and asset concentration which will account for asset risk and ALM mismatch risk that an insurer is exposed to. + Elements of ComFrame, including those directly related to enterprise risk and asset liability management, enable regulators to evaluate a company's investment behavior, risks and risk management. In addition, the discounting approach should reflect an appropriate

				long term spread adjustment aligned with the spread adjustment that is applied in the observable and graded portions of the curve. A reference portfolio based approach - Option 1- may also be appropriate however, like Option 2 it requires refinements including: + Industry Based Reference Portfolio: -- Construct reference portfolios based on assets held by comparable market participants (e.g., Life vs. P&C) to capture distinct investment strategies driven by different liability profiles -- Equally weight insurers to prevent undue influence from large companies -- Use 3 years of history to reflect the changing industry landscape while still effectively reducing volatility from annual asset mix changes + Asset Spread -- Assign asset type specific (public bond, private bond, mortgage loan, structure asset) spreads -- Assign term structure of spreads by tenor with recognition of shorter investment horizon for certain scarce assets -- Allow additional spread for assets with lower credit rating (i.e. below BBB) -- Applying tenor-specific spread adjustments rather than a single adjustment across all tenors -- Recognize additional "spread" based on equity premiums for equity / real estate / alternatives investments + Risk Correction: Deduct expected default losses and investment expenses (instead of "Risk-correction" for credit risk) as the "spread adjustment". + Extrapolation: Properly reflect the long term expected spread of

				the reference portfolio by currency and revise the approach to setting the ultimate LTFR.
CNA	USA	Other	No	The adjustments to the base yield curve should be done on a relative basis to best reflect the credit spread fundamentals present in the capital markets. This is especially important when considering long duration liabilities and the term structure of credit spreads in the marketplace. It is important that the adjustment methodology accurately reflect the balance sheet behavior of both the assets and the liabilities.
MassMutual Financial Group	USA	Other	No	Using the assets held by each firm as the basis for the credit spread adjustment creates the most appropriate valuation of an individual firm´s capital resources. That said, using own assets for discounting liabilities decreases the natural incentive for companies to employ good risk management in the reallocation of portfolio assets, as higher allocations to risky assets results in lower insurance liability valuations. We believe the weighted average of multiple portfolios (WAMP) linked to the assets held by the firm strikes the right balance of using the firm´s own assets while applying guardrails to ensure incentives exist to manage risks prudently.

Q21

Q21	Section 4.1.4.4	Is it appropriate to have entity-specific elements in the valuation of insurance liabilities?

Organisation	Jurisdiction	Role	Confidential	Answer
China Insurance Regulatory Commission	China	IAIS Member	No	Yes
Office of the Commissioner of Insurance	China Hong Kong	IAIS Member	No	Yes
EIOPA	EIOPA	IAIS Member	No	Yes
BaFin	Germany	IAIS Member	No	No
Financial Supervisory Service	Korea	IAIS Member	No	No
National Association of Insurance Commissioners	USA	IAIS Member	No	Yes
Ageas	Belgium	Other	No	Yes

Canadian Institute of Actuaries	Canada	Other	No	Yes
CLHIA	Canada	Other	No	Yes
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	Yes
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	Yes
Insurance Europe	Europe	Other	No	Yes
Actuarial Association of Europe	European Union	Other	No	Yes
Institut des Actuaires	France	Other	No	No
Allianz	Germany	Other	No	Yes
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	Yes
German Association of Actuaries (DAV)	Germany	Other	No	Yes
Munich Re	Germany	Other	No	No
AIA Group	Hong Kong	Other	No	Yes
International Actuarial Association	International	Other	No	Yes

Dai-ichi Life Holdings, Inc.	Japan	Other	No	Yes
The Life Insurance Association of Japan	Japan	Other	No	Yes
Great Eastern Holdings Ltd	Singapore	Other	No	No
Swiss Association of Actuaries	Switzerland	Other	No	Yes
Swiss Re	Switzerland	Other	No	Yes
Aegon NV	The Netherlands	Other	No	Yes
American International Group (AIG)	U.S.	Other	No	Yes
Institute and Faculty of Actuaries	UK	Other	No	Yes
Association of British Insurers	United Kingdom	Other	No	Yes
New York Life	United States	Other	No	Yes
American Academy of Actuaries	United States of America	Other	No	Yes
Prudential Financial, Inc.	United States of America	Other	No	Yes
CNA	USA	Other	No	Yes

MassMutual Financial Group	USA	Other	No	Yes

Q21.1 Section 4.1.4.4	If “yes” to Q21, to what extent is this appropriate?

Organisation	Jurisdiction	Role	Confidential	Answer
China Insurance Regulatory Commission	China	IAIS Member	No	As answered in Q20, we agree to have entitiy-specific element, so that the valuation of liabilities reflects the information of corresponding assets backing the liabilities.
Office of the Commissioner of Insurance	China Hong Kong	IAIS Member	No	The Field Testing included deriving an appropriate adjustment for credit spreads. Accordingly, these credit spreads may be derived from simple reference portfolio or on representative portfolio. These portfolios are reliant on local and international ratings. We would like to point out that not all Asian securities have international ratings and local ratings could be allowed. In such case, some degree of entity-specific inputs on credit ratings and a cross-Asian IAIGs comparison of credit spreads of relevant portfolios (or IAIGs own assets) could be included as verification on reasonableness of the adopted credit spreads. Of course, such entity-specific inputs on credit ratings should be subject to the fulfilment of defined scope and criteria that make the credit ratings assessment robust and practical and the results should be verified by supervisors.
EIOPA	EIOPA	IAIS Member	No	We believe it is appropriate to have entity-specific elements in the valuation of insurance liabilities for a certain type of business where asset and liability cash-flows are matched and the insurer

				can uphold that matching during the lifetime of the insurance obligations.
BaFin	Germany	IAIS Member	No	In our view, it is, of course, relevant to limit this question to the scope of discounting. Otherwise, the valuation of insurance liabilities does for sure contain elements that can only be valuated specifically for each undertaking. In this sense, we vote for "no".
National Association of Insurance Commissioners	USA	IAIS Member	No	We agree with the point of view described in paragraph 118 of the CD and believe that liabilities should be computed based on the individual insurer's portfolio, subject to an appropriate cap (see response to Q22). Increased risks should be captured by the ICS capital requirements. This is also consistent with US GAAP and the proposed IFRS 17 and incorporates prudential principles. Additionally, the accuracy of the ICS would be improved with entity-specific elements and consistency of the assumed economic assumptions affecting asset and liability cash flows.
Ageas	Belgium	Other	No	Each entity has different characteristics embedded in the liabilities which should be reflected to provide a correct assessment of the risks for the company.
Canadian Institute of Actuaries	Canada	Other	No	Yes, as discussed above in Q20, there could be variations by company under IFRS 17. However, as an interim solution for the ICS, the entity-specific elements may be more limited or constrained for comparability and prudential guardrails.

CLHIA	Canada	Other	No	At least for the ultimate version of the ICS, in alignment with IFRS 17, consideration should be given to reflecting the company's own IFRS 17 discount rates. However in the interim for versions 1.0 and 2.0 it may be more practical to limit the entity-specific elements.
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	We agree to take into considerations the company's actual asset portfolio to derive the spread adjustment for liability valuation, which better reflects the company's assets liability matching. Meanwhile, as mentioned in Q20, we suggest determining the average spread of liabilities based on the company's asset portfolio and a stable spread of each asset category.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	The assets backing insurance liabilities are selected on the basis of several criteria, one of which relates to the risk appetite of the IAIG. The risk appetite will differ amongst IAIGs; therefore the CSA differs accordingly. If this link is not made a difference can exist between the determined impact of the CSA and the actual impact on the MVA balance sheet of the IAIG. A reference portfolio could be used for those IAIGs where the risk profile does not deviate too much from the reference portfolio per currency. If the deviation is significant, entity-specific elements should be allowed (for example equity, property, etc.). The extent to which entity-specific elements are allowed should reflect the ALM that takes into account policyholder behaviour and management actions to avoid forced sales. This would guide the determination of the entity-specific adjustment to the risk free rate curve. A proper disclosure of the manner in which the CSA is calculated and the impact on the Solvency position would provide the stakeholders with sufficient opportunity for comparison and understanding. The determined amount of the CSA in the eligible

				own funds can be assigned as "restricted" i.e not available for distribution to shareholders. This would ensure that the CSA will not harm the interests of policyholders.
Insurance Europe	Europe	Other	No	It is fully appropriate to reflect both asset/liability management and a company's specific situation in the valuation framework. In fact, the framework should incentivise asset liability management and reward insurers that have managed to optimise the link between assets and liabilities. It should be recognised that insurers may decide to optimise either based on a total balance sheet approach including own funds, or based on a hypothecation of assets to specific liability buckets.
Actuarial Association of Europe	European Union	Other	No	This is appropriate if the liabilities are easily predictable and it is possible to utilise closely matching assets to minimise the impact of market fluctuations.
Allianz	Germany	Other	No	A company specific approach is most adequate, as it reflects most accurately the risk profile of the company thereby contributing to comparability.
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	Unlike banks, insurers are not faced with prompt payouts and cancellation of policies. In addition, even in cases where insurance contracts include such policyholder options to surrender, mass lapse scenarios are neither realistic nor have they been observed in the past. Considering typical German long-term life insurance contracts with such options, cancellations would lead to severe disadvantages for the policyholder such as reduced surrender values, loss of tax benefits, higher costs for new contracts that include comparable insurance features, etc. Having this in mind, the portfolio of long-

				term liabilities generates a stable and predictable cash outflow that is largely matched with long-term fixed income assets generating the corresponding cash inflows. The aim of a reasonable approach to constructing a yield curve adjustment must therefore be to reflect the part of the spread arising from asset returns in comparison to the basic discount curve that could realistically be earned due to this long-term investment horizon and the accompanying hold-to-maturity strategies. In contrast to that, the parts of the spread stemming from default risks must of course be excluded.
German Association of Actuaries (DAV)	Germany	Other	No	Using an entity-specific approach ensures that the individual asset-liability management and the corresponding risk-profile is captured by the capital requirement. In particular this provides for an accurate reflection of the target criteria (i.e. Var 99.5%). An industry wide average portfolio will not represent the risk-profile of any one IAIG and is prone to lead to pro-cyclical investment behaviour.
AIA Group	Hong Kong	Other	No	See response to Q20
International Actuarial Association	International	Other	No	All non-economic assumptions should be entity-specific in order to be consistent with company pricing and current valuation techniques. This is consistent with the IASB's requirements for current estimates in IFRS Phase II.
Dai-ichi Life Holdings, Inc.	Japan	Other	No	Please refer to the answer for Q20.
The Life Insurance Association of Japan	Japan	Other	No	·Please refer to the comment(s) on Question 20.

Great Eastern Holdings Ltd	Singapore	Other	No	NA
Swiss Association of Actuaries	Switzerland	Other	No	All internal costs, e.g. expenses or cost of holding capital (MOCE), are company specific. The value of the asset portfolio best replicating the liabilities is NOT company specific. This portfolio is indeed not unique, but the value of all the portfolios replicating the liabilities is unique. In particular in all cases where replication can be realised as simply discounting (i.e. if the liability cash flow do not depend on Financial Market variables), the discount rate is that of risk free government bonds. Therefore this part in NOT company specific.
Swiss Re	Switzerland	Other	No	The market replicable part of the liabilities (current estimate in simple cases) is of course independent of the entity. The MOCE part (and other cost) is entity specific.
Aegon NV	The Netherlands	Other	No	Consistent with our view that the ICS should be simpler, more modestly calibrated, and less volatile, Aegon supports the potential use of entity-specific elements in the valuation of insurance liabilities. For valuation purposes, market prices do not exist for most insurance risk factors. Therefore the use of entity-specific elements is a practical necessity. The use of entity-specific elements for economic factors can reduce complexity and volatility. Finally, if the goal of the ICS is to assess the financial situation of a specific insurer and to assess whether

				policyholders are protected, the use of entity-specific elements gives the most insight.
American International Group (AIG)	U.S.	Other	No	Yes, we believe that a liability discounting approach based on own assets would confer several prudential and implementation benefits.
Institute and Faculty of Actuaries	UK	Other	No	It is appropriate to have some entity-specific elements if the liabilities are predictable (e.g. annuities in payment), to the extent that the insurer is immune from market fluctuations (e.g. through cash-flow matching). It is also appropriate to mitigate incentives to invest in risky assets.
Association of British Insurers	United Kingdom	Other	No	To full extent. Using entity-specific elements in the valuation of insurance liabilities will help ensure the valuation appropriately reflects the risk profile of an IAIG, and encourage effective asset-liability management.
New York Life	United States	Other	No	We believe that it is appropriate to include entity-specific elements in the valuation of insurance liabilities in order to avoid basis risk. This can most directly be accomplished through use of company-specific portfolios. Nonetheless, we also believe with careful construction, a reference portfolio could effectively reflect most of what is captured in a company-specific approach and should be considered as well. We believe that guardrails, such as the BBB cap included in the technical specifications, are important to prevent incentives for excessive risk taking.
American Academy of Actuaries	United States of America	Other	No	It is appropriate to reflect the company's own invested asset portfolio–including equities and alternative assets–subject to

				reasonable controls or "guardrails." Examples of such controls may include a cap on the spread that may be reflected for certain asset classes and transparency to regulators in the form of documentation/disclosure with respect to the firm's ALM discipline. We note that there are several other mechanisms that address the potential for excessive risk-taking with respect to investment behavior, including the ICS capital charges for credit risk, market risk, and asset concentration risk, as well as other aspects of ComFrame.
Prudential Financial, Inc.	United States of America	Other	No	Regardless of the approach, achieving symmetry between the valuation of assets and liabilities is most critical. An entity-specific portfolio based approach can accomplish the necessary symmetry but would need to be paired with appropriate supervisory controls / guardrails including limits on inclusion of high-risk assets, transparency of assumptions and capital charges that disincentivize investing in risky assets. A reference portfolio based approach that sufficiently accounts for jurisdictional and business model differences may also be appropriate. Please see our response to question 20 for additional information.
CNA	USA	Other	No	The determination of adjustments to the base yield curve should be based on the unique spread characteristics reflected in each firm's own investment portfolio. There is an equally important related need to hypothecate assets to liabilities for the purpose of ensuring that sufficient credit is given for long term assets held to support long term liabilities. The use of spreads calculated by each firm is the most appropriate manner in which to ensure

				modeling synchronization across all aspects of both the assets and liabilities. This approach will better align movements of the assets and liabilities.
MassMutual Financial Group	USA	Other	No	As stated in our response to question 20, the most accurate way to value each entity´s capital resources is by valuing the liabilities based on the firm´s own assets. That said, based on testing we performed on the BCR, we found that a higher capital requirement for risky assets will not be sufficient to offset the benefit received by having a higher discount rate. Therefore, we believe a balance should be struck to allow a company to use their own assets but implementing guardrails around the amount of spread they can apply when valuing liabilities.

Q21.2

Q21.2 Section 4.1.4.4 If “yes” to Q21, how can that be aligned with the market-based nature of the framework (evident in the approach used to value assets) and the need to protect all policyholders in an equal manner, independently of the individual choices made by each IAIG, as discussed above?

Organisation	Jurisdiction	Role	Confidential	Answer
China Insurance Regulatory Commission	China	IAIS Member	No	As answered in Q20, we view that the valuation of liabilities should reflect the information of corresponding assets backing the liabilities. ICS can still protect the policyholders and avoid too much company discretions by, for example, define the asset classes eligble for spreads, provide spreads for each asset class, and set capping for spreads to be used.
EIOPA	EIOPA	IAIS Member	No	Because of the strong link between assets and liabilities of the business described in the answer to Q21, it is justified to take account of the spreads earned on the assets when valuing the corresponding liabilities. It is in line with the market-based nature of the framework a transfer of the liabilities to another insurer would usually include the transfer of the corresponding assets.
National Association of Insurance Commissioners	USA	IAIS Member	No	Policyholder protection is enhanced when entities aspire, do and demonstrate matching of assets to their liabilities. See also our response to Q21.1.
Ageas	Belgium	Other	No	IAIS should determine the methodology while the IAIG should apply this methodology in function of the specific assets and the specific liabilities. This should allow to reflect the capacity of the entity to hold assets up to maturity and the spread embedded in the specific investment portfolio. For the proportion of assets which can be held up to maturity, only long term default risk should be

				considered. For proportion of assets which cannot be held up to maturity, the full impact of short volatility should be taken into account. As such, the market based nature is aligned with the illiquidity embedded in the liabilities. Note that this can have both a positive or negative impact on the net asset value but should allow to reach stability. To avoid incentives to invest in lower rated fixed income, the spreads observed for BBB exposures could be applied for all credit quality below BBB- but one cannot completely ignore this spread as this will strongly penalise entities operating in a low rated country. Another option could be to link the cap to the credit rating of the country in which the entity operates.
Canadian Institute of Actuaries	Canada	Other	No	As noted in Q20, we believe the use of (1) Firm-specific asset mix and IAIS/ICS-specified spreads for the short term; and (2) Jurisdiction/currency-specific representative portfolio asset mix and IAIS-ICS-specified spreads for the long term … should in combination act to (1) Enhance comparability while recognizing that insurance product features are often difficult to compare and that an IAIG's asset mix may be as good an indicator as any of the liability's liquidity characteristics; and (2) Mitigate basis risk (paragraph 114) and perverse investment incentives (paragraphs 116 and 120).
CLHIA	Canada	Other	No	We don't see a problem with a market-based methodology which allows for entity specific elements, especially in long term assumptions beyond the observable market. Liabilities will never be identical across insurers, so it is reasonable that there will be variations in how insurers calculate the value of the liability. Especially given the global application of the ICS, it is not feasible to expect a very narrow range of liabilities (identical in the extreme) for similar insurance products. This view is consistent with what we expect for valuation discount rates under IFRS 17. We encourage the IAIS to continue their analysis to find

				the best balance between the two extremes described in paragraphs 115 (single reference) and 116 (firm-specific).
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	Companies often consider liability characteristics, such as the duration and the liquidity, as much as possible when determining the asset allocation strategy. In this sense, the liability valuation should reflect the information of assets backing these specific liabilities, we don't think this is contradictory of the need of protecting all policyholders in an equal manner.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	A proper disclosure of the manner in which the CSA is calculated and the impact on the Solvency position would provide the stakeholders with sufficient opportunity for comparison. The determined amount of the CSA in the eligible own funds can be assigned as "restricted" e.g. not available for distribution to shareholders. This would ensure that the CSA will not harm the interests of policyholders The determination of a group specific CSA can be subject to specific qualitative governance criteria in order to be authorized for use. A CSA derived from a more standard approach based on a reference portfolio is an intermediate approach that should also be available in the framework.
Insurance Europe	Europe	Other	No	Insurance Europe does not agree with the IAIS observation that firm-specific adjustments are "not consistent with a MAV methodology". As long as the assets are measured at market value, a reflection of the assets' characteristics on the liabilities side of the balance sheet remains market consistent. Comparability between IAIGs is ensured by the simple fact that the same methodology is applied for assets and liabilities to all of them. Regarding the potentially higher risk embedded in higher yield assets, this should be reflected on the capital requirements side so that comparability

				between IAIGs will be ensured as long as the same methodology for capital requirements is applied.
Allianz	Germany	Other	No	A company specific approach is most adequate, as it reflects most accurately the company's asset-liability management and the resulting risk profile thereby contributing to comparability of resulting policyholder protection levels. As insurance liabilities are very heterogeneous and there is no market in insurance liabilities that could be taken as a reference to model prices, the best approach is to build on companies asset-liability management and the underlying economics of the insurance business model (e.g. the ability to hold assets to maturity and earn a credit spread, while reflecting default risk in capital requirements) to derive prices of insurance liabilities using an entity-specific adjustment to the risk free interest rate curve.
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	As mentioned in Q21.1 the parts of the spread stemming from default risks must of course be excluded from the adjustment.
German Association of Actuaries (DAV)	Germany	Other	No	A market for insurance liabilities that could provide a price for portfolios does not exist. When modelling insurance products it needs to be acknowledged that there is a great variety in product features and loss absorbing capacities, so that individual insurance portfolios lack the homogeneity that is required for approaches that try to derive a single price. The use of an entity-specific approach will ensure that the individual risk-profile of each IAIG is captured and measured at the 99.5% percentile. This provides for an equal protection level for policyholders of each individual IAIG. The use of an industry portfolio by construction will not represent the policyholder protection level of any single IAIG.
AIA Group	Hong Kong	Other	No	To protect policyholders it is sufficient to require companied to hold a certainty equivalent reserve (without taking account of the time value of options and

				guarantees), MOCE and ICS capital using prescribed shock assumptions. Asset-liability management has always been one of the most important risk management principles to run an insurance business. Therefore it would be unreasonable to break the link between the two by ignoring entity-specific elements. The one-in-200 shock used in the interest rate risk charge should give sufficient comfort that reserves plus required capital are sufficient.
International Actuarial Association	International	Other	No	Entity specific non-economic assumptions are consistent with a fulfilment value approach to liabilities, similar to the approach IFRS Phase II has taken. This approach is still consistent with assets marked to market. Company-specific adjustments can still treat policyholders across companies equally if the adjustments are based on the characteristics of the contract, not characteristics of the company or the policyholder. For example, contract-specific provisions regarding participation or risk-sharing need to be reflected.
Dai-ichi Life Holdings, Inc.	Japan	Other	No	Please refer to the answer for Q20.
The Life Insurance Association of Japan	Japan	Other	No	·Please refer to the comment(s) on Question 20.
Great Eastern Holdings Ltd	Singapore	Other	No	NA
Swiss Association of Actuaries	Switzerland	Other	No	See above Q21.1
Swiss Re	Switzerland	Other	No	The value of a liability to "What it takes for the insurer to produce the liability in an acceptable fashion". The market replicable part of the liabilities (current estimate in simple cases) is of course independent of the entity. The MOCE part (and other cost) is entity specific.

Aegon NV	The Netherlands	Other	No	Aegon's view is that minimizing accounting volatility is fundamentally more important than linking to current market prices when creating a regulatory capital standard that is appropriate for long-term life insurance business. If a market-consistent concept is employed, market values for insurance liabilities must be estimated because market prices do not exist. We believe that those estimates must reflect the long-term life insurance business model in order for the standard to be viable and appropriate. The concept of "protecting all policyholders in an equal manner" would seem to relate more to capital requirements than to valuation. While "protecting all policyholders in an equal manner" is a laudable goal, a significant amount of judgment and approximation is inevitable. Once again, the larger issue is that the standard needs to provide valuation stability in order to align with the expectations of stakeholders and the life insurance business model.
Institute and Faculty of Actuaries	UK	Other	No	The entity-specific elements do not introduce idiosyncratic risk to policyholders when the liabilities are predictable and backed by assets with predictable cash-flows.
Association of British Insurers	United Kingdom	Other	No	Provided assets and liabilities are measured on a consistent basis, using firm-specific data for adjustments does not contradict the market-based nature of the framework. We do not agree that such an approach would undermine policyholder protection - in fact, only an approach which adequately reflects an IAIG's actual risk profile would provide an equal and consistent measure.
Prudential Financial, Inc.	United States of America	Other	No	A "market-based" framework does not inherently preclude the use of a discount rate that reflects company-specific investments. It is unclear to us how a "market-based" prescribed discount curve - as oppose to one that better reflects the way an insurer invests - would better protect policyholders. Prudential believes the conservative, prescriptive approaches proposed in the consultation introduce non-economic volatility and risks rather than eliminate them.

				Reflecting the liability-driven investing of insurers by recognizing a company's own portfolio would be a true economic approach that reflects the economic realities of the individual insurer and provide supervisors meaningful insight into the firm. Further, the IAIS must not lose sight of the fact that capital is one of many tools available to supervisors to protect policyholders and the ICS should work in concert with other aspects of ComFrame - it should not be developed as a solution to all supervisory concerns. Please see our response to question 20 for additional information.
MassMutual Financial Group	USA	Other	No	We believe any approach should be focused on ensuring the liabilities are valued properly and should incent insurers to manage their risks.

Q22

Q22 Section 4.1.4.4 Is it important for the valuation framework, together with the capital requirement framework, to not provide incentives for low quality investments undermining policyholder protection? Please explain.

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
Bermuda Monetary Authority (BMA)	Bermuda	IAIS Member	No	Yes	Yes, but due regard for ALM also needs to be taken into account and market and credit capital charges should be technically sound (i.e. reflective of underlying the risks) as opposed to punitive
China Insurance Regulatory Commission	China	IAIS Member	No	Yes	We agree to use spread capping to avoid incentives for low quality investments.
Office of the Commissioner of Insurance	China Hong Kong	IAIS Member	No	Yes	Insurers business model involve asset-liability matching and we support prudent management of operations and therefore believe that valuation of capital resources should avoid short-term volatility that may create disincentives towards asset-liability matching. It is important that assets in different jurisdictions used to back insurance liabilities are accounted on an entity-by-entity basis, and asset earnings rates are derived from the actual bonds that insurers hold to back liabilities. This may also ensure connection with jurisdiction-level framework and ICS implementation. Therefore, it is also important that there is a capping of the spread added to the base yield curve so as not to provide incentives entities to use low quality investments for matching their liabilities. The suggested option of using a comparable BBB asset (or using investment grade

					bonds) may be an effective way of achieving that objective. In addition, IAIS may specify the credit risk charges.
EIOPA	EIOPA	IAIS Member	No	Yes	It is important to prevent incentives for low quality investments. Therefore the adjustment to the yield curve should in general not be linked to the assets of the single insurers. For business where asset and liability cash-flows are matched and the insurer can uphold that matching during the lifetime of the insurance obligations, measures should be taken to prevent the incentive. In particular, the adjustment for assets of sub-investment grade credit quality should not exceed the adjustments for assets of investment grade credit quality and the same duration and asset class.
BaFin	Germany	IAIS Member	No	Yes	In a risk-based regime, the risk borne by low-quality investments should be measured properly. Only then, incentives can be appropriately limited. Undertakings able to bear that risk might still choose to have a share of their asset portfolio invested in low-quality assets to increase their overall return.
Financial Supervisory Service	Korea	IAIS Member	No	Yes	
KNF - Polish Financial Supervision Authority	Poland	IAIS Member	No	Yes	Capital requirements and the valuation method should not affect the quality of the portfolio assets. The quality of investments is a key factor in ensuring the security of the payment of liabilities arising from insurance contracts and has a positive effect on the stability of the activities carried out by the insurance company.
National Association of Insurance Commissioners	USA	IAIS Member	No	Yes	While it is appropriate to not provide incentives for undermining policyholder protection by low quality investments, insurers will have

					disincentives to do so in the form of increased capital charges. We have recently seen evidence of financial firms “upgrading” their investments’ profile for example by shifting to sovereign bonds in order to avoid increased capital charges. Care should be taken to not double-count.
Ageas	Belgium	Other	No	Yes	It should be important to not provide incentives for low quality investment but it is also important to consider the local reality i.e. which type of investments are available on the local market. This is particularly the case for IAIGs operating in currency unions for which the reference yield curve is based on the currency union swap curve while the central government credit rating might be lower than the average credit rating of the currency union.
Canadian Institute of Actuaries	Canada	Other	No	Yes	We agree that, all else being equal, the framework and capital requirements would ideally not provide incentives for the purchase of lower-quality assets. Conversely, the framework should not be unduly punitive to lower-quality assets, and should not encourage insurers to all use the same asset mix, as that introduces concentration risk for the industry. In principle, asset mix and individual asset selections should be made on the basis of their risk-reward prospects and their suitability to support the liabilities from a risk management perspective, and not on their impact of the measurement of insurance contract liabilities. However, it is certain that the capital requirements for credit and market risk will have some influence on the mix and quality of the asset portfolio; it is impossible to design a framework that will not influence asset mix.
CLHIA	Canada	Other	No	Yes	We entirely agree that the framework and capital requirements should not provide incentives for the purchase of lower quality assets, as this could undermine policyholder protection. On the other hand, the ICS

					framework should also recognize the trade-off between higher yielding assets and higher capital requirements.
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	Yes	We agree that low quality investments may undermine the interests of the policyholders and thus the insurance companies should not be encouraged to invest more in such assets. However, low quality investments will generally pay higher default compensations so a higher default adjustment should be applied, hence theoretically speaking, low quality investments should be treated similar to investments with higher qualities. In addition, there are many assets in China that are not rated by external institutions. Insurance companies manage their credit risk through internal rating and select the assets with relatively higher qualities. Historical experience data also show that the default rates of these assets are similar to that of assets rated as AAA or AA in China. As a result, we suggest that internal ratings could be adopted for non-rated assets, when the rating standards and data calibration are consistent with the external ratings and when the internal ratings are recognized by the local regulators. The internal ratings could then be mapped to international ratings according to the mapping rules provided by IAIS.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International	Europe	Other	No	Yes	However, since the capital requirement provisions are meant to be risk-based, they should reflect the proper level of risk of the different

Cooperative and Mutual Insurance Federation.					investments with no other intentions. Any other approach could have unintended consequences. The risk management policies e.g. prudent person principle as used by the IAIG, are a safeguard to ensure that the investments are not detrimental to the interests of the policyholders. No additional restrictions are needed. Groups should not be unduly constrained in their investments that need to be diversifiable to enhance performances that will benefit policyholders. The prudential framework should not provide incentives or disincentives on any type of investments. It should be neutral and leave it the insurer to assess the risk/reward trade-offs of the different types of assets.
Insurance Europe	Europe	Other	No	Yes	The following two key principles are key for answering this question: 1) A prudential framework (including its approach to valuation and capital requirements) should not be designed to create incentives/disincentives for investments. It should rather be focused on reflecting the business model and the actual risks faced by the undertaking. 2) Under a risk-based framework, undertakings should not be subjected to investment limits, but instead should be allowed to invest in the widest range of assets that they consider appropriate, as long as they are able to cover the relevant capital requirements. Equally important, these capital requirements should be calibrated to reflect the actual risks that undertakings are exposed to when investing. 3) A risk-based framework should be able to recognise that diversification of the investment portfolio is beneficial and can enhance investment performance to the benefit of policyholders. 4) It should be noted that incentives for good risk management can and should also be of qualitative rather than quantitative nature. For example, risk management policies and the application of the prudent

					person principle are a safeguard to ensure that the investments are not detrimental to the interests of the policyholders.
Actuarial Association of Europe	European Union	Other	No	Yes	The framework already discourages excessive investment in lower quality instruments is generally discouraged by increasing levels of required capital through capital requirements that increase with lower rating.
Institut des Actuaires	France	Other	No	No	Risk should be reflected in the capital requirements
Allianz	Germany	Other	No	Yes	
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	Yes	
German Association of Actuaries (DAV)	Germany	Other	No	Yes	The framework already discourages excessive investment in lower quality instruments through capital requirements that increase with lower rating.
Munich Re	Germany	Other	No	Yes	
Global Federation of Insurance Associations	Global	Other	No	Yes	GFIA agrees that low quality investments should not be incentivised – in fact, incentivising or disincentivising investment into any specific asset classes should not be an objective of a capital framework - the choices of asset allocation should be left to individual IAIGs. A risk-based capital framework such as the ICS should instead include calibrations which reflect the risks that IAIGs are exposed. These risks are then covered by capital requirements, which is what ensures policyholder protection.

AIA Group	Hong Kong	Other	No	Yes	
International Actuarial Association	International	Other	No	Yes	Our proposed method will put a ceiling on the discount rate, if investments are of very low quality.
Dai-ichi Life Holdings, Inc.	Japan	Other	No	Yes	Please refer to the answer for Q20.
General Insurance Association of Japan	Japan	Other	No	Yes	ICS Principle 2 states that the objectives of the ICS are to protect policyholders and to contribute to financial stability.
The Life Insurance Association of Japan	Japan	Other	No	Yes	・Please refer to the comment(s) on Question 20 for the rationale.
Great Eastern Holdings Ltd	Singapore	Other	No	Yes	A valuation framework should be objective and hence, should not incentivise insurers to make certain decisions to take advantage of the framework.
Swiss Association of Actuaries	Switzerland	Other	No	Yes	This is true, since the objective of insurance supervision is the protection of policyholders.
Swiss Re	Switzerland	Other	No	Yes	The reasonable valuation framework would never undermine policy holder protection as it values liabilities as "What it take for the insurer to produces the liability in an acceptable (SIC!) fashion".
Aegon NV	The Netherlands	Other	No	Yes	Aegon believes that this is an important consideration but, for long-term life insurance business, the higher priority is a valuation framework that does not overreact to market swings. Although we support the use of actual asset returns for discounting, we also support applying appropriate guardrails to limit the benefit of investing in low quality investments. Furthermore, we believe that properly calibrated capital

					requirements, if appropriately aligned with risk, should provide a disincentive that offsets the incentive of higher expected asset yields. It is important, however, that the ICS neither systematically incentivizes nor dis-incentivizes particular asset classes. Finally, qualitative standards within ComFrame can ensure prudent investment behavior by insurers.
American International Group (AIG)	U.S.	Other	No	Yes	Our proposed own assets with guardrails approach to liability discounting would entail a series of qualitative and quantitative prudential safeguards, including restrictions that would neutralize potential incentives to chase for yield.
Institute and Faculty of Actuaries	UK	Other	No	Yes	This could be achieved by limiting the benefit that could be achieved from lower quality investments, for instance by restricting the spread on which the adjustment will be based on.
Association of British Insurers	United Kingdom	Other	No	Yes	The ABI agrees that low quality investments should not be incentivised – in fact, incentivising or disincentivising investment into any specific asset classes should not be an objective of a capital framework - the choices of asset allocation should be left to individual IAIGs. A risk-based capital framework such as the ICS should instead include calibrations which reflect the risks that IAIGs are exposed. These risks are then covered by capital requirements, which is what ensures policyholder protection.
New York Life	United States	Other	No	Yes	Yes, this is important and we believe that a cap on spreads in calculating the liability discount rate, plus appropriate risk capital charges based on the credit quality of each asset, should discourage excessive risk taking by IAIGs. Similarly, appropriate construction of a

					reference portfolio also removes incentives to “optimize” investments to maximize available capital.
RAA	United States and many other jurisdicitons	Other	No	Yes	The valuation framework should not provide incentives for investing in low quality investments. Instead, the asset risk charges should be appropriately risk-based to address this issue.
Prudential Financial, Inc.	United States of America	Other	No	Yes	We agree with the IAIS that the potential for improper risk-taking for purposes of achieving a more favourable liability valuation should be addressed. Please see our response to question 20 for additional information
MassMutual Financial Group	USA	Other	No	Yes	Allowing insurers to use their own assets for discounting liabilities decreases the natural incentive for companies to employ good risk management in the reallocation of portfolio assets, as higher allocations to risky assets results in lower insurance liability valuations. Guardrails that limit the amount of credit spread that can be applied would encourage appropriate risk management behavior and provide regulators with consistent information to evaluate companies´ balance sheets.

Q22.1

Q22.1 Section 4.1.4.4 If “yes” to Q22, is the capping of the contribution to the Adjustment to that of a comparable BBB asset an effective way of achieving that objective? Please explain.

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
Bermuda Monetary Authority (BMA)	Bermuda	IAIS Member	No	Yes	Possibly but without necessarily excluding other alternative approaches.
China Insurance Regulatory Commission	China	IAIS Member	No	Yes	
Office of the Commissioner of Insurance	China Hong Kong	IAIS Member	No	Yes	Please see response to Q22.
EIOPA	EIOPA	IAIS Member	No	Yes	For business where asset and liability cash-flows are matched and the insurer can uphold that matching during the lifetime of the insurance obligations, that is an effective way of achieving that objective. It should be accompanied by risk-management requirements.
BaFin	Germany	IAIS Member	No	Yes	As mentioned above, the risk should be measured appropriately.
Financial Supervisory Service	Korea	IAIS Member	No	Yes	

National Association of Insurance Commissioners	USA	IAIS Member	No	Yes	It is appropriate to provide disincentives for companies to undermine policyholder protection. Whether BBB is the appropriate level still requires further determination.
Ageas	Belgium	Other	No	No	The local environment should be considered. Companies acting in a lower rated country using a reference curve of the currency zone which on average has a much better credit quality might be prevented from doing business if the spread embedded in their investments is not reflected in the discount curve.
Canadian Institute of Actuaries	Canada	Other	No	Yes	In Q20, we support that spreads in the observable market segment be derived from either a firm-specific weighting of ICS-specified spreads or a representative asset portfolio specific to the jurisdiction. Both solutions assume that the spreads are capped for lower-quality assets, which would likely significantly mitigate the impact of the potential use of lower-quality investments. If the representative asset portfolio does include a proportion of lower-quality investments, it would be appropriate to limit the spreads to be included in the liability discount rates. However, in setting the cap, we suggest considering how the cap affects the volatility of capital resources in response to asset price changes.
CLHIA	Canada	Other	No	Yes	We are supportive of the view to limit the spread inclusions in the liability discount rates. However the IAIS should consider how any limits might affect the relationship of the volatility of capital resources in response to asset price changes with the volatility in liabilities before drawing firm conclusions.
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	No	The capping to the adjustment can be an effective way to prevent insurance companies from investing too much in assets of lower than BBB to obtain higher spread. This method is easier in practice but too subjective, as low-grade assets have already taken a higher default adjustment and a higher penalty for credit risk. Therefore by principle, we propose a consistent spread derivation for assets with all level of qualities, i.e. deduct the corresponding default adjustments and use the remaining liquidity spreads.

					As answered in Q22, we suggest that internal ratings could be adopted for non-rated assets, when the rating standards and data calibration are consistent with the external ratings and when the internal ratings are recognized by the local regulators. The internal ratings could then be mapped to international ratings according to the mapping rules provided by IAIS.
Actuarial Association of Europe	European Union	Other	No	No	
Institut des Actuaires	France	Other	No	No	
Allianz	Germany	Other	No	No	Lower credit quality leads to higher credit risk charges in required capital, so that such investments incur higher capital costs, which provides for the desired incentive to discourage such investments.
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	Yes	
German Association of Actuaries (DAV)	Germany	Other	No	No	See response to Q22.
Munich Re	Germany	Other	No	Yes	
AIA Group	Hong Kong	Other	No	Yes	

International Actuarial Association	International	Other	No	Yes	
General Insurance Association of Japan	Japan	Other	No	Yes	ICS capital requirements do not take into account risks of liquidity spreads from investment in lower quality assets. Therefore, we think that certain capping is necessary.
Great Eastern Holdings Ltd	Singapore	Other	No	Yes	With the cap, insurers who invest in lower grade securities would more likely be investing in them due to the value they see in the securities rather than to bump up the capital position.
Swiss Association of Actuaries	Switzerland	Other	No	No	No adjustment is appropriate and in line with the aim of policyholder protection
Swiss Re	Switzerland	Other	No	No	The freedom of investment should not be undermined. If an Insurer achieves perfect policyholder protection and invests in BB assets, there ist nothing wrong with it.
American International Group (AIG)	U.S.	Other	No	Yes	Capping the recognition of spread along these lines could be a useful part of an overall structure of guardrails within an own asset discounting construct.
RAA	United States and many other jurisdicitons	Other	No	Yes	
Prudential Financial, Inc.	United States of America	Other	No	Yes	We believe that this objective should be achieved primarily through appropriately calibrated credit risk charges, not the valuation framework. That said, we recognize there may be a need to pair appropriate supervisory controls / guardrails – including limits on inclusion of high-risk assets, transparency of assumptions and capital charges that disincentivize investing in risky assets –

					with certain approaches such as an entity specific one. Absent herd behaviour an industry-based representative portfolio would not incentivize an entity to make low-quality investments because individual company behaviour would not have a meaningful impact on the composition of the “representative portfolio”.
MassMutual Financial Group	USA	Other	No	Yes	We believe the cap of a BBB spread is appropriate to reduce incentives for excessive risk taking. However, adjustments to the approach from 2016 field testing should be made, specifically excluding policy loan assets and allowing equity assets to receive a spread consistent with their respective risk/return profile.

Q22.2

Q22.2 Section 4.1.4.4	If “no” to Q22.1, what other approaches could the IAIS explore to achieve that objective?

Organisation	Jurisdiction	Role	Confidential	Answer
Actuarial Association of Europe	European Union	Other	No	See response to Q 22
Allianz	Germany	Other	No	See an to question 22.1
German Association of Actuaries (DAV)	Germany	Other	No	See response to Q22.
Great Eastern Holdings Ltd	Singapore	Other	No	NA
Swiss Association of Actuaries	Switzerland	Other	No	see answer to Q22.1
Swiss Re	Switzerland	Other	No	See our response to Q22 above.

Q23

Q23 Section 4.1.4.4 Should insurance liabilities be segregated into buckets for the purpose of applying the credit spread adjustment?

Organisation	Jurisdiction	Role	Confidential	Answer
China Insurance Regulatory Commission	China	IAIS Member	No	Yes
EIOPA	EIOPA	IAIS Member	No	No
BaFin	Germany	IAIS Member	No	No
Financial Supervisory Service	Korea	IAIS Member	No	No
National Association of Insurance Commissioners	USA	IAIS Member	No	No
	Bucketing is arbitrary - there is no precision inherent in the percentages selected and adds unnecessary complexity. It should be noted that the 100% spread discussed in options 1 and 2 is already after an appropriate allowance for default risk based on historical transition matrices and therefore removes a substantial element of the 60% which had been taken out of the spread in the			

	previous field testing. The reduction in spread from 100% thus addresses only the illiquidity element and inherently assumes that insurers will have to realize investments prior to the maturity of the liabilities. Given that companies invest significant resources in asset liability matching and given that they should therefore have, even in stressed situations, sufficient positive cash flow to hold investments to maturity, the appropriate approach is to employ a 100% spread.			
Ageas	Belgium	Other	No	Yes
Canadian Institute of Actuaries	Canada	Other	No	Yes
CLHIA	Canada	Other	No	Yes
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	Yes
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	No
Actuarial Association of Europe	European Union	Other	No	Yes
Institut des Actuaires	France	Other	No	No
Allianz	Germany	Other	No	Yes
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	Yes

German Association of Actuaries (DAV)	Germany	Other	No	Yes
AIA Group	Hong Kong	Other	No	No
International Actuarial Association	International	Other	No	Yes
Dai-ichi Life Holdings, Inc.	Japan	Other	No	No
General Insurance Association of Japan	Japan	Other	No	No
The Life Insurance Association of Japan	Japan	Other	No	No
Great Eastern Holdings Ltd	Singapore	Other	No	Yes
Swiss Association of Actuaries	Switzerland	Other	No	No
Swiss Re	Switzerland	Other	No	No
Institute and Faculty of Actuaries	UK	Other	No	Yes
American Council of Life Insurers	United States	Other	No	No
MetLife	United States	Other	No	No
Prudential Financial, Inc.	United States of America	Other	No	No

MassMutual Financial Group	USA	Other	No	No

Q23.1

Q23.1 Section 4.1.4.4	If “yes” to Q23, which criteria are appropriate to allocate liabilities to the different buckets?

Organisation	Jurisdiction	Role	Confidential	Answer
China Insurance Regulatory Commission	China	IAIS Member	No	We agree to separate buckets for life and non-life business. For life business, we C-ROSS use 3 buckets, a low bucket for participating products, a middle bucket for protection products, and a high bucket for legacy high pricing interest rate products. C-ROSS defines the buckets considering following factors: 1) product type, protection products are often more preditable compared to saving products, so a higher spread is applied; 2) legacy high pricing interest rate products have extremely low historical lapse rates due to the high guaranteed return, so the predicatability and corresponding spread is in the higest bucket. We suggest ICS also consider above factors in setting spread buckets.
Ageas	Belgium	Other	No	Capacity to hold assets under stress up to maturity or compensate asset losses depending on the liability characteristics (e.g. Market Value Adjustment). Please refer to question 31.
Canadian Institute of Actuaries	Canada	Other	No	In alignment with IFRS 17, the bucketing should reflect the characteristics of the liabilities. However, in the interim before IFRS 17 is settled, we suggest bucketing is needed only if a representative portfolio is used for all companies in a jurisdiction. If firm-specific asset mixes are applied to IAIS/ICS-specified spreads, then this could adequately capture the characteristics of the liability (assuming reasonable insurer ALM practices) and no further bucketing is needed.

CLHIA	Canada	Other	No	In the ultimate version of the ICS, the bucketing should reflect the characteristics of the liabilities in alignment with IFRS17. The key characteristics of the liabilities include shorter vs. longer duration cashflows, and if the products have material book value surrender options. For the earlier versions of the ICS, rather than trying to define application ratios for the different illiquidity buckets, we suggest the ICS allow companies to reflect the asset mix segmented into these liability buckets.
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	We suggest allocating liabilities to different buckets based on below factors that are driving the liquidity of liabilities: (1) Product pricing interest rate: if the pricing interest rate is substantially higher than the current market interest rate, the certainty of the product's cash flows will increase significantly. The historical experience data show that there are barely surrenders for policies with high pricing interest rates in China market (products developed before 1999), and therefore a higher spread compensation should be considered. (2) Product characteristics: the expected cash flows of protection type products are relatively stable, which only subject to the incidence rate assumption uncertainties, and are mostly immune from market environment changes. These products therefore should be considered as a separate category. (3) Surrender penalties of the products: cash flows of the products will be more certain if policyholders will suffer a higher amount of loss upon surrender. So surrender penalties can be considered as a factor for allocating liabilities to the different buckets.

EIOPA Insurance & Reinsurance Stakeholder Group	EU	Other	No	- Under the GAAP with adjustment approach book yield/expected earned rate is utilised for liabilities and adjustments are being proposed to AOCI to remove unrealised gains /losses for assets to reflect the ability to hold assets to maturity and thereby avoid forced selling for certain liabilities. Getting this aspect right will be critical and potentially reducing the different outcomes between the two valuation approaches. - This same concept is relevant to discount rates under MAV and this area should be explored further as a potential bridge between the two valuation methods.
Actuarial Association of Europe	European Union	Other	No	The allocation to buckets should depend on the liquidity of the liabilities.
Allianz	Germany	Other	No	The liquidity of the respective insurance liabilities
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	It is reasonable to differentiate between long-term life insurance liabilities on the one hand and short term property and casualty liabilities on the other hand.
German Association of Actuaries (DAV)	Germany	Other	No	The allocation to buckets should depend on the liquidity of the liabilities.
International Actuarial Association	International	Other	No	We find this approach acceptable only if management actions can impact the liability value. If not, we do not see the use of buckets. We suggest thinking in terms of three type of liability buckets - Those that have liquidity risk, those that are fixed cashflows (and hence have a more certain illiquidity premium) and those for where the cashflows can be subject to management actions. The buckets should be related to products with the same degree of predictability of cash flows.

Great Eastern Holdings Ltd	Singapore	Other	No	The current bucketing approach seemed reasonable.
Institute and Faculty of Actuaries	UK	Other	No	The diverse nature of the insurance liabilities and in particular their varying degrees of predictability lead to varying exposures to market fluctuations. So it is reasonable to segregate liabilities into buckets based on their predictability. The differing spreads to be applied to the range of liability buckets could also consider the differing nature of the assets backing the liabilities (e.g. annuities backed by fixed income assets, versus participating products backed by a greater variety of assets). The criteria should reflect ALM principles explicitly with a consideration to assets matching the liabilities.

Q23.2

Q23.2 Section 4.1.4.4	If “yes” to Q23, what is an appropriate number of buckets?

Organisation	Jurisdiction	Role	Confidential	Answer
China Insurance Regulatory Commission	China	IAIS Member	No	For Life segment, C-ROSS adopted 3 buckets, which looks reasonable and practical based on our experience so far. For Non-life segment, we agree with the single bucket.
Ageas	Belgium	Other	No	Please refer to question 31.
Canadian Institute of Actuaries	Canada	Other	No	In theory, IFRS 17 will have very granular bucketing as each company will assess the characteristics of the liability. However, audit firms and peer reviewers, combined with international actuarial standards and guidance will act to narrow the range of practice. In the interim, 3-5 buckets could be considered for the ICS if using a representative portfolio.
CLHIA	Canada	Other	No	In the ultimate version of the ICS, the number of buckets should be company specific reflective of the characteristics of their liabilities. In the interim, we suggest 4 segments: - Short duration, within the observable market horizon, and material book value surrender options - Short duration, within the observable market horizon, and no material book value surrender options - Long duration, beyond the observable market horizon, and material book value surrender options

				- Long duration, beyond the observable market horizon, and no material book value surrender options
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	We suggest 3 or 4 buckets for easier implementation in practice.
Actuarial Association of Europe	European Union	Other	No	In order to represent the individual risk profile of each IAIG companies should determine the application ratios (and establish documentation that provides evidence for the application ratios). Before a potential roll-out of the ICS to further (smaller) companies, it might be worth to have a "standard" method for deriving the application ratios.
Allianz	Germany	Other	No	This should be left to companies to decide according to their risk profile.
German Association of Actuaries (DAV)	Germany	Other	No	It is likely that the best balance between accuracy and complexity depends on the products that IAIG offer, so it may be an optimal approach to let IAIG decide on the number of buckets they want to use. The companies shall document the rationale for their choice. Before a potential roll-out of the ICS to further (smaller) companies, it might be worth to have a "standard" approach.
International Actuarial Association	International	Other	No	Three - Products with little or no ability for the policyholder to vary the contract; Products that can be varied but with financial penalties; and those where significant variations can be made with no penalty or charge. The first bucket could include non-life long-tail claims reserves. The most subjective element is probably what products which have optionality qualify for the middle bucket and one relatively simple approach would be to require a maximum (average) level of projected lapse/option take ups

Great Eastern Holdings Ltd	Singapore	Other	No	3 buckets - Life Par products, Life non-par products and General Insurance

Q23.3 Section 4.1.4.4	If “yes” to Q23, what should be the application ratios associated with each bucket?

Organisation	Jurisdiction	Role	Confidential	Answer
China Insurance Regulatory Commission	China	IAIS Member	No	We view that the application ratio should start from 100%, then reduce gradually, e.g. 100%/80%/60%. For example, ICS non-life spread is 40% of the asset spread, where the asset spread is derived from all assets backing the non-life liabilities. With a single bucket, we belive 100% of the asset spread is available to the non-life liabilities, and no discounting should be applied. Similar for Life, we view that the high bucket should start from 100%.
Ageas	Belgium	Other	No	Application ratios should be determined in function of possibility to keep assets backing the liabilities up to maturity in case of predetermined stress events.
CLHIA	Canada	Other	No	Instead of application ratios, we suggest reflecting a more granular asset mix by product segment, to capture the characteristics of the liability. If application ratios are used, then the weighted average of the application ratios should get back to 100%, since the base spread is defined for the total all of the insurer's product segments combined. As such, the highest application ratio needs to be > 100%.
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	If the company has considered the characteristics of liabilities when managing the assets of the account, an application ratio of 100% should be used. For example, for non-life business, 100% application ratio should be used as the company has

				conceived the business's characteristics of future cash flows and liquidity when it determines the non-life asset allocation. So we suggest: (1) Based on the overall spread of the aggregate insurance business of the company, different application ratios should be applied to different business lines according to their liability types and liquidity characteristics. (2) A 100% application ratio should be adopted for business that is backed by a separate pool of assets. (3) For products with different level of liquidity but managed within the same account, different levels of application ratios should be set, such as 100%, 80% or 60%.
Allianz	Germany	Other	No	The application ratio per each bucket should be based on a determination of the extent of assets that would have to be sold in a lapse stress scenario.
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	The application ratios should reflect the long-term nature of liabilities that enables companies to hold assets to maturity.
German Association of Actuaries (DAV)	Germany	Other	No	In order to represent the individual risk profile of each IAIG it may be optimal to let companies determine the application ratios (and establish documentation that provides evidence for the application ratios). Before a potential roll-out of the ICS to further (smaller) companies, it might be worth to have a "standard" method for deriving the application ratios.
International Actuarial Association	International	Other	No	This should be related to the degree of certainty / predictability of cash flows.
Great Eastern Holdings Ltd	Singapore	Other	No	The current ratio seemed reasonable.

MetLife	United States	Other	No	Given the selections for Q. 23 do not generate a comment box, we note here that MetLife does not support segregation of liabilities into buckets due to concerns about implementation complexity and subjective interpretations of the bucket parameters resulting in inconsistent bucket assignments for common liabilities across IAIGs. However, without prejudice to this position, we suggest the proposed application ratios for reference method 3 and option 3 (80%, 60%, 40%) should be increased to 120%, 100%, 80% (for example) to ensure that the average application ratio for the whole liability portfolio is around 100%.

Q23.4

Q23.4 Section 4.1.4.4 If ”no” to Q23, as an alternative to a criterion for predictability of insurance liabilities, could partial risk transfer to policyholders (eg market value adjusted products) be a criterion for determining the credit spread adjustment?

Organisation	Jurisdiction	Role	Confidential	Answer
EIOPA	EIOPA	IAIS Member	No	We are not in favour of using buckets. The same application ratio should be used for all business (a figure close to 65% would be appropriate). However, we believe that a different treatment should be introduced for business where asset and liability cash-flows are matched and the insurer can uphold that matching during the lifetime of the insurance obligations. The application ratio for that business should be 100% because of the specific nature of the business.
Financial Supervisory Service	Korea	IAIS Member	No	If risk is fully transferred to policyholders, the credit spread adjustment is not needed.
National Association of Insurance Commissioners	USA	IAIS Member	No	No. An MVA adjustment criterion is similar to bucketing and is also arbitrary (not all MVA adjustments are equal) and adds complexity. Insurers should be providing socially desirable products that will enable individuals to mitigate risk (such as risk arising from dealing with large lump sums coming out of defined contribution arrangements) rather than passing additional risks to individuals. Undertaking and addressing risk is at the heart

				of the business of insurance companies. Insurers have built up expertise and are far better able to deal with risk than individual policyholders.
Ageas	Belgium	Other	No	Yes, if the risk is borne by the policy holder via a market value adjustment penalty, this does not put the company at risk.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	A bucketing of liabilities and subsequent allocation of CSA would imply that all IAIGs would also make investments similar to the liability bucketing. This is not always the case. In many instances investment pools / ALM are made by the distinct legal entities allowing for more diversification and economies of scale. When assets are managed globally, for instance together with the assets backing own funds and free surplus, the duration and predictability of the in-force liabilities are not the only driver to earn the spread. In order to allocate the CSA, one could include the use of the lapse assumptions and/or duration mismatch as adjustment to the CSA based on the weighted portfolios. Over time one can estimate the number of remaining policyholders (including the amount of the related insurance liability) who will maintain their insurance contract until maturity. This percentage relative to the total could be used as the percentage. It must be noted that the way an ALM is conducted in an undertaking/group should dictate whether buckets could be relevant and a criterion for predictability. When the assets backing the liabilities are managed in a pool and not segregated by liability, the recourse to buckets is absolutely irrelevant. A criterion based on duration and volatility of duration could be used. Moreover, it should also be noted that when assets are managed in a pool including assets backing

				own funds, the duration and quality of the free surplus will also provide key information on the predictability of all liabilities backed by the assets under consideration.
AIA Group	Hong Kong	Other	No	Clearly products with a market value adjustment protect the company against fluctuations in market values of the supporting assets. However, we do not believe that any adjustment should be made to the discount rate on account of the liquidity characteristics of the liability. Liquidity characteristics should be catered for in surrender risk.
Dai-ichi Life Holdings, Inc.	Japan	Other	No	·We believe that bucketing is not necessary but it would be fine to allocate the spread without the exception, considering the characteristics of life insurance liability as the below; · Cashflow generated by life insurers is stable. For the time being, the resources of claim payments are redemption of bonds at maturity and level premiums regularly paid by policyholders, which are not directly affected by decline of the market. · Duration is relatively long. Frequent transaction like banking or investment trust is not observed in life insurance. ·Lapse or surrender impose relatively high cost to policyholder.
General Insurance Association of Japan	Japan	Other	No	With regard to products whose gains and losses arising from changes in corporate bond spreads can be explicitly transferred to policyholders, changes in insurance liabilities are relatively more predictable. Therefore, the credit spread

				adjustment should be determined taking such characteristics into account.
The Life Insurance Association of Japan	Japan	Other	No	·We do not support the IAIS´s current idea of segregating life insurance liabilities into two buckets. ·For the reasons below, it is not reasonable to segregate insurance liabilities: In general, sharp risk-off would not be needed for life insurers even during a stressed period and there is no need for fire sales of assets in the short term. As for life insurance products with fixed benefits, especially those with long-term guaranteed interest rates, it is true that those products would bear interest rate risk as the insurance liabilities are based on the premise of long-term coverage. However, it is not until the reinvestment phase far in the future that this risk becomes relevant, and consequently, it is generally considered that this risk would not threaten the insurers´ solvency in the foreseeable future. This risk can be addressed over medium to long periods of time. Another rationale is the stability of the life insurers´ cash flow position. In general, the insurance benefits are paid from the cash inflow of the well-scheduled redemption at the maturity of investments such as government bonds, and insurance premiums periodically paid under long-term level premium insurance policies. Therefore, the payments of benefits are hardly considered to directly affect the life insurers´ cash flow position even during a stressed period. The nature of insurance products is different from bank deposits or investment funds as insurance products are based on the premise of long-term possession by policyholders until maturity, and they are not withdrawn or traded frequently. Also, it should be noted that the surrender of insurance contracts

				would impose relatively high cancellation costs to the policyholders.
Great Eastern Holdings Ltd	Singapore	Other	No	NA
Swiss Association of Actuaries	Switzerland	Other	No	No adjustment is appropriate and in line with the aim of policyholder protection
Swiss Re	Switzerland	Other	No	Yes, this means that the replication portfolio contains the corresponding assets. This might appear as an adjustment - but it is just the right thing to do.
American Council of Life Insurers	United States	Other	No	ACLI does not support the development of different discount rates through the segregation of liabilities into buckets due to concerns about decreased comparability across jurisdictions and the likely implementation complexity. We believe for global companies the rigorous evaluation of all products required to assign a bucket - particularly those outside the primary jurisdictions of the IAIG - would consume significant resources (both initially and ongoing) for only a modest impact on results even if done consistently and properly. Moreover, the subjective interpretations of the bucket parameters are certain to result in inconsistent bucket assignments for common liabilities across IAIGs. However, if the IAIS should feel compelled to take a bucketing approach, we recommend the IAIS adopt a more achievable goal as part of a step-wise approach toward a bucketing solution. Namely, for all but the most mature markets, we encourage the IAIS to require IAIGs only to segment the liabilities into buckets, while still discounting at a single curve,

				rather than requiring the generation of many different sets of discount rates. This approach allows the IAIS and IAIGs both to: [1] assess the complexity of the bucketing approaches alone, and [2] measure the impact of bucketing for the preponderance of IAIGs - but without the additional challenge of requiring discount rate creation in markets immaterial for most IAIGs. Additionally, and without prejudice to the above concerns about the proposed bucketing options, we note that the "reference portfolio" and our proposed "firm-specific asset allocation" approaches (see comments on Table 5 below) are fully compatible with bucketing: [1] A pure reference portfolio approach would require a separate reference portfolio for each bucket. [2] Proposed "firm-specific asset allocation" would require a simple adjustment to the caps on asset allocations for different liability types (e.g., the share of illiquid liabilities would influence the cap on allocations to less liquid assets).
MetLife	United States	Other	No	Should the IAIS feel compelled to proceed with a bucketing approach, we recommend as an alternative, that the IAIS adopt a more achievable goal as part of a step-wise approach toward a bucketing solution. Namely, for all but the most mature markets, we encourage the IAIS to require IAIGs only to segment the liabilities into buckets and discount at a single curve, rather than requiring the generation of many different

				sets of discount rates. This approach allows the IAIS and IAIGs both to: assess the complexity of the bucketing approaches alone, and measure the impact of bucketing for the preponderance of IAIGs - but without the additional challenge of requiring discount rate creation in markets immaterial for most IAIGs. Additionally, and without prejudice to the concerns about the proposed bucketing options articulated in Q.23.3, we note that the "reference portfolio" and our proposed "firm-specific asset allocation" approaches (see comments on Question 31 below) are fully compatible with bucketing: A pure reference portfolio approach would require a separate reference portfolio for each bucket. Our proposed "firm-specific asset allocation" would require a simple adjustment to the caps on asset allocations for different liability types (e.g., the share of illiquid liabilities would influence the cap on allocations to less liquid assets). MetLife also notes that combining bucketing with a pure "firm-specific assets" approach would pose significant challenges for IAIGs whose parent is not subject to Solvency II. Most regulatory frameworks outside of Solvency II, including the US system, do not require the hypothecation of assets to specific liabilities required to support the "firm-specific assets" approach, creating entirely new work for IAIGs with, we believe, little or no value in addressing systemic or firm-specific risk.

New York Life	United States	Other	No	We do not believe that a spread adjustment should be made to account for liability liquidity characteristics in the valuation of baseline liabilities. These adjustments have the potential to be highly subjective and they assume that the liquidity risk profile of a product can be observed by looking at a few high level product features. In reality, the liquidity risk profile is complicated and requires modelling and stress testing in order to assess the risk. Further, companies manage this liquidity risk through asset-liability matching programs and invest in assets appropriate for the liquidity of the liability profile, which is proven out through cash flow stress testing.
MassMutual Financial Group	USA	Other	No	We do not support adjusting the credit spread for discounting purposes for any reason other than expected default risk. Insurers manage liquidity risk through asset liability management, and this will already be reflected in the asset mix they hold. To subsequently adjust the credit spread further for assumed liquidity risk will be overly punitive.

Q24

Q24 Section 4.1.4.4 Does the ability of IAIGs to earn credit spreads above the risk-free interest rates in a risk-free manner depend on the IAIGs' ability to match liability cash-flows with asset cash-flows? Please explain.

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
EIOPA	EIOPA	IAIS Member	No	Yes	Only for business where asset and liability cash-flows are matched and the insurer can uphold that matching during the lifetime of the insurance obligations insurers can earn the spread above risk-free interest rates (minus any default and downgrade risk). For other business insurers can usually only partially earn the spread above risk-free interest rates (minus any default and downgrade risk). This justifies the need for an application ratio which is lower than 1 (see also the response to the previous questions).
BaFin	Germany	IAIS Member	No	No	"Risk-free" is a universal concept. A yield is either risk-free or not. If the earned rate of a specific asset is beyond the market yield of similar assets, there is an embedded risk of default of the asset.
Financial Supervisory Service	Korea	IAIS Member	No	Yes	If cash flows are fully matched, risk is transferred to policyholders and it is possible to earn credit spreads above the risk free interest rates in a risk-free manner. Thus, the credit spread adjustment is not needed.
Ageas	Belgium	Other	No	Yes	IAIGs are only able to earn this credit spread with sufficient certainty for this part of fixed income that can be held up to maturity. The non-fundamental spread on fixed income can be earned only if there is sufficient evidence to demonstrate that these assets can be held up till

					maturity or losses can be transferred to policyholders (e.g. Market Value Adjustment).
CLHIA	Canada	Other	No	Yes	
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	No	We think in a market where there are no adequate long-term assets and the durations of liability cash-flows are obviously longer, the credit spread earned by an IAIG cannot simply be recognised as the spread earned from a fully matching between asset and liability cash-flows, but more reasonably be considered as a illiquidity premium. When the duration of assets is obviously shorter than that of liabilities, illiquidity premium can be achieved by the reinvestment of these assets rather than matching of cash-flows.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	No	This is not necessarily the case. The matching of assets / liabilities can be performed in either a matching of the pure cash flows, or based on economic value together with sensitivity analysis, liquidity analysis and convexity assessments. Furthermore there is the discussion regarding the definition of risk free. The ALM is based on the entity specific used discount rates for the whole of the balance sheet rather than the supervisory required use of the discount rate on the liability side of the balance sheet. Lastly, the ability to earn spreads is dependent on the ability to hold (or trade for similar titles) the securities until maturity which can also be linked to free surplus level and quality and risk appetite.
Allianz	Germany	Other	No	No	The ability to earn the credit spread depends solely on the ability to hold assets to maturity, but is not related to cash-flow match the liability cash flows. Where contractual asset cash flows (interest, and maturity payment) are insufficient to meet liability cash flows so that assets

					need to be sold before maturity, this is reflected in a decreased application ratio (see response to Q 23.3).
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	No	A direct matching between asset and liability cash-flows is not mandatory for the ability to earn spreads above the risk-free interest rates. The general long-term and stable character of insurance liabilities (especially life insurance liabilities) enables companies to hold assets to maturity and earn spreads above the risk-free interest rates.
German Association of Actuaries (DAV)	Germany	Other	No	No	The ability to earn credit spreads above risk-free interest rates is only dependent on the ability to hold assets to maturity. While cash-flow matching eliminates re-investment risk, there is no direct relation to the ability to earn credit spreads.
Munich Re	Germany	Other	No	No	
AIA Group	Hong Kong	Other	No	No	This is no more the case than the ability to earn the risk-free rate itself. There is a risk that the IAIG cannot earn the risk free rate if assets must be liquidated at an inopportune time, just as there is a risk that it cannot earn the total rate including spread or the spread itself. This should not impact the best estimate liability value.
International Actuarial Association	International	Other	No	Yes	Yes, the ability of IAIGs to hold assets to maturity is linked to the long term predictable cash flows associated with certain liabilities - as mentioned above there are products where there is some policyholder optionality but these may be at such a level that the overall impact on the portfolio cash flows isn't significant.

Great Eastern Holdings Ltd	Singapore	Other	No	No	There are many other forces at work which influences IAIGs' ability to earn credit spread, e.g market environment.
Swiss Association of Actuaries	Switzerland	Other	No	Yes	The Swiss Association of Actuaries severely and fundamentally doubts that it is possible to "earn credit spreads above the risk-free interest rates in a risk-free manner". If a corresponding investment strategy would exist, states would pursue it. In fact they would issue debt as long as the free interest rate is lower than the risk free return. In other words: states will drive the risk free rate up until there is not risk free investment left that produces a higher return. This is a fundamental point. The assumption / assertion that it is possible to "earn credit spreads above the risk-free interest rates in a risk-free manner" is at odds with the no-arbitrage principle – thus with the entire foundation of economic theory and practice. Note that the answer to the question could be equally well "No".
Swiss Re	Switzerland	Other	No	Yes	However, even if asset and liability cash flows are matched, the credit spreads are not earned in a risk-free manner. The risk of joint default is very real. Earning the spread "in a risk-free manner" is not possible. The spread can only be minimized – firstly by matching liability cash flows and secondly by diversifying the credit risk.
Institute and Faculty of Actuaries	UK	Other	No	Yes	The cash-flow matching of assets and liabilities largely immunises the insurer from market fluctuations.
Association of British Insurers	United Kingdom	Other	No	No	The current approach does not assume credit spreads above the risk-free interest rates are earned in a risk-free manner. Under the current proposal, only certain components of the spread are assumed to be able to be earned without contributing to risk, such as illiquidity

					premium, given our ability to match asset and liability cashflows; particularly for illiquid liabilities. Some of the spread is assumed to contribute to risk. An explicit deduction for expected defaults is made to the credit spread and the risk around the uncertainty in future defaults is reflected in the credit risk module. Cashflow matching is not the only ALM method an insurer could implement to earn credit spread without being forced to sell credit assets (i.e., forced to recognise spread not related to defaults). For example, other methods could include holding other liquid assets to meet liability liquidity or investing in a rolling credit portfolio that is reinvested over time.
Prudential Financial, Inc.	United States of America	Other	No	Yes	Insurer ALM reflects the buy-and-hold nature of insurer investing, where assets are held to maturity to support liability cash flows as they come due. Insurers are able to do this with a high degree of effectiveness, resulting in generally close duration matching between assets and liabilities. The key risks with respect to insurers' liability-driven investing are default risk and asset-liability mismatch risk, which are carefully monitored and managed within insurer ALM practice. The key source of duration mismatch is with respect to long term life insurance products (protection and retirement) for which liability cash flows extend well beyond the investable horizon. Insurers typically ALM-match these "tail" liability cash flows as the cash flows roll into the investable space. Please see our response to question 20 for our views on appropriate methods for developing yield curves.

MassMutual Financial Group	USA	Other	No	No	Perfectly cash flow matching assets and liabilities may not be practical for long duration life insurance products and it is not the only way to do asset/liability management. We recognize there is reinvestment risk which is why we support a prescribed, long-term historical credit spread to be applied to the LTFR.

Q25

Q25 Section 4.1.4.4 What level of granularity is more appropriate for the calculation of the credit spread adjustment? Please justify your answer.

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
China Insurance Regulatory Commission	China	IAIS Member	No	A single spread adjustment calculated and then applied to the different buckets (if more than one) using different application ratios.	For easier implementaions, we suggest a single spread be calculated for life and non-life business, then use application ratios for different buckets.
EIOPA	EIOPA	IAIS Member	No	A single spread adjustment calculated and then applied to the different buckets (if more than one) using different application ratios.	The second approach introduces unnecessary complexity in the calculation. The adjustment will become intransparent and difficult to supervise.
BaFin	Germany	IAIS Member	No	A single spread adjustment calculated and then applied to the different buckets (if more than one) using	We do not see the need for a differentiation of application ratios. This option silently assumes accepting the bucketing approach. We do not agree with a bucketing approach and therefore do not see the possibility of applying “different application ratios”.

				different application ratios.	
Financial Supervisory Service	Korea	IAIS Member	No	A single spread adjustment calculated and then applied to the different buckets (if more than one) using different application ratios.	It is difficult to identify different classes of assets backing specific classes of liabilities associated with each bucket.
National Association of Insurance Commissioners	USA	IAIS Member	No	Yes	We do not support the bucketing approach. See our response to Q23 (and Q32).
Ageas	Belgium	Other	No	The IAIG identifies different classes or combinations of assets backing specific classes of liabilities associated with each bucket, calculating different credit spread adjustments for each bucket on the basis of the groups of assets identified.	ICS should determine the fundamental spreads for the main asset classes, IAIG can deduce the non-fundamental spread risk part.
Canadian Institute of Actuaries	Canada	Other	No	A single spread adjustment calculated and then applied to the different buckets (if	Consistent with our response to Q20 and in the spirit of enhancing comparability, the spread for the observable market segment should vary with the term and characteristics of the liability and possibly its asset mix, but

				more than one) using different application ratios.	should not vary with the IAIG's specific asset holdings, ensuring that the value of the liability is influenced by the liability's characteristics but not by the IAIG's credit-based asset decisions.
CLHIA	Canada	Other	No	The IAIG identifies different classes or combinations of assets backing specific classes of liabilities associated with each bucket, calculating different credit spread adjustments for each bucket on the basis of the groups of assets identified.	
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	The IAIG identifies different classes or combinations of assets backing specific classes of liabilities associated with each bucket, calculating different credit spread adjustments for each bucket on the basis of the groups of assets identified.	Setting the credit spread adjustment by each asset account can better reflect the characteristics of the corresponding liabilities and fulfil the assets liability management target of each account.

AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	A single spread adjustment calculated and then applied to the different buckets (if more than one) using different application ratios.	There will be a trade-off between the use of a more granular approach and the administrative burden of allocating groups of assets to each bucket. This approach would also limit the recognition of diversification benefits between the assets which are allocated to the distinct buckets.
Insurance Europe	Europe	Other	No	The IAIG identifies different classes or combinations of assets backing specific classes of liabilities associated with each bucket, calculating different credit spread adjustments for each bucket on the basis of the groups of assets identified.	Please refer to answer to Q20.
Actuarial Association of Europe	European Union	Other	No	The IAIG identifies different classes or combinations of assets backing specific classes of liabilities associated with each bucket, calculating different credit spread adjustments for each bucket on the basis of	

				the groups of assets identified.	
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	A single spread adjustment calculated and then applied to the different buckets (if more than one) using different application ratios.	Within the different lines of business, a single adjustment possibly reflecting different classes of liabilities with different characteristics regarding the ability to earn spreads is preferred. In contrast, calculations with different interest rate curves for different classes of liabilities for one line of business would lead to unreasonable high efforts and could lead to problems with regard to profit-sharing aspects. A different approach for different lines of business such as long-term life insurance liabilities in contrast to short-term property and casualty liabilities is reasonable.
AIA Group	Hong Kong	Other	No	The IAIG identifies different classes or combinations of assets backing specific classes of liabilities associated with each bucket, calculating different credit spread adjustments for each bucket on the basis of the groups of assets identified.	Assets should be hypothecated to the liabilities that they back. We do not believe that it makes sense to allocate total assets to total liabilities. IAIG's have established methodologies that can be verified by the group supervisor. For example, assets reside in different legal entities and back liabilities within the legal entity. Within a legal entity, assets are often further allocated. For example, assets backing unit-linked (separate account) business clearly support the corresponding liabilities. Within the general account, assets are often segmented with the knowledge, or even based on requirements set by, the regulator.
Great Eastern Holdings Ltd	Singapore	Other	No	A single spread adjustment calculated	A simple yet reasonable method should suffice.

				and then applied to the different buckets (if more than one) using different application ratios.	
Institute and Faculty of Actuaries	UK	Other	No	The IAIG identifies different classes or combinations of assets backing specific classes of liabilities associated with each bucket, calculating different credit spread adjustments for each bucket on the basis of the groups of assets identified.	The nature and in particular the predictability of the liabilities will be reflected in the combination of assets backing the liabilities.
Association of British Insurers	United Kingdom	Other	No	The IAIG identifies different classes or combinations of assets backing specific classes of liabilities associated with each bucket, calculating different credit spread adjustments for each bucket on the basis of the groups of assets identified.	

American Academy of Actuaries	United States of America	Other	No	A single spread adjustment calculated and then applied to the different buckets (if more than one) using different application ratios.	The bucket could be at the currency level, where the weighted average spread adjustment by currency already reflects the liquidity characteristics of the liabilities.
Prudential Financial, Inc.	United States of America	Other	No	A single spread adjustment calculated and then applied to the different buckets (if more than one) using different application ratios.	Prudential does not support the use of a bucketing approach and believes the full (100%) spread should be applied with reductions for expected credit defaults and investment expenses. Optionality related to dynamic policyholder withdrawal benefits is captured in the current estimates of the liabilities through market-sensitive stochastic cash flows. The risk associated with policyholder behaviour stresses and uncertainties around insurance assumptions is reflected through capital charges. Therefore, the weighted average spread adjustment already reflects the liquidity of the liabilities and we should not differentiate discounting methods to reflect risk or liquidity characteristics associated with the liabilities.

Q26

Q26 Section 4.1.4.4 In the absence of requirements concerning asset-liability matching and ring-fencing, should supervisors require the proposed allocation be demonstrated and maintained throughout the lifetime of the corresponding insurance liabilities? Please explain and if “yes”, how could this be achieved?

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
China Insurance Regulatory Commission	China	IAIS Member	No	Yes	Use regular reporting to supervisors, or external disclosure requirements.
EIOPA	EIOPA	IAIS Member	No	No	In line with our answer to Q25 we believe that in general a single spread adjustment should be calculated. However, for business where asset and liability cash-flows are matched and the insurer can uphold that matching during the lifetime of the insurance obligations, and where therefore an adjustment based on the spreads of the insurers assets applies, insurers should maintain the proposed allocation throughout the lifetime of the corresponding insurance liabilities except for the purpose of maintaining the replication of expected cash flows between assets and liabilities where the cash flows have materially changed. To achieve this, additional requirements should be introduced.
BaFin	Germany	IAIS Member	No	No	

Financial Supervisory Service	Korea	IAIS Member	No	No	
Ageas	Belgium	Other	No	Yes	The credit spread that can be earned should only be based on the current investment portfolio. This will allow to reach a more stable own funds, being the key purpose of the volatility adjustment reflecting the economic value of the bonds that can be kept up to maturity.
Canadian Institute of Actuaries	Canada	Other	No	No	To the extent that spread assumptions are not tied to the IAIG's specific asset holdings but rather to its liability characteristics (as we suggest above), there should be no need for this demonstration. Further, to the extent a given IAIG has a different interest rate mismatch risk position than its peers, the ICS capital requirement should adequately capture that risk.
CLHIA	Canada	Other	No	No	The ICS capital requirement should adequately capture mismatch risk so demonstrations are not necessary.
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	Yes	It can be achieved by requiring companies to report their asset allocation strategy to local regulator or disclose the related information to the public.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	No	The use of the CSA should not be based on ring fencing and holding the investments until maturity. The calculation of the CSA should accommodate normal lapses and trading of assets based on risk mitigation purposes (for example following downgrades). The ring fencing would seriously increase the administrative burdens for all stakeholders concerned and fails to depict the way the ALM is actually conducted.
Institut des Actuaires	France	Other	No	No	The capital standard should remain principles based. Prudent risk management requires the ability to adapt to changing

					circumstances and takes risks commensurate with the resources available to each insurer.
Allianz	Germany	Other	No	No	The ICS is a consolidated group standard and therefore all investment asset in the group are available to cover insurance liabilities in the group so that a specific allocation should not be required. Where assets are allocated to specific liability buckets such allocation should be demonstrated, based on high-level allocation principles rather than an asset-by-asset earmarking requirement.
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	No	A linking of the asset with the liability cash-flows at portfolio level is a sensible requirement as this is part of the day-to-day asset and liability management of an IAIG. We believe that a strict matching maintained throughout the lifetime of the corresponding insurance liabilities or even a ring-fencing of asset and liability cash flows is not required. Especially a requirement as ring-fencing would give unjustified advantage to certain specific products and jurisdictions instead of targeting the real issue.
AIA Group	Hong Kong	Other	No	No	Any allocation should be subject to verification, but we see no rationale why the allocation should be required to be maintained over the life of the liabilities. Such a requirement could lead to suboptimal asset / liability management.
International Actuarial Association	International	Other	No	Yes	It is reasonable to assume that ALM should be maintained. There are assumptions (such as mortality) that will need to be reassessed. These, together with re-assessment of the quality of assets over time will mean that the portfolio will need to be re-balanced from time to time. This can be seen and assessed through either the review of the ORSA or other reports on ALM that might be provided to the regulators.

Great Eastern Holdings Ltd	Singapore	Other	No	No	NA
Swiss Re	Switzerland	Other	No	No	Such requirements are highly problematic. First, it is hard to realize in practice. If an IAIG deviates from the proposed allocation, should it be forbidden from making similar assumptions going forward? Under what conditions? For how long? This approach allows for significant discretion. Secondly, situations may emerge where it is optimal to sell assets rather than maintain and asset-liability match.
Association of British Insurers	United Kingdom	Other	No	No	Such requirements are difficult to appropriately apply in practice. For example, it should be possible to replace assets with comparable assets during the lifetime of the corresponding insurance liabilities
American Academy of Actuaries	United States of America	Other	No	Yes	Yes and no. The guardrails should not be rigid. In certain cases it is not possible to achieve perfect cash flow or duration matching. This does not mean that effective ALM is not possible or that the credit spread adjustment should not reflect the insurer's investment portfolio.
Prudential Financial, Inc.	United States of America	Other	No	No	Prudential does not support the use of a bucketing approach and believes the full (100%) spread should be applied with reductions for expected credit defaults and investment expenses. Optionality related to dynamic policyholder withdrawal benefits is captured in the current estimates of the liabilities through market-sensitive stochastic cash flows. The risk associated with policyholder behaviour stresses and uncertainties around insurance assumptions is reflected through capital charges. Therefore, the weighted average spread adjustment already reflects the liquidity of the liabilities and we should not differentiate discounting methods to reflect risk or liquidity characteristics associated with the liabilities.

MassMutual Financial Group	USA	Other	No	No	We do not support bucketing of liabilities to determine discounting spreads.

Q27

Q27 Section 4.1.4.4 Is the proposed approach for calculating the adjustments for default reasonable? If “no”, please explain how it could be improved.

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
China Insurance Regulatory Commission	China	IAIS Member	No	No	The gross spread and default adjustment should be aligned, with both set by currencies. The current approach is inconsistent in terms of using a currency-specific gross spread but a global default adjustment.
EIOPA	EIOPA	IAIS Member	No	No	The approach should not only take account of default risk but also of the risk that the insurer incurs losses when assets are downgraded and need to be replaced, for example to ensure the asset-liability matching or to maintain the general credit quality of the allocated assets. Consideration should also be given to the introduction of a floor to the calculation of the risk correction, linked to long term observations of credit spreads.
BaFin	Germany	IAIS Member	No	Yes	
Financial Supervisory Service	Korea	IAIS Member	No	Yes	

Ageas	Belgium	Other	No	No	We would suggest to use transition matrices for sovereign debt (which exist).
Canadian Institute of Actuaries	Canada	Other	No	Yes	
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	No	We think the current approach adopts the same default assumptions for different currencies which may not match the corresponding spread of each currency. Therefore we suggest adjusting the current approach to make it currency specific.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	No	For each class of assets the adjustment should be based on historical loss data (LGD). A hypothetical bond does not necessarily reflect all the characteristics of the underlying information used to determine the CSA. The IAIS states that defaults of sovereign bonds is rare, the 30% used therefore seems to be an overstatement. The IAIS could consider taking a more granular approach based on the actual rating of the sovereign debt. For example, 30% for a AAA-rated sovereign bond is too high.
Institut des Actuaires	France	Other	No	No	It is in clear what is intended here in terms of adjustment to the discount rate. It would be clearer with a formula or example.
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	No	The default risk over a multi-year period is usually not equally distributed over that period.
Munich Re	Germany	Other	No	No	Default risk over a multi-year period is usually not equally distributed over that period.
AIA Group	Hong Kong	Other	No	Yes	

International Actuarial Association	International	Other	No	No	The key point here is that some estimates put the change in actual default risk to be about 10-20% of the total change in credit spreads. The rest is market sentiment reflecting the risk of being forced to try and sell in the current market. For insurance liabilities with long term obligations which do not need to meet liquidity calls during the time prior to their payoff, this market sentiment factor is not relevant to the valuation. Thus, setting the long term assumptions for default spreads should be done using a similar methodology used for setting other long term assumptions such as mortality. The market sentiment needs to be treated equally on both the asset and liability side of the balance sheet.
Dai-ichi Life Holdings, Inc.	Japan	Other	No	No	・If doing so, the allowance for doubtful accounts on B/S should be recognized as Tier1 capital.
General Insurance Association of Japan	Japan	Other	No	Yes	
The Life Insurance Association of Japan	Japan	Other	No	No	・Regarding the allowance for doubtful debts on the balance sheet, at least the corresponding amount of the allowance that is subject to the adjustments for default should be recognised in Tier 1 as the available capital (if the adjustments for default would be implemented for the discount rate).
Great Eastern Holdings Ltd	Singapore	Other	No	Yes	
Swiss Association of Actuaries	Switzerland	Other	No	No	The MAV is not market consistent, if it uses risk free rates that are different from government rates, see answer to Q 24.
Swiss Re	Switzerland	Other	No	No	What is needed is a model for joint defaults of an essentially ring-fenced portfolio of eligible assets with margin call rules and reinvestment rules over 30 or 60 years. Compared to that, all internal models of all insurers

					worldwide are simple and unambiguous. It is completely unrealistic that a single regulator would buy into this.
American Academy of Actuaries	United States of America	Other	No	No	It is appropriate to reflect expected defaults in the credit spread adjustment; however, we do not believe it is appropriate to further adjust for default spread risk. The latter is prone to excessive volatility driven by temporary market discontinuities that are not long-term structural changes to the market.
Prudential Financial, Inc.	United States of America	Other	No	No	While it is appropriate to reflect an adjustment for expected losses, we believe that further adjustment for unexpected or default losses is not warranted given that these are captured separately through properly calibrated ICS credit risk charges.
MassMutual Financial Group	USA	Other	No	Yes	

Q28

Q28 Section 4.1.4.4 Should the IAIS consider introducing an adjustment to the LTFR? If “yes”, what would be the technical rationale for an adjustment to the LTFR and which methodologies should the IAIS explore?

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
China Insurance Regulatory Commission	China	IAIS Member	No	Yes	Long term spread can be set based on an average of histrocal spreads over a relatively long term.
EIOPA	EIOPA	IAIS Member	No	No	
BaFin	Germany	IAIS Member	No	Yes	Generally "no", except for a revision of the current concept in the sense that it directly uses long-term GDP growth as an interest rate. See our comment to Q17.
Financial Supervisory Service	Korea	IAIS Member	No	No	
Ageas	Belgium	Other	No	No	This is a long term assumption which should not be impacted by short term changes. Nevertheless, this does not mean that these assumptions should be fixed forever. We are not in favour of sudden drastic changes. This is why, in line with answer to question 18, we suggest to embed gradual change in line with the proposal of EIOPA in case a long term trend is identified.

Canadian Institute of Actuaries	Canada	Other	No	Yes	In our view, in order to mitigate undue volatility in capital resources, the base liability valuation should not include undue implicit conservatism, and should remain consistent with the valuation of assets. While nothing is certain, it is reasonable to expect that there will continue to be rewards for risks inherent in assets purchased in the future, including for expected and unexpected credit and illiquidity risks. It would not be appropriate to include in a liability discount rate a spread for expected asset default rates. However, it would be appropriate to include, in Segment 3, spreads for illiquidity risk, provided and to the extent the IAIG can demonstrate a willingness and ability to hold assets to maturity to earn the illiquidity premium.
CLHIA	Canada	Other	No	Yes	The LTFR should include a more realistic view of the spread achievable due to the illiquidity of long term liability products. The 0.10% assumption tested in FT2016 is too low. The resulting discount rates should not include undue implicit conservatism. The spread adjustment for the LTFR should also be based on a stable long term view.
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	Yes	We think the IAIS should consider an appropriate adjustment to allow for the level of liquidity spread in the long run, as the LTFR is determined based on long-term market and does not consider the characteristics of policy liabilities. The adjustment to the LTFR can be set based on the ratio of liquidity spreads to interest rate curve, or based on the long-term average spread of historical market data.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	No	

Institut des Actuaires	France	Other	No	No	
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	No	
Munich Re	Germany	Other	No	No	
AIA Group	Hong Kong	Other	No	Yes	It is unrealistic to assume that spreads over the risk-free rate will not continue to exist in the future, when the existing assets mature and reinvestment needs to be made. Such long term spreads should be measured and added as an adjustment to the LTFR. Historical averages can be used as the basis for such an adjustment.
International Actuarial Association	International	Other	No	Yes	As stated earlier, the LTFR should include a credit spread. It should be comparable to the credit spreads in the observable portion of the yield curve. A reasonable approach might be to simply extend the credit spread from the long end of the observed curve indefinitely into the future.
Dai-ichi Life Holdings, Inc.	Japan	Other	No	Yes	・Considering long-term nature of insurance business, excessive volatility, which is highly affected by short-term fluctuation of financial market should be mitigated.
The Life Insurance Association of Japan	Japan	Other	No	Yes	・Considering the long-term nature of the life insurance business, excessive volatility of the insurers´ financial soundness level, which is caused by short-term market fluctuations should be restrained.
Great Eastern Holdings Ltd	Singapore	Other	No	Yes	There should be references made to existing government yield curve or swap curves in making the adjustments. For example, IAIS could set a

					limit for the yield of the last liquid point. If the last liquid point goes above this limit, the LTFR would be reviewed.
Swiss Association of Actuaries	Switzerland	Other	No	No	
Swiss Re	Switzerland	Other	No	No	
New York Life	United States	Other	No	Yes	Yes, the IAIS should introduce a future spread adjustment in excess of the 10 bps adjustment currently used. Some possible approaches include developing a long term spread assumption based on an economic study, similar to how the LTFR is established.
American Academy of Actuaries	United States of America	Other	No	Yes	It is unreasonable to assume that spreads over the risk-free rate cannot be earned in the future, as implied by effectively no spread adjustment on the LTFR. The ICS should reflect an appropriate long-term spread adjustment, consistent with the spread adjustment applied in the observable and grading portions of the yield curve.
Prudential Financial, Inc.	United States of America	Other	No	Yes	The introduction of a credit spread adjustment to risk-free LTFR is essential to ensure symmetry between the valuation of assets and liabilities. Although “tail” liabilities issued beyond the investable horizon are not hedged by the current portfolio, insurers have reinvestment strategies to hedge “tail” liabilities as they gradually roll into the investable horizon. For example, an appropriate credit spread adjustment can be derived based on the long-term spread assumptions of a representative portfolio mix for each currency.
MassMutual Financial Group	USA	Other	No	Yes	It is unrealistic and overly conservative to assume that spreads will not be earned in the future. We suggest a long-term average spread could

					be applied to the LTFR. As we noted in our response to question 18, we would agree that all assumptions within the ICS should be subject to periodic review and if material changes to the LTFR, or the spread added to that rate, are deemed necessary, the IAIS should determine an appropriate and transparent process to grade in the change.

Q29

Q29 Section 4.1.4.4 Is there a way to avoid or mitigate the issue of “inverted risk profile” (as described in Section 4.1.4.4)? If “yes”, please explain.

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
EIOPA	EIOPA	IAIS Member	No	Yes	The application of the adjustment should be voluntary. Insurers applying the adjustment should be subject to additional risk management requirements, in particular with regard to liquidity planning. Insurers should publicly disclose the impact of the adjustment on their financial position. In addition, the adjustments proposed should be appropriately calibrated to avoid non-economic situations to the extent possible.
BaFin	Germany	IAIS Member	No	Yes	Insurers applying the adjustment should be subject to additional risk management requirements, in particular with regard to liquidity planning. Furthermore, a reduced application ratio may help to ascertain that the relief on technical provisions does not overcompensate the decrease of asset values. Insurers should publicly disclose the impact of the adjustment on their financial position. An asset duration shorter than the liability duration does not per se lead to an “inverted risk profile”.
Financial Supervisory Service	Korea	IAIS Member	No	No	
Ageas	Belgium	Other	No	Yes	The issue could be avoided by allowing only adjustment of the spread volatility on the current investment portfolio without adjustment of the

					liability value. On the other hand, a fixed non-fundamental spread on top of the yield curve should be considered to capture the illiquidity premium embedded in future reinvestments.
Canadian Institute of Actuaries	Canada	Other	No	Yes	We believe that the use of a spread for Segment 3 that is more stable than observable asset market spreads would significantly mitigate the issue of inverted risk profile. Example 1: The spread assumption could be designed in a way similar to the risk-free rates themselves, with three segments (or four under Alternative 3 in our response to Q17.1): Segment 1 would have spreads derived from observable asset market prices; Segment 3 would be based on a (necessarily subjective) estimate of what this spread would be in the very long term; and Segment 2 would interpolate between these two. Example 2: Similar to Example 1, but Segment 3 would start earlier for spreads than for risk-free rates, perhaps as early as 5 or 10 years after the valuation date, which we expect would further mitigate the inverted risk profile.
CLHIA	Canada	Other	No	Yes	The key to avoiding the inverted risk profile is to reduce basis risk by aligning the spreads in the liability discount rates with the assets backing those liabilities. For shorter durations, this means allowing liability discount rates to fluctuate with the asset spreads based on actual asset mix backing those duration cashflows. For longer term discount rates, beyond the observable horizon, balanced portfolios are used to match liabilities, resulting in more stability to spread movements in the asset values in these product segments. In this situation, the inverted risk profile arises when the longer term discount rates are too sensitive to the movements of current market asset spreads. Defining an LTFR as a spot rate would add stability to the long term discount rates and reduce this sensitivity.

Ping An Insurance (Group) Company of China Ltd.	China	Other	No	Yes	As we answered in Q20, we propose a stable spread assumption or use the historical moving average spread, in this case the volatility of spread is minimal and therefore would not create the "inverted risk profile" problem in stress cases.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	Yes	Every IAIG also has an ORSA. If the risk profile deviates from the underlying profile of the CSA, this should be included in the ORSA together with the consequences of this mismatch. The impact of using the CSA in the capital adequacy policy should also be included. Benefiting from a mismatch could thus also result in the IAIG's inability to distribute capital to its stakeholders. The ORSA also asks for a longer term perspective. The impact of the CSA will be one element considered over a longer time horizon. Investments decisions are made by IAIGs in the context of their global risk management framework described in their written policies. Asset allocations are determined by the IAIGs' risk appetites and are a result of ALM approaches and analysis. The IAIS seems to imply that IAIGs' investment policies will only be dictated by regulatory capital. One can never assume that none of the IAIG will try to use regulatory requirements to guide their investment decisions, however this could be discussed by the supervisor and the IAIG in their regular dialogue.
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	No	
Munich Re	Germany	Other	No	No	
AIA Group	Hong Kong	Other	No	Yes	When assets are shorter than liabilities it is well understood that an increase in risk-free rates will benefit the capital position of the IAIG. The

					same should be true of spreads. We do not see this as an issue to be avoided or mitigated.
International Actuarial Association	International	Other	No	Yes	Insurer ALM positions are of vital importance here. For such risks an insurer at any given moment may well own assets with a duration shorter than that of the liabilities. This exposes the insurer to reinvestment risk. Such risk should be provided for in the balance sheet on a MAV basis, whether in the liabilities, capital or some combination. Once this risk is provided for there is no reason why the liability cash flows should not be discounted for their entire term using the concepts outlined for discounting – including a prudent trend to the LFTR and even a credit spread.
Great Eastern Holdings Ltd	Singapore	Other	No	No	
Swiss Association of Actuaries	Switzerland	Other	No	Yes	By using proper default-risk free discount rates for the MAV, see Q 24
Swiss Re	Switzerland	Other	No	Yes	If matching adjustments are only permitted for liabilities who´s duration is matched by specific assets, then an "inverted risk profile" will not be possible. The inverted risk profile remains a possibility for any other type of yield curve adjustment – a natural consequence and tangible illustration of the other approaches´ technical fallacies.
Institute and Faculty of Actuaries	UK	Other	No	Yes	Such risk could be mitigated by the use of a (limited) number of buckets based on the nature of the liabilities (see Q23) together with the same level of granularity in the calculation of the spread adjustment (see Q25).
New York Life	United States	Other	No	Yes	Instead of calculating an average spread across an index of varying maturities, the IAIS should consider use of a term structure of spreads based on current market conditions. This avoids creating a spread

					mismatch on liabilities that are materially longer or shorter than the index used to calculate the average spread. This could also reduce surplus volatility in times of stress if long term and short term spreads behave differently. An additional benefit is that a term structure to spreads would likely result in a better reflection of companies' asset portfolios under Option 1 or Option 2.
American Academy of Actuaries	United States of America	Other	No	Yes	Through the disclosure of asset and liability durations and other key aspects of ALM to supervisors, it is possible to mitigate an inverted risk profile.
Prudential Financial, Inc.	United States of America	Other	No	Yes	By using long-term spread assumptions (which do not vary substantially with short term fluctuations in current market spreads) as an adjustment to the LTFR, the issue of "inverted risk profile" would be mitigated. An increase in current spreads would not result in a material decrease in the value of liabilities since the value of "tail" liabilities would be less affected by the current level of credit spreads. Also, we note that sustained high levels of credit spreads and resulting higher reinvestment yields would be beneficial to the capital position of life insurers as proceeds from the maturity of lower yielding assets and premiums would be invested at wider spreads.
MassMutual Financial Group	USA	Other	No	No	

Q30

Q30 Section 4.1.4.4 Is the move to an adjustment defined as an absolute change (in bps) to the base yield curve appropriate, rather than a proportional movement? Please explain.

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
China Insurance Regulatory Commission	China	IAIS Member	No	Yes	The historical spread of CNY coporate bonds doesn´t show a very clear difference in the level of spread across different terms, so we support the use of an absolute change.
EIOPA	EIOPA	IAIS Member	No	Yes	From a technical perspective an absolute adjustment is more appropriate. The proportional adjustment seems to be based on the assumption that the spread is proportionate to the yield. The rational for this assumption is unclear. The proportional adjustment does not seem to work as intended where yields get negative.
BaFin	Germany	IAIS Member	No	Yes	Proportional movements introduce artefacts with close-to-zero or negative interest rates. There might be more sophisticated approaches than simple additive movements, but we believe that they do not differ materially from the simple additive movements.
Financial Supervisory Service	Korea	IAIS Member	No	Yes	If the base interest rate is close to zero or negative, the proportional movement will be close to zero or negative, which is not appropriate and realistic.

Ageas	Belgium	Other	No	Yes	In line with question 29, such fixed spread could avoid an inverted risk profile.
Canadian Institute of Actuaries	Canada	Other	No	Yes	We view the move to an absolute spread as an improvement over a proportional spread. We expect this to mitigate against undue volatility in capital resources. We would distinguish between the determination of the adjustment for Segment 1 and the adjustment for Segment 3. For Segment 1, we suggest the adjustment be the total asset spread minus a stable provision for expected asset defaults and unexpected asset defaults. These provisions should not change over time simply based on asset market supply and demand factors but rather based on a true underlying change in the assessment of risk; for example, when rating agencies update their rating-specific estimates of defaults. We expect that the spread for expected default losses plus the fixed spread for unexpected default losses would be much more stable than the total spread over risk-free rates. For Segment 3, we suggest the adjustment be a fixed spread above the risk-free rate, which spread should represent the long-term expectation for the excess of total asset spreads over best estimate asset defaults and a fixed provision for unexpected defaults. Another way of viewing this is that the liability discount rate for all segments should be determined using a top-down approach, equal to observable (or estimated beyond the observable horizon) fixed-income earned rates on a country/currency-specific representative portfolio (as per Q20), minus stable (or slow changing) deductions for expected and unexpected asset defaults.
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	Yes	According to historical data, the level of spread does not vary with the yields of different terms proportionally but the change amounts are

					relatively stable. Therefore, it is more reasonable to adopt an absolute change.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	Yes	A relative change will be difficult to apply when certain points on the discount rate are negative or if intermediate points are illiquid. Nevertheless, and most importantly, the adjustment should primarily be consistent with the way it is derived.
Actuarial Association of Europe	European Union	Other	No	Yes	Movements in the spread are not directionally proportional to movements in the base yield curve.
Allianz	Germany	Other	No	Yes	
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	Yes	
AIA Group	Hong Kong	Other	No	No	The adjustment should be tied to the observed level of spreads on assets – whether that be based on an index, a reference portfolio or the IAIG's own assets. A fixed spread will negate one of the principal reasons for having a spread in the first place, i.e. acting as a buffer against temporary changes in asset values due to changing spreads.
International Actuarial Association	International	Other	No	Yes	This is an important consideration for long term contracts. We recommend the adjusted yield curve use a top-down approach where the discount rate is the expected total return less a fixed or stable (rather than proportional) spread reduction. So the spread should be fixed, but it should also be top-down rather than bottom-up. This allows the spread reduction (as it is a long term estimate) to be stable like other long term estimates and not change on every valuation date based on current market spreads. Changes in the spread between projected earnings and the discount rate,

					like those resulting from a proportional approach, add volatility to the MAV measurement of net worth for companies with long term contracts. which volatility is very hard to interpret in a meaningful manner. Making the spread stable will go a long way to reduce volatility of net worth in the MAV approach.
General Insurance Association of Japan	Japan	Other	No	Yes	Proportional change would further exaggerate negative interest rates. On the other hand, an absolute change would add higher spreads to a shorter period of time, so further discussion is required for the adjustment range (e.g. the grid point to calculate the spread, currently set at 10-years, could be more varied).
The Life Insurance Association of Japan	Japan	Other	No	Yes	・If we had to choose, our response is yes. ・While each movement has both advantages and disadvantages, it may be appropriate to choose an absolute change to deal with the situation where the technical constraints can be posed depending on its interest rate environment. ・It is far from reality of insurers to make investments in the situation where its return is negative. Therefore, floor of the base yield curve should be set to "0".
Great Eastern Holdings Ltd	Singapore	Other	No	No	Proportional movement takes into account the current level of the yield curve. At difference levels, yield curve might behave differently.
Swiss Association of Actuaries	Switzerland	Other	No	Yes	If and only if the amount is 0bps. Obviously this is equivalent to a 0% adjustment. "No" would have been correct, too.

Swiss Re	Switzerland	Other	No	No	We do not consider any adjustment as appropriate. Swiss Re prefers to use an unadjusted risk free yield.
Institute and Faculty of Actuaries	UK	Other	No	Yes	This is appropriate as the spread is not proportionally related to the base yield curve.
American Academy of Actuaries	United States of America	Other	No	Yes	The basis point spread adjustment stems naturally from the asset-class based spreads, which can be set and updated objectively.
Prudential Financial, Inc.	United States of America	Other	No	Yes	We agree with defining spread adjustments to LTFR (as mentioned in our response to question 28) as an absolute change (in bps). This approach is more transparent given that spread data are quoted in basis points rather than as a proportional movement to the risk-free rate, and thus enables symmetry between the valuation of assets and liabilities.
MassMutual Financial Group	USA	Other	No	Yes	Yes, although we recognize this will likely overstate the spread on the short end of the yield curve and could understate the spread on the long end.

Q31

Q31 Section 4.1.4.5 Which of the proposed options strikes a better balance between the different policy issues under consideration by the IAIS? Please explain.

Organisation	Jurisdiction	Role	Confidential	Answer
Bermuda Monetary Authority (BMA)	Bermuda	IAIS Member	No	The BMA supports the use of a credit spread adjustment to account for undue volatility in the balance sheet, caused by short term market volatility (noise as opposed to signal). A spread adjustment should have due regard for the nature of insurance liabilities, asset liability management and mitigate pro-cyclical behaviour. Accounting mismatches should be mitigated but not completely eliminated because otherwise the valuation approach would no longer be an economic approach and therefore unsuitable to be the foundation of a risk based ICS formula. We acknowledge the pros and cons of the different methods and conclude that there is not a single perfect answer. We believe that the final answer should strike a balance between theoretical/design considerations but also calibration, as different methods may lead to similar results depending on the calibration of the different factors. As such we are somewhat agnostic as to the approach to be chosen as long as the final package results in a balanced holistic solution, capable of being implementable by firms and monitored by supervisors without a disproportionate use of resources.

China Insurance Regulatory Commission	China	IAIS Member	No	In terms of options provided, we prefere option 3, where the information of corresponding assets that are backing the liabilities can be reflected, and the predictability of liabilities are also considered.
EIOPA	EIOPA	IAIS Member	No	Only option 1 strikes a balance between the different policy issues. For business where asset and liability cash-flows are matched and the insurer can uphold that matching during the lifetime of the insurance obligations, a special treatment should be introduced.
BaFin	Germany	IAIS Member	No	Option 1 (currency specific): the overarching aim of the IAIS is to create comparability of the overall valuations. To achieve this goal, the measures should be as universal as possible. We believe that any entity-specific measure would at least require deeper understanding in order to compare entities among each other.
Financial Supervisory Service	Korea	IAIS Member	No	Option 1: currency-specific will be simple but powerful enough to gain the goal of the credit spread adjustment.
National Association of Insurance Commissioners	USA	IAIS Member	No	Based on the views expressed above we prefer option 2 followed by option 1. Both use a 100% spread congruent with our views stated in our response to Q23 and 32. While we prefer option 2, both options 1 and 2 provide sufficient comparability and avoid complexity.
Ageas	Belgium	Other	No	The purpose of the credit adjustment should be to balance between the credit spreads on assets side of the balance sheet and the illiquidity in the liabilities to absorb these spreads over time. This explains why we prefer option 3 "Asset earned rate and bucketing'. A country reference portfolio could also allow to balance between assets & liabilities given these are normally close to the investment portfolios of the local companies. In any case, we should avoid using reference portfolios at a higher level (e.g. a world-wide reference portfolio or the European

				reference portfolios in Solvency II) given divergence between the company assets and such reference portfolio could strengthen volatility.
ABIR Association of Bermuda Insurers & Reinsurers	BERMUDA	Other	No	Option 2: firm specific credit spread adjustment without additional bucketing Our preference is for a discounting method which strikes a balance between accuracy and ease of implementation. We believe that Option 2 offers an appropriate balance between a method which is representative but also practical to implement.
Canadian Institute of Actuaries	Canada	Other	No	We believe all the options would be improved by defining a stable long-term spread, as discussed in Q20. Based on the current definition of the LTFR as a forward rate, and with a long-term spread of 0.10%, the long-term liabilities are too sensitive to the movement of market spreads, so it's not possible to assess which option is best. As discussed in Q20, if only considering the spread adjustment for the observable market segment, conceptually we would support Option #2 (firm-specific weights applied to ICS spreads) or Option #1, representative portfolio (with further adjustments for illiquidity buckets).
CLHIA	Canada	Other	No	All the options would be improved by defining a stable long term spread. Currently, long term liabilities are overly sensitive to changes in market spreads as a result of the definition of the LTFR as a forward rate and the limitation of the long term spread to 10 basis points. Hence it is difficult to analyze which Option is superior. We believe, from the perspective of the nature of the spread adjustment for the Segment #1, Option #2 (firm specific weights applied to ICS spreads) would be superior.
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	We prefer Option 3. However, we also propose the following modifications to Option 3: 1.Spreads of different assets: referring to Q20, we suggest the prescribed spreads should be stable assumptions or based on historical moving average spread for developing markets.

				2.Application Ratio: referring to Q23, we think 100% of application ratio should be applied to non-life business. Three different levels of application ratios, such as 100%, 80% and 60%, should be applied to life business based on their product characteristics.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	Reference method 3. See also the general comments made. The adjustment should reflect the "asset earned rates" and the illiquidity of assets and insurance liabilities. The adjustment should take into account the ALM model as used by the IAIG. This adjustment should reflect the lapse behaviour and possible default risk. Other assets such as equities should be included in the eligible assets for the determination of the asset earning rate.
Insurance Europe	Europe	Other	No	Reference methods should ensure a common basis for the valuation of liabilities and for ICS calculation. Insurance Europe believes that the "asset earned rate" approach should be included as an option, rather than as a reference method. As indicated in the response to Q 20, Insurance Europe supports the option(s) that a) best reflect the link between assets and liabilities, including by bucketing liabilities and assets and b) minimise artificial volatility in capital resources.
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	Option 1 is definitely not preferred since the construction with its one-size-fits-all approach does not adequately reflect the differences of IAIGs. Therefore, Options 2 and 3 are definitely preferred. Apart from these options, the reference method "Asset earned rate" would be the preferred method since it relies on the company specific portfolio and spreads and better reflects the true profile of the company.
AIA Group	Hong Kong	Other	No	We prefer the RM3 method with no liability bucketing. As per our response to Q20 and Q23, we think the liability discount rates should be derived from the yields on the actual assets to maintain consistency. Likelihood of lapses (hence how liquid the products are) is reflected in the best estimate lapse assumption (which is based on

				actual experience) and the lapse risk charge. We do not see a need to introduce liability bucketing in the determination of the liability discount rates.
International Actuarial Association	International	Other	No	We view that it is important the ICS liability discount rate approach align with that in IFRS 17. We view that Ref #3 is closest to IFRS 17 as it determines an adjusted spread using the insurer's own representative portfolio. However, the spread adjustment by liquidity bucket seems arbitrary and punitive. However, implementing Ref #3 is operationally challenging as it requires many data points and calculations to determine the discount curve. Though the theoretical concept of RM3 is sound, it's recommended to simplify the approach. For example, perhaps we can leverage the methodology in Option #2, where we use insurer observed corporate bond spread coupled with insurer specific weighting of assets to determine the adjusted spread.
Dai-ichi Life Holdings, Inc.	Japan	Other	No	·We do not support any options. Please refer to the answer for Q20.
General Insurance Association of Japan	Japan	Other	No	The following opinions have been raised upon comparison of the options and reference methods: - The relative advantage of option 1 is its ability to provide clear calculation criteria and reduce incentives to invest in lower grade assets. However, it has problems regarding mitigating basis risk. - The relative advantage of option 3 is its ability to mitigate basis risk. However, it has problems regarding clarity of calculation criteria and incentivizing investment in lower grade assets.
The Life Insurance Association of Japan	Japan	Other	No	·Please refer to the comment(s) on Question 23 above.

Great Eastern Holdings Ltd	Singapore	Other	No	Reference Method 2. Reference portfolio should be by jurisdiction as insurers in similar jurisdiction are more likely to have similar portfolios. Also, necessary adjustments are being made.
Swiss Association of Actuaries	Switzerland	Other	No	To use the risk-free rate based on government bonds
Swiss Re	Switzerland	Other	No	Swiss Re does not make use of any of the above adjustments to the base yield curves. To ensure maximum transparency to our clients and shareholders, Swiss Re remains committed to a fully economic valuation basis. A key element of the economic valuation is the recognition of changes in the valuation of assets vs. liabilities as a result of credit spread fluctuations.
American International Group (AIG)	U.S.	Other	No	See below - Q44 Section 4.2.5
Institute and Faculty of Actuaries	UK	Other	No	The segregation of liabilities could be adopted to reflect the nature of the liabilities and in particular the varying degree of their predictability.
American Council of Life Insurers	United States	Other	No	At this early stage of development, we propose that the IAIS continue to test different base yield curve adjustments options, but narrow the options under consideration to two approaches: [i] a firm-specific approach (Option 2) with appropriate guardrails to avoid excessive risk-taking and [ii] either Option 1 (single reference portfolio) as it's currently defined, or a hybrid approach to Options 1 and 2. We believe both Option 1 and Option 2 require further refinement: more specifics are needed on the reference portfolio for Option 1 and guardrails for Option 2 need to be developed. Option 2, with the appropriate guardrails, recognizes each insurer's unique portfolio while affording regulators some control by implementing guardrails to eliminate any improper risk-taking.

				We recommend the following principles for a firm-specific approach: [1] An own portfolio approach should recognize additional asset classes beyond corporate bonds, including equities; [2] Guardrails such as limiting the spread for below investment grade bonds or equities, could apply. Other guardrails may include limits on the recognition of certain assets in the discount rate, as well as transparency to regulators into the company's investment portfolio and ALM practices, can apply. A benefit of a firm specific approach is that it recognizes that insurance companies mitigate interest rate and liquidity risk by employing sophisticated Asset Liability Management (ALM) techniques where asset portfolios are tailored to the company-specific liability profiles. Mandating a reference portfolio for all insurance groups will likely result in an inaccurate measurement of risk for many companies as it would not properly allow for the risk-reducing benefits of ALM or, worse, may conceal poor ALM practices. However, we agree with the IAIS that the potential for improper risk-taking with respect to an own-portfolio approach should be addressed. We note that this should be considered holistically in ComFrame, and not considered the sole responsibility of the ICS through an arbitrary prescribed standard discount rate. Examples of ways that this risk is currently addressed in the ICS and ComFrame include: [1] Within the ICS, there are capital charges for market risk, credit risk, and asset concentration which will directly apply capital requirements based on the asset risk and ALM mismatch risk that an insurer is exposed to; [2] There are other elements of ComFrame, including those directly related to ERM and ALM, which enable regulators to evaluate a company's investment behaviour, risks and risk management. [3] Furthermore, guardrails, including limits on the recognition of certain assets in the discount rate, as well as transparency to regulators into the company's investment portfolio and ALM practices, can apply.

				In addition, the ICS should reflect an appropriate long term spread adjustment aligned with the spread adjustment that is applied in the observable and grading portions of the curve. A reference portfolio based approach - Option 1- may also be appropriate with certain adjustments, which is why we believe the ICS should test both approaches. We recommend the following adjustments to Option 1: [1] An appropriately tailored representative portfolio approach would utilize a peer group of companies to set the representative spread adjustment, with limits on the asset allocation based on the IAIG's own portfolio. We believe that this would produce a comparable spread adjustment to an own portfolio approach described above. [2] Constructing the reference portfolio based on assets held by comparable market participants (e.g., Life vs. P&C) only, instead of all IAIGs in the respective currency. [3] Using more granular asset classes (e.g., publics/privates/structured securities) in addition to credit quality to construct spread adjustments. [4] Applying tenor-specific spread adjustments rather than a single adjustment across all tenors. [5] Recognizing additional "spread" based on equity premiums for equity / real estate / alternatives investments. [6] Deducting expected default losses and investment expenses (instead of "Risk-correction" for credit risk) as the "spread adjustment".
MetLife	United States	Other	No	As mentioned in response to Q.20 above, we believe Option 1, where the adjustment is calculated based on the spread on a single reference portfolio by

				currency, representative of the aggregate assets held by the IAIGs, is a simple and transparent approach for determining the discount rates for MAV valuation. This approach promotes consistency in the valuation of the liabilities between all IAIGs. It also ensures that the derivation of the discount rates aligns with the assets typically held by the IAIGs in each jurisdiction. With regard to using firm-specific assets to determine the discount rate as set out in Options 2 and 3, we have concerns with the ability of regulators to govern this approach, in particular it will: a) encourage firms to invest in riskier assets to increase their "own assets" yield, and therefore appear to reduce liabilities b) create inconsistencies across firms - both in the assumptions used (e.g., defaults and spreads) and in the valuation of the same liabilities, and c) increase the burden on regulators to monitor and govern firm-specific parameters. The firm-specific assets approach would result in different values for identical liabilities across different firms due to inevitable differences in asset allocation; we think identical liabilities should have the same value across firms, regardless of the writing firm and the firm's investment strategy. The consequence of using firm-specific assets will be an un-level playing field across IAIGs that artificially rewards companies with greater willingness to take investment risk. We think the best approach would be for all firms to use the same discount curve for each currency. However, should the IAIS seek to evaluate a firm-specific assets approach to set discount rates, we would suggest instead a "firm-specific asset allocation" approach that represents a hybrid of Option 1 and 2. This approach would work in several steps, namely to: a) Establish a reference portfolio for each jurisdiction - exactly as in Option 1 b) Sub-divide the reference portfolio into relevant segments - e.g., by asset class and credit quality - and assign a default charge to each segment c)Cap the allocation to any reference portfolio segment - e.g., cap each segment at X% greater than the reference portfolio, and set portfolio-wide caps on low credit

				qualities d) Determine the firm-specific allocation to each segment - through a simple mapping based on segment definitions - subject to the defined caps e) Calculate the MAV discount rate spread based on the firm-specific asset allocations, post-application of the caps While we prefer Option 1, we think the adjusted approach above may balance the IAIG and IAIS concerns.
New York Life	United States	Other	No	We believe that discounting options 1 or 2 provide the greatest opportunity to address the different policy issues under consideration by the IAIS. As described in Q20, we believe either option could be constructed in a way that provides a balance between reflecting insurers' actual portfolios while also removing incentives for improper risk-taking.
American Academy of Actuaries	United States of America	Other	No	We support an own portfolio with guardrails (Option 2) or a tailored representative portfolio approach (Option 1). These approaches, if properly defined, will effectively produce consistent spreads.
Prudential Financial, Inc.	United States of America	Other	No	The MAV discount curve should align assets and liabilities in both spreads and term structure. An appropriate MAV discount rate is one that reflects a representative asset mix. In particular: + Liability discount curves (for insurance liabilities excluding variable annuities which are managed via hedging) should use Treasury rates rather than swap rates to construct the risk-free curve given that supporting asset portfolios are largely made up of cash bonds, not derivatives. + Liability discount curves should reflect a full pass through of the weighted average credit spread adjustment net of expect default and investment expenses

				+ Haircuts to the spread adjustment through liability bucketing and application ratios or otherwise are unnecessary, overly conservative, and lead to distorted results. + Discounting methodologies that do not reflect the way insurers invest - including distinguishing between life and property and casualty business - will lead to distorted results. + The Long-Term Forward Rate (LTFR) should be refined to reflect appropriate long term spread assumptions for discounting liability flows beyond the investable horizon. Among the 3 discount rate options evaluated as part of this year's IAIS Field Testing, we consider Options 1 and 2, with refinements, to be most appropriate. Option 1 can be further refined to achieve better symmetry between the valuation of assets and liabilities as described in our responses to questions 20 and 31.1. An entity-specific portfolio based approach - i.e. Option 2 - can also accomplish appropriate symmetry between the valuation of assets and liabilities but would need to be paired with appropriate supervisory controls / guardrails including limits on inclusion of high-risk assets, transparency of assumptions and capital charges that disincentivize investing in risky assets.
MassMutual Financial Group	USA	Other	No	We support a modified Option 2 methodology. This approach allows insurers to discount based on their actual investment strategy. Additionally, due to the BBB cap, insurers are not incentivized to take excess credit risk. However, we believe adjustments to this approach should be made, specifically excluding policy loan assets and allowing equity assets to receive a spread consistent with their respective risk/return profile. We also believe the MAV yield curve for discounting should be a blend of the group's starting asset portfolio and the IAIS prescribed reinvestment yield curve.

Q31.1

Q31.1 Section 4.1.4.5 Could the chosen option be modified to make it even more appropriate? If “yes”, please provide details of the suggested modifications to the chosen option.

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
China Insurance Regulatory Commission	China	IAIS Member	No	Yes	1、 As answered in Q20, we suggest ICS consider to address the following issues specific to developing and emerging markts: a) set separate spreads for alternative assets; b) consider an smoothing mechanism after LLP. 2、As answered in Q23, we suggest the application ratio start from 100%, the non-life bucket should use 100% application ratio. 3、As answered in Q27, to make the default adjustment consistent with the gross spread, the default adjustment should alo be set by currencies.
EIOPA	EIOPA	IAIS Member	No	Yes	It is not appropriate to apply an application factor of 100% unless the asset and liability cash-flows of the business are matched and the insurer can uphold that matching during the lifetime of the insurance obligations. For any other business an application ratio of 65% should be applied to address the basis risk and the risk that insurers incur losses because the need to sell assets before maturity.
BaFin	Germany	IAIS Member	No	Yes	It is not appropriate to apply an application factor of 100%.
Financial Supervisory Service	Korea	IAIS Member	No	Yes	100% of Liquidity buckets seem to be a little high, so the optimal number such as 65% may be searched.

National Association of Insurance Commissioners	USA	IAIS Member	No	No	
Ageas	Belgium	Other	No	Yes	The proposal could still be improved in case ICS would offer a methodology which allows to measure the application ratio. As such, no bucketing would be required given each company could apply the methodology to reflect the capacity to hold these assets up to maturity and earn the associated spread or transfer the potential value loss to the policy holder in case of market value adjustments of the policyholder liabilities.
Canadian Institute of Actuaries	Canada	Other	No	Yes	Yes, as outlined in Q20, we suggest that all of the options would be improved by defining a long-term rate as a spot rate, with a spread adjustment that is based on a stable long-term view. To align better with IFRS 17, we suggested that illiquidity buckets be applied to Option #1.
CLHIA	Canada	Other	No	Yes	Yes, we suggest that all of the options would be improved by defining a long term rate as a spot rate, based on a risk free rate derived with reference to medium to long term historical trends, and with a spread adjustment that is based on a stable long term view.
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	Yes	Please refer to Q20.
AIA Group	Hong Kong	Other	No	Yes	See response to Q31
Dai-ichi Life Holdings, Inc.	Japan	Other	No	Yes	・Please refer to the answer for Q20.

General Insurance Association of Japan	Japan	Other	No	Yes	Notwithstanding Q31-0, with regard to products with a market-value-adjustment function which calculate cash surrender values in reference to the bond prices in the market, it would be consistent to reflect the spread in discounting future cash flows because the bond prices as of the valuation date would be reflected in future cash flows through cash surrender values. The portion of such products, excluding the minimum guarantee portion such as death benefits, can be presumed to be products whose gains and losses from changes in bond spreads can be passed on to policyholders. In such cases, IAIG-specific portfolios could be reflected on spreads as an exception, on the condition that such pass-through is certain, e.g., the bond prices which serves as the basis for such a pass-through function is explicitly stated.
The Life Insurance Association of Japan	Japan	Other	No	Yes	・Please refer to the comment(s) on Question 23 above.
Great Eastern Holdings Ltd	Singapore	Other	No	No	
American International Group (AIG)	U.S.	Other	No	Yes	
Institute and Faculty of Actuaries	UK	Other	No	Yes	The proposed options could be modified to capture the difference in spread generated by the backing assets, reflecting the higher or lower degree of cash-flow matching.
American Council of Life Insurers	United States	Other	No	Yes	Please refer to our answers to questions 20 and 31, with suggested modifications to both Options 1 and 2.
American Academy of Actuaries	United States of America	Other	No	Yes	An own portfolio approach would need to recognize additional asset classes beyond corporate bonds, including equities and private placements. Guardrails, including limiting the spread for below investment grade bonds or equities, should apply.

					A representative portfolio approach would need to utilize a peer group of companies to set the representative spread adjustment, with limits on the asset allocation based on the IAIG's own portfolio.
Prudential Financial, Inc.	United States of America	Other	No	Yes	Among the 3 discount rate options evaluated as part of this year's IAIS Field Testing, we consider Options 1 and 2, with refinements, to be most appropriate. Both option 1 and option 2 can be further refined to achieve better symmetry between the valuation of assets and liabilities. Prudential supports an own portfolio approach (Option 2), with appropriate "guardrails." Such an approach recognizes each insurer's unique portfolio while affording regulators prudential controls to prevent improper risk-taking. + Insurance companies mitigate interest rate and liquidity risk by employing sophisticated Asset Liability Management (ALM) techniques where asset portfolios are tailored to the company-specific liability profiles. Mandating a reference portfolio for all insurance groups will likely result in an inaccurate measurement of risk for many companies as it does not properly allow for the risk-reducing benefits of ALM or, worse, may conceal poor ALM practices. + An own portfolio approach should recognize additional asset classes beyond corporate bonds, including equities. + Guardrails such as limits on the recognition of certain assets in the discount rate, as well as transparency to regulators into the company's investment portfolio and ALM practices, should apply to manage the potential for improper risk-taking with respect to an own portfolio approach should be addressed. We note that the development of guardrails should be done within the broader context of ComFrame, and not considered the sole responsibility of the ICS, and specifically the approach to discounting. Examples of tools that already exist within ComFrame include:

					+ Capital charges within the ICS for market risk, credit risk, and asset concentration which will account for asset risk and ALM mismatch risk that an insurer is exposed to. + Elements of ComFrame, including those directly related to enterprise risk and asset liability management, enable regulators to evaluate a company's investment behavior, risks and risk management. In addition, the approach to discounting should reflect an appropriate long term spread adjustment aligned with the spread adjustment that is applied in the observable and graded portions of the curve. A reference portfolio based approach - Option 1- may also be appropriate however, like Option 2 it requires refinements including: + Industry Based Reference Portfolio: -- Construct reference portfolios based on assets held by comparable market participants (e.g., Life vs. P&C) to capture distinct investment strategies driven by different liability profiles -- Equally weight insurers to prevent undue influence from large companies -- Use 3 years of history to reflect the changing industry landscape while still effectively reducing volatility from annual asset mix changes + Asset Spread -- Assign asset type specific (public bond, private bond, mortgage loan, structure asset) spreads -- Assign term structure of spreads by tenor with recognition of shorter investment horizon for certain scarce assets -- Allow additional spread for assets with lower credit rating (i.e. below BBB) -- Applying tenor-specific spread adjustments rather than a single adjustment across all tenors -- Recognize additional "spread" based on equity premiums for equity / real estate / alternatives investments

					+ Risk Correction: Deduct expected default losses and investment expenses (instead of "Risk-correction" for credit risk) as the "spread adjustment". + Extrapolation: Properly reflect the long term expected spread of the reference portfolio by currency and revise the approach to setting the ultimate LTFR.
MassMutual Financial Group	USA	Other	No	Yes	As noted in our response to question 31.0, adjustment should be made to exclude policy loan assets and allow equity assets to receive a spread consistent with their respective risk/return profile. We also believe the MAV yield curve for discounting should be a blend of the group's starting asset portfolio and the IAIS prescribed reinvestment yield curve.

Q32

Q32 Section 4.1.5 Are there any further comments on MAV that the IAIS should consider in the development of ICS Version 1.0? If "yes", please explain with sufficient detail and rationale.

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
Office of the Superintendent of Financial Institutions (OSFI)	Canada - OSFI	IAIS Member	No	Yes	According to the Field Testing Specifications, insurance liabilities are discounted under a three segment approach, with the third and final segment being based on a stable LTFR. The Field Testing Specifications require a 10 bps spread to be added to the stable LTFR. In OSFI's opinion, the notional 10 basis point adjustment is too low [1]. A lower adjustment may be appropriate for assets that are actively traded, but not for those with more limited trading activity. Evidence proposed via recent research [2] supports a higher illiquidity premium. In particular, the Willis Towers Watson paper suggests a range of 50-100 basis points. It may be helpful for the IAIS to provide further details on why it has chosen 10 basis points in light of this recent research. [1] Willis Towers Watson Asset Research Team. "Understanding and measuring the illiquidity risk premium." May 2016 [2] Hibbert, John et al. "Liquidity Premium: Literature review of theoretical and empirical evidence." Barrie + Hibbert Research Report. September 2009.

China Insurance Regulatory Commission	China	IAIS Member	No	No	
BaFin	Germany	IAIS Member	No	No	
Financial Supervisory Service	Korea	IAIS Member	No	No	
National Association of Insurance Commissioners	USA	IAIS Member	No	Yes	The focus of the ICS construction should be to produce comparability of outcomes across jurisdictions.
Ageas	Belgium	Other	No	Yes	Conceptually the components for valuation are aligned with Solvency II i.e. market value based. Any deviation to these guidelines would trigger management actions that might not be in line with risk measurements.
ABIR Association of Bermuda Insurers & Reinsurers	BERMUDA	Other	No	Yes	We are supportive of the MAV valuation basis provided that it remains flexible and therefore does not diverge significantly from other existing economic valuation bases such as the Bermuda Economic Balance Sheet and Solvency II in Europe.

Ping An Insurance (Group) Company of China Ltd.	China	Other	No	No	
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	Yes	The business model of insurers is not adequately reflected in the valuation approach and related capital requirements. The business model of insurers is based on the longer term perspective. Assets are matched with insurance liabilities based on economic parameters, cash flow projections and expected lapse assumptions. ALM studies together with proper liquidity planning/assessment allow insurers to align the risk profile of the investments with those of the insurance liabilities. This implies that several risks related to lower values due to changes in economic variables are less relevant. For fixed income securities held to maturity, spread risk changes are not relevant because the redemption value will be received and available to match the outgoing cash-flows. Intermediate changes in the value are only relevant when the counterparty defaults or forced sales are needed. In all other circumstances spread risk can be avoided. The insurer is able to determine whether unreleased results are recognised or not in line with the policies employed by the insurer. ALM practices should have an impact on the valuation of the liabilities by aligning the assets and the liabilities and should be recognized in its risk mitigating role. For those assets and liabilities subject to the same ALM a similar valuation is needed. Thus the discount rate of the liabilities should be aligned with the yields earned on the asset side. For the other assets and liabilities the economic value would be used for recognition on the balance sheet. The insurer should be able to demonstrate the ability to hold assets and liabilities on the balance sheet to withstand any negative unrealised results. The ALM is a very powerful management action for characterizing the risks the insurer is subject to. It can act as a risk mitigation technique immunizing the insurer against short and medium term volatility. The IAIS also presents this view in paragraph 162 when describing the GAAP+ approach.

					To support long-term insurance liabilities, IAIGs are able hold long-term fixed income assets with little risk that they must be sold prior to maturity. As long as those assets are held, their projected cash flows do not change (except through defaults), regardless of short-term changes in interest rates. Projected investment cash flows are sensitive to interest rate changes through projected yields on reinvested coupon, maturity and redemption payments. It is appropriate that the rate used to discount projected liability cash flows should be a combination of a fixed portfolio return with projected reinvestment yields that reflect scheduled asset cash flows. The real issue is the ability to hold the investments on the balance sheet and withstand any (short) term shock event. Is the insurer able to avoid the recognition of undesired unrealised results because of the forced sales or defaults of the counterparty?
Insurance Europe	Europe	Other	No	Yes	Insurance Europe believes that the IAIS should take the necessary time and invest the necessary efforts to ensure that: • The valuation approach(es) appropriately reflect insurers' business model, and in particular the link between assets and liabilities. An "asset earned rate" valuation method, reflecting the link between assets and liabilities specific to every company, would often be the most appropriate valuation method, able to best address balance sheet volatility. In fact, the AOCI adjustment for GAAP plus allows for a full recognition of illiquidity premium of assets backing liabilities, so a similar principle should be envisaged in the MAV approach. • The valuation approaches should be based on consistent principles and lead to substantially the same outcomes. Once the valuation approaches are finalised, a company should be given the choice of which approach to choose and a supervisor should be agnostic to the choice.

Global Federation of Insurance Associations	Global	Other	No	Yes	We appreciate the effort that the IAIS has already invested into converging the disparate valuation regimes. Ongoing time and analysis is required to ensure the two valuation regimes produce more consistent outcomes.
AIA Group	Hong Kong	Other	No	Yes	We have pointed out in a memo dated 15 July 2016 (attached in the 2016 Field Testing Phase 1 Questionnaire) to the IAIS problems in the methodology used to calculate spreads under RM3. Market value asset returns should be based on market values from quoted sources (e.g. Bloomberg) rather than discount rates used for liability discounting.
International Actuarial Association	International	Other	No	Yes	The final language for IFRS 17 is expected early in 2017. As this represents a decades long effort to coordinate many interdependent insurance accounting issues, itt will be difficult to take apart IFRS 17 and choose specific pieces only for ICS purposes. For example, contract boundary includes the concept of onerous contracts, which depends on the definition of risk margin, discount rate, best estimate and a portfolio. Also, it will be difficult for the IAIS to implement ICS 1.0 using IFRS 17 in advance of the companies implementing IFRS 17 for their day-to-day accounting. That being said, there is a clear sense that IAA members prefer the best estimate equals current value paradigm, and that this is clearly facilitated if the discount rate used by the IAIS is the same as IFRS 17 (We also note that many Europeans believe that the SII discount rate will be acceptable under IFRS 17). We recognize two challenges though. Par is a challenge because the statutory and legal frame works have small but important differences around the world. And the IFRS 17 line in the sand is not supported by all jurisdictions.

					Having ICS 1.0 move towards IFRS 17 (in the sense that, for example, IFRS 4 permitted changes towards using current assumptions, but not away from) may be a reasonable goal. In addition, a more simplified approach than that proposed may be appropriate for non-life, in recognition of the proportionality principle.
Dai-ichi Life Holdings, Inc.	Japan	Other	No	Yes	・As for the current field-test, the finance environment at one time is used as the assumption. However, about MAV and GAAP+, the sensitivity analysis for the change of the parameter and the stress tests that assumed financial crisis environment have to be done and we have to analyze what result both methods brings carefully .
General Insurance Association of Japan	Japan	Other	No	Yes	One –year contracts are prevalent especially in non-life insurance, and when ICS is implemented, our understanding is that a simplified measurement without discounting such as the PAA (premium allocation approach) under IFRS would be admitted for liabilities of one-year contracts in MAV.
The Life Insurance Association of Japan	Japan	Other	No	Yes	・The current Field Testing was conducted assuming a financial environment at a certain point in time. For example, based on the analysis of the sensitivity to the change in parameters and the stress testing assuming a financial crisis, the results from the changes in the financial market environment need to be analysed carefully for each of the MAV and GAAP Plus approaches. ・We would like the IAIS to develop a strategy for the convergence between these approaches based on the analysis.
Great Eastern Holdings Ltd	Singapore	Other	No	No	

Swiss Association of Actuaries	Switzerland	Other	No	Yes	The MAV is predicated on the fact that assets backing the liabilities are not sold. If the IAIS were to introduce the MAV – and we advise to not do this – then it should be a regulatory requirement that the assets are ring-fenced and actually held to maturity. Permanent impairments, e.g. due to defaults, need to be balanced. This would be a risk for which capital would need to be provided. As this would be the strategy for the production of the liability cash flows, the cost of the capital for the risk of impairments during the entire run-off (a MOCE) would need to become part of the technical provisions. Regulators have to take into account that the capital needed to compensate for these defaults is likely to fall due in a financial crisis. This means that the rate for this capital is significantly higher that for the capital for ordinary poolable risks. This has to be captured in the MOCE. The fact that states due not follow this strategy to create value, indicates that the cost for the uncertainties connected to this approach are just too high and thus render it undoable. If insurers have the right and possibility to sell these assets, then the MAV methodology is not applicable.
Swiss Re	Switzerland	Other	No	No	
Aegon NV	The Netherlands	Other	No	Yes	Aegon believes that the ICS should be part of a balanced approach to solvency supervision that includes valuation, required capital, ORSA, reporting, and supervisory processes. This approach would accommodate a simpler, more modestly calibrated, and less volatile standard. We suggest that it is unnecessary and unwise to address every supervisory concern by tweaking parameters to ensure prudence or create disincentives. We have concerns that the MAV approach, as currently proposed, is

					based on a theoretical, short-term, exit value perspective rather than the longer term, going concern perspective used to manage life insurance business. Considering that G-SII regulation targets life insurers, and that the IAIS intends for the ICS to be a key component of the G-SII framework, the short-term perspective seems at odds with the goals of G-SII regulation and financial stability. We appreciate the desire of European supervisors to align the ICS with Solvency II to avoid further uncertainty on regulatory frameworks within the EU, but we have a concern that this desire may not lead to the best outcomes for financial stability. Tailoring the ICS to the long-term life insurance business model is essential in light of the clear benefits to financial stability provided by long term life insurance businesses. As an alternative to adopting a MAV approach for the headline solvency ratio, we suggest that the IAIS consider building a less volatile valuation method for measuring solvency. This could be strengthened in the supervisory process in a second pillar that includes a review of internal economic models via for example the ORSA or stress or cash flow testing. This would achieve relative simplicity in building the ICS and making progress on a global capital standard while still benefiting from a more economic, risk-sensitive approach to insurance supervision. Aegon is therefore pleased to see a GAAP with adjustments approach being considered as an alternative to MAV. Because GAAP with adjustments builds upon existing accounting practices and uses a blend of short-term and long-term perspectives, it is less likely to suffer from an excessive focus on short term market parameters. Of course, more details about the actual GAAP with adjustments approach must become clear before a final judgment can be made about its suitability as a global standard. The existence of the GAAP with adjustments approach and the visible differences with the MAV approach highlight that further work is required on valuation within the ICS.

					Finally, should the IAIS adopt an ICS that includes multiple valuation alternatives, we believe that it is imperative that insurers be permitted to choose the alternative that best suits their business model in order to promote a level playing field.
Association of British Insurers	United Kingdom	Other	No	Yes	We would emphasise the importance of taking the needed time and effort together with the IAIS to analyse how the valuation approaches can be brought better into line to achieve more consistent outcomes. If that can be achieved in a reliable way, it would be possible going forward to keep both valuation approaches and let companies decide on the choice of valuation approach. In this context, we would be supportive of the development of GAAP Plus and MAV approaches, provided they are based on consistent principles in order for the two approaches to lead to substantially the same outcome and a level playing field. Appropriate valuation approaches are key in ensuring ICS Principle 6 of promoting sound risk management and ICS Principle 7 of minimizing inappropriate pro-cyclical behaviour can be met. The importance of the role of valuation approaches in meeting these principles under GAAP Plus is recognised in the current proposals, such as allowing for discount rates based on book yields, and within Solvency II approaches such as Matching Adjustment (which is also allowed under GAAP Plus). In particular, the AOCI adjustment for GAAP Plus allows for earning of a full illiquidity premium on assets backing illiquid liabilities, based on the IAIG's own yields. A similar allowance for illiquidity premium should be allowed under a MAV approach for long-term insurance products such as annuities, as the rationale set out in paragraph 162 of the consultation, ('To support long-term insurance liabilities, IAIGs are able to hold long-term fixed income assets with little risk that they must be sold prior to maturity. As long as those assets are held, their projected cash flows do not change (except through defaults), regardless of the short-term changes in interest rates.'), is equally relevant whichever valuation

					approach is used. The current MAV discounting options do not provide an appropriate treatment for long-term insurance liabilities and without refinement would be likely to lead to procyclical behaviour, potentially increasing the systemic risk of the insurance sector. Unless a similar approach is adopted as part of the MAV, the regime will not be fit to be used to value long-term insurance products, such as annuities sold in the UK. It is therefore important that MAV discounting is based on spreads calculated by firms based on actual asset returns, as is allowed under GAAP Plus. We do not believe that any of the options tested as part of the field testing address the requirement for achieving appropriate counter-cyclicality for long-term business. The options tested are expected to result in more short-term volatility than on the GAAP Plus methodology and will reduce comparability. We believe that the best outcome is achieved if, from the options included within the field testing, the following modification are made to Reference Method 3. 1. The method should allow for hypothecation of assets by liability buckets as this will better reflect the ALM for each liability segment. Insurance ALM will usually reflect different asset allocation strategies for different liability segments and these strategies will reflect the nature and liquidity of the liabilities; 2. Following hypothecation of assets to liability buckets, there is no justification for applying an application ratio of less than 100% for illiquid liabilities such as annuities. For other liabilities, we would expect the liquidity of hypothecated assets to already reflect the liquidity necessary to meet liabilities (and therefore would already be reflected in the adjustment to discount rate), and as such, the justification for applying an application ratio of less than 100% for other liabilities is not clear. This would also be more consistent with the current approach to GAAP Plus.

					No other approach will appropriately reflect the long-term business of insurance groups and the way it is managed. Such an approach would also appropriately support the convergence between MAV and GAAP Plus which is crucial for the future development of the ICS, and incentivise good risk management and asset liability management. To assess complexity and comparability, it is important that the IAIS focus on the outcomes of the valuation, not just the inputs to the valuation. Relative to the current options, we believe that this approach would help to ensure that the ICS achieves the key objectives of: • Reducing complexity, as it will remove unnecessary and non-economic 'noise' in the balance sheet, by more closely matching the way insurers manage stable, long-term insurance products. • Reinforcing insurers' long-established discipline of matching liabilities with assets that have similar characteristics. • Ensuring that the ICS ratio provides appropriate risk signalling across market cycles. • Increasing comparability. For example, if two IAIGs back their long-term insurance products with the same assets, the current options would not result in the same liability for these products, if they have other lines of business in the same currency.
RAA	United States and many other jurisdicitons	Other	No	Yes	We support the maintenance of both the MAV and GAAP+ measurement bases as options for final ICS implementation. Additional and more broad-based field testing will undoubtedly improve the comparability of the ICS valuation approaches. The ICS MAV valuation basis should remain flexible and not diverge significantly from existing economic valuation bases such as those required und Solvency II and by Bermuda.

Prudential Financial, Inc.	United States of America	Other	No	No	
Liberty Mutual Insurance Group	USA	Other	No	Yes	Existing GAAP methodology should be preserved as an acceptable valuation system. Trying to achieve comparability among IAIGs through the use of a granular, factor-based approach, particularly with respect to the use of a MAV balance sheet, is misguided. U.S. regulators, both state and federal, support GAAP Plus. Furthermore, comparability, with any reasonable accuracy, simply cannot be achieved using an approach that attempts to reflect all material risks to which a particular IAIG may be exposed, because the variability in business plans, coverages written, and resulting risks are unique to each insurer. Instead, the IAIS should seek consistent outcomes in the application of the ICS to each IAIG, but not attempt to establish metrics to compare the balance sheets of IAIGs.
MassMutual Financial Group	USA	Other	No	Yes	The treatment of policy loans should be revised. We recommend netting policy loan assets with the liabilities and believe this does not create any masking of risk as the IAIS has already acknowledged that policy loan assets pose no risk to the insurer since the policy loan asset is fully collateralized by the policy benefits. If the IAIS requires policy loans to be reflected in the balance sheet assets, the impact of policy loans on the liability side should be equal to the value of the policy loan asset. Also, we'd suggest that the policy loan asset value should equal the policy loan balance consistent with U.S. statutory reporting. Additionally, 2016 field testing technical specification listed policy loans in assets used in calculating the spread adjustment under WAMP. As opposed to the other included assets, policy loans are not an invested asset. The choice to have a policy loan is with the policyholder and policy loans do not reflect the investment strategy of the company. Policy loan rates are also not necessarily related to the economic environment. They can vary or they can be fixed for the life of the contract as determined by contractual terms. We propose their exclusion given that they are not

					invested assets. Also, since contracts are valued net of policy loan cash flows, the net cash flows are backed by invested assets. Hence to have policy loans impact the spread used to value non-loaned liabilities creates an inconsistency between the liabilities and the assets supporting those liabilities.
Northwestern Mutual Life	USA	Other	No	Yes	Yes. It concerns the setting of discount rate curves for valuing liabilities. As part of our 2016 field testing, we submitted to you a detailed back-tested proposal for the market adjusted valuation approach which uses characteristics of Reference Method 3 but is modified to more effectively filter out risk measurement distortion arising from short term fluctuations in interest rates while revealing emerging capital shortfalls due to overly generous guarantees. The proposal relies on two key conditions: • The ICS must require consistency of the assumed economic conditions and other assumptions inherent in the stipulated yield curves, liability cash flow discount rates, and forecasted asset earned rates, particularly when there are participating policy dividend projections affected by the assumptions, so that distortion in the measurement of available capital will be reduced. This calls for valuation tailored to the characteristics of product portfolios within the insurer. • The liability cash flow discount rates must be determined by subtracting from the asset earned rate a formulaic constant representing the risks assumed by the company, and set/reset in a manner like other long term assumptions (e.g. mortality, morbidity). This sensitizes the ICS ratio to varying levels of risk assumed by the company while further reducing distortion. The formulaic constant representing the risk assumed by the company is

					a function of the amount of capital needed to bear risk and the cost of that capital. For example, if a company needs 8% capital for every dollar of liability it bears, and the cost of that capital is 500 basis points over the risk free rate, then the cost of that risk retained by the company is 0.40%. These inputs will vary from firm-to-firm. To build an auditable/examinable framework around the setting of the formulaic constant the cost of capital rate could be estimated for a firm using readily available independent measurements of credit quality. The required amount of capital can be drawn from a risk sensitive metric like the ICS capital requirement. The important point is that it should be firm specific, because risk assumption and the price of bearing risk is unique to a firm, while making optimal use of independent inputs. Under this method any duration mismatch between asset and liability cash flows will lead to fluctuations in available capital without distortions arising from inconsistent assumptions applied to parts of the balance sheet or the application of current changes in market interest rates to decades of projected cash flows. It will also reflect in the ICS a firm's current level of assumed risk and the price of bearing that risk. We believe that this is what you are looking for.

End of Section 4.1