INTERNATIONAL ASSOCIATION OF
INSURANCE SUPERVISORS

Activities-Based Approach to Systemic Risk

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Comments due by 15 February 2018

About the IAIS

The International Association of Insurance Supervisors (IAIS) is a voluntary membership organization of insurance supervisors and regulators from more than 200 jurisdictions. The mission of the IAIS is to promote effective and globally consistent supervision of the insurance industry in order to develop and maintain fair, safe and stable insurance markets for the benefit and protection of policyholders and to contribute to global financial stability.

Established in 1994, the IAIS is the international standard setting body responsible for developing principles, standards and other supporting material for the supervision of the insurance sector and assisting in their implementation. The IAIS also provides a forum for Members to share their experiences and understanding of insurance supervision and insurance markets.

The IAIS coordinates its work with other international financial policymakers and associations of supervisors or regulators, and assists in shaping financial systems globally. In particular, the IAIS is a member of the Financial Stability Board (FSB), member of the Standards Advisory Council of the International Accounting Standards Board (IASB), and partner in the Access to Insurance Initiative (A2ii). In recognition of its collective expertise, the IAIS also is routinely called upon by the G20 leaders and other international standard setting bodies for input on insurance issues as well as on issues related to the regulation and supervision of the global financial sector.

International Association of Insurance Supervisors c/o Bank for International Settlements
CH-4002 Basel
Switzerland
Tel: +41 61 280 8090
Fax: +41 61 280 9151
www.iaisweb.org

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Preface

In February 2017, the IAIS announced that it is developing an activities-based approach (ABA) to evaluating and mitigating systemic risk in the insurance sector.

This document invites comments on the development of an ABA. Based on further analysis and the contributions by stakeholders, the IAIS will further develop the details of its work, which will be made available for consultation in late 2018.

Note that this consultation focuses on the development of policy measures in the context of IAIS standards and does not cover questions of implementation of policy measures. Therefore, the consideration of individual jurisdictional specificities or insurers' own measures to mitigate the risk are beyond the focus of this consultation paper.

The 2018 consultation will also cover potential revisions to the methodology for assessing Global Systemically Important Insurers (G-SIIs). Any revisions are scheduled to be applied during the 2020 assessment cycle.

Glossary of abbreviations

ABA	Activities-based approach
ALM	Asset Liability Management
BCBS	Basel Committee on Banking Supervision (also Basel Committee)
BIS	Bank for International Settlements
CCP	Central Counterparties
CDO	Collateralised Debt Obligation
EBA	Entity-based approach
ERM	Enterprise Risk Management
FSB	Financial Stability Board
G-SIBs	Global Systemically Important Banks
G-SIFIs	Global Systemically Important Financial Institutions
G-SIIs	Global Systemically Important Insurers
G20	Group of Twenty
HLA	Higher Loss Absorbency
IAIG	Internationally Active Insurance Group
IAIS	International Association of Insurance Supervisors
ICP	Insurance Core Principle
LRMP	Liquidity Risk Management Plan
NTNI	Non-traditional Non-insurance Activities
ORSA	Own Risk and Solvency Assessment
OTC	Over the counter
SIFIs	Systemically Important Financial Institutions
SRATF	Systemic Risk Assessment Task Force

The contents of this interim consultation do not pre-empt any preliminary conclusion on what will be included in the 2018 consultation paper. In general, this paper intends to highlight the key issues to consider in the consultation and allow stakeholders the opportunity to provide meaningful input at an early stage.

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I. Introduction

1. The purpose of this interim consultation document is to receive input on the work of the IAIS relating to the development of an activities-based approach (ABA) to the mitigation of systemic risk in the insurance sector.

2. In Section II the paper provides an overview of the IAIS's prior work on assessing and mitigating potential systemic risk in the insurance sector to help provide context for the current initiative. Next, Section III discusses the concept of an ABA and examines it relative to the IAIS's existing entity-based approach (EBA) as well as work by other standard setters. Then, in Section IV the paper presents the approach that the IAIS intends to adopt to derive ABA policy measures. The subsequent Sections V to VII describe the key steps of this approach, which include the identification of potentially systemic activities, the consideration of existing policy measures within the IAIS's policy framework and the process for assessing the residual risks or supervisory aspects that may warrant additional policy measures. Section VII also notes that the application of an ABA will necessarily require the use of proportionality as well as the consideration of cost and benefit aspects. This could lead to application of materiality thresholds or other restrictions of the scope on application, when appropriate.

3. While for the first two steps of the process (i.e. identification of potentially systemic activities and existing policy measures) work is advanced, only preliminary considerations are provided at this stage on the gap analysis (i.e. the identification of residual risks) and the identification of potential additional policy measures to bridge any existing gap. Section VII provides preliminary considerations for future work in this regard to allow initial comments by stakeholders prior to the 2018 consultation. The consultation paper concludes with a brief section on the implications of the ABA development on other IAIS work on systemic risk in insurance.

4. This paper is intended to provide an opportunity for stakeholders to provide feedback on the development of the approach and structure of the work that the IAIS will follow and does not include conclusive proposals. Relevant sections include a number of questions that aim to help stakeholders provide targeted input to this work and assist the IAIS with developing a more detailed proposal for consultation in 2018.

II. Systemic risk in insurance – work done to date and next steps

5. Under the purview of the Financial Stability Board (FSB) and the G20, the IAIS - along with other standard setters, central banks and financial sector supervisors - is participating in a global initiative to identify global systemically important financial institutions (G-SIFIs). As part of the G-SIFI initiative the IAIS's focus has been the development and application of an assessment methodology to support recommendations on the identification of potential global systemically important insurers (G-SIIs) and the development of targeted policy measures to apply to these institutions.

6. The IAIS has published several documents on insurance and systemic risk[1]. In this context, it also developed an initial G-SII Assessment Methodology in July 2013 to help identify insurers whose distress or disorderly failure, because of their size, complexity and interconnectedness, would cause significant disruption to the global financial system and economic activity. Following IAIS assessments in accordance with this methodology, the FSB identified G-SIIs in 2013, 2014 and 2015.

7. In 2016, the IAIS revised the G-SII Assessment Methodology as part of its three-year review process. Among other things, the IAIS clarified the notion of non-traditional, non-insurance (NTNI) activities and to better focus on the most relevant transmission channels of systemic risk in insurance[2].

8. At that time, it was acknowledged that further work needed to be undertaken to better assess the different ways that insurers' activities could be correlated with the broader economy.

9. The first years of application of the G-SII Assessment Methodology also highlighted the need to review whether the Global Systemically Important Banks (G-SIB) and the G-SII assessment methodologies, when viewed in conjunction, are coherent and comprehensive in assessing the systemic importance of banks and insurers.

10. In addition, while the existing entity-based approach (EBA) for G-SII identification focuses on whether the failure of an insurance undertaking imposes a threat to the wider financial system, it may not completely assess any potential (systemic) impacts that may stem from the collective actions or distress of insurers that are jointly exposed to certain risks.

11. For these reasons, the IAIS decided to undertake a review of its framework to assess and mitigate systemic risk in insurance. The task to carry out the review was delegated to the Systemic Risk Assessment Task Force (SRATF), which is responsible for developing a holistic framework for systemic risk assessment and mitigation. The project includes[3]:

    - developing the analysis of systemic risk in the insurance sector taking an activities-based approach;
    - addressing cross-sectoral aspects in systemic risk assessment; and
    - revising of the G-SII Assessment Methodology.

12. The cross-sectoral work is being undertaken in conjunction with the Basel Committee on Banking Supervision (BCBS) with the goal, inter alia, to identify and address any unintended consequence of inconsistencies between the G-SIB and G-SII Assessment Methodologies. In Annex B, a brief description is provided on the approach that the two standard setters are currently following to this work.

[1] http://www.iaisweb.org/page/supervisory-material/financial-stability-and-macroprudential-policy-and-surveillance and http://www.iaisweb.org/page/news/other-papers-and-reports

[2] For a brief description of the exposure and asset liquidation channels, refer to the IAIS publication: Systemic Risk in Insurance Product Features, pp. 8-10. The document can be found under: http://www.iaisweb.org/page/supervisory-material/financial-stability-and-macroprudential-policy-and-surveillance/file/61174/systemic-risk-from-insurance-product-features

[3] http://www.iaisweb.org/page/news/press-releases/file/65229/iais-press-release-systemic-risk-assessment-workplan

13. The overall project is scheduled to finish in 2019 with a revised systemic risk framework becoming effective in 2020.

III. Activities-based Approach to systemic risk

14. This section provides a brief description of the IAIS's perspective on an ABA, how it compares to the existing EBA and how an ABA is used in other financial sectors.

15. The IAIS defines an ABA as an approach to mitigate systemic risk through broadly applicable policy measures addressing potentially systemic activities.

16. It is based on a horizontal (i.e. across firms) assessment of the risk transmission[4] owing to activities that either in themselves or as a result of common behaviours of firms may be systemically relevant. The term "activity[5]" is broadly used to encompass business lines and operations that have potentially systemically relevant characteristics. As such, it potentially includes insurance, reinsurance and non-insurance activities. Furthermore, the activity is interpreted substantively based on the risk exposure stemming from the activity, rather than narrowly based on its legal form.

A. Comparing features of the ABA and EBA

17. In comparison to the EBA, the ABA looks at the risk facing many firms across the sector, rather than the risk facing a single firm. The key differences in approach can be explained by focussing on the propagation of systemic risk using the domino versus tsunami analogies for the systemic risk transmission mechanisms as coined by the IMF.[6]. In short, the domino view focuses on the failure of individual insurers and their potential knock-on effects, whereas the tsunami view assesses how even solvent firms, through their collective risk exposure, may propagate or amplify shocks to the rest of the financial system and the real economy[7].

18. In an EBA the failure of the firm is a necessary condition in the analysis and the systemic "foot-print" is the sum of the firm's total exposure and activities. In contrast, in an ABA one assesses systemic risk in aggregate across different firms, independent of their respective failure or distress.

[4] Cf. IAIS (2016): Systemic risk from insurance product features; http://www.iaisweb.org/page/supervisory-material/financial-stability-and-macroprudential-policy-and-surveillance/file/61174/systemic-risk-from-insurance-product-features

[5] For the purpose of this document, the term activity is generally used synonymously with risk exposure.

[6] The IMF introduced this terminology in its April 2016 Global Financial Stability Review. Several researchers have since then adopted this terminology. The principle behind this distinction has been implicitly captured in other publications as well.

[7] Alternatively, both perspectives could be described as direct and indirect systemic risk. Cf. Hufeld, F. (2016): "A Regulatory Framework for Systemic Risk in the Insurance Industry", in F. Hufeld, R. S. Koijen and C. Thimann (eds): The Economics, Regulation, and Systemic Risk of Insurance Markets.

19. In terms of mitigation of systemic concerns, an EBA entails the application of policy measures to identified systemically relevant financial institutions, while an ABA consists, in principle, of broadly applicable policy measures addressing potentially systemically risky activities.

20. Specific additional differences are described in a table in Annex A.

Questions to stakeholders:

- **Question 1**: Do you agree with the IAIS definition of an activities-based approach? If not, please provide an alternative definition and explain how it improves on the IAIS's one.
- **Question 2**: Does the proposed definition allow the assessment of the most significant potential sources of systemic risk?
- **Question 3**: What are your views on the comparison between ABA and EBA?

B. ABA in other financial sector policy frameworks

21. Standard setters for other financial sectors have also considered, or are considering, the appropriate balance between an EBA and an ABA to mitigating systemic risk. Any similarities will be taken into account in the IAIS development of an ABA.

22. **Banking:** The banking sector has not explicitly pursued an ABA; though the BCBS has adopted numerous broadly applicable policy measures for the purpose of mitigating systemic risk. For instance, in developing their Basel III framework, the BCBS notes that a focus of the reforms was to decrease systemic risk by "addressing system-wide risks that can build up across the banking sector[8]. Key elements of these post crisis reforms include the refinement of the existing risk-based capital requirements, new leverage limits[9], and new liquidity standards[10]. These policy measures supplement the measures applied to the identified G-SIBs and may constitute elements of an ABA under the IAIS's definition.

23. **Asset management**: In the asset management sector, the FSB's policy recommendations to address structural vulnerabilities explicitly take the form of an ABA[11], stressing the particular nature of asset managers acting as agents on behalf of their clients. The FSB identified four structural vulnerabilities that may pose financial stability risk: 1) liquidity mismatch between fund investments and redemption terms and conditions for open-ended fund units, 2) leverage within investment funds, 3) operational risk and challenges at asset managers in stressed conditions, and 4) securities lending activities of asset managers and funds. As in the banking case, the policy responses to these vulnerabilities focus on

[8] BCBS (2011): Basel III: A Global Regulatory framework for more resilient bank and banking systems, *available at* http://www.bis.org/publ/bcbs189.pdf, page 2.
[9] BCBS (2014): Basel III Leverage Ratio Framework and Disclosure Requirements, available at: http://www.bis.org/publ/bcbs270.pdf
[10] BCBS (2010), Basel III: International Framework for Liquidity Risk Measurement, Standards, and Monitoring, available at http://www.bis.org/publ/bcbs188.pdf
[11] Cf. http://www.fsb.org/wp-content/uploads/FSB-Policy-Recommendations-on-Asset-Management-Structural-Vulnerabilities.pdf

liquidity mismatch and leverage. However, the nature of these risks in asset managers differs from how they occur in banks.

24. Insurers may undertake much of what is done by asset managers and, to the extent that they do, face similar risks. However, insurers, unlike asset managers, have a proprietary link to risks through guarantees written to policyholders against risks such as mortality, property damage or market movements. These guarantees are written using the insurer's own balance sheet, and therefore they need capital to support them. Furthermore, some of their products also have liquidity features similar to bank deposits (namely immediate access to a fixed redemption value), which creates a link between the insurer's liquidity and solvency.

25. In developing an ABA, the IAIS will consider cross-sectoral issues to avoid inconsistencies that cannot be explained by the specificities of each financial sector.

IV. Conceptual approach to developing ABA policy measures (ABA road map)

26. This section sets forth a conceptual approach for the IAIS's work on developing ABA policy measures. This approach consists of four steps. These steps describe the IAIS's process, from the identification of potentially systemically risky activities and the review of existing policy measures to the evaluation of any residual risk that may warrant additional policy measures.

27. ***Step 1:*** The first step in the proposed approach involves the identification of activities that insurers engage in that could potentially threaten global financial stability in an ABA context. This step is a preliminary analysis that should narrow the scope of the assessment to certain activities. As described in Section V, this paper identifies potential risk exposures and their associated transmission channels for consideration, which build on the IAIS's analysis in its prior work on systemic risk[12].

28. **Step 2**: After potentially systemically risky activities have been identified, the next step is the evaluation of the existing IAIS policy measures that may help mitigate the potential systemic risk stemming from the identified activities, irrespective of whether those measures have predominantly been designed for micro-prudential purposes. The relevant resources in conducting this analysis are the IAIS Insurance Core Principles (ICPs), the draft Common Framework (ComFrame) including the Insurance Capital Standards (ICS) v.1.0 for extended field testing, and the G-SII policy framework[13]. They are discussed in Section VI. Furthermore, the extent to which other international standard-setters have set forth policy measures that may have application to the relevant risk exposure should also be considered.

[12] Cf. IAIS paper on systemic risk in insurance product features http://www.iaisweb.org/page/supervisory-material/financial-stability-and-macroprudential-policy-and-surveillance/file/61174/systemic-risk-from-insurance-product-features

[13] In this paper any reference to G-SII policy framework relates to the existing G-SII policy measures and does not intend to pre-empt any conclusion on the future direction of the G-SII identification exercise.

29. **Step 3**: The purpose of this is to identify risks associated with an activity that are not sufficiently mitigated by any existing policy measure. This involves a gap analysis, which looks to determine whether the relevant supervisory tools are insufficient.

30. This step includes the evaluation of the residual systemic risk stemming from the potentially systemically risky activities identified in Step 1. To the extent practicable and feasible, quantitative information will be considered to support the evaluation. The data potentially used by the IAIS to evaluate the residual risk may differ depending on the relevant activity. While the IAIS should seek to use publically available data whenever possible, additional data sources may also be necessary. This evaluation would take into account developments in the broader financial sector where appropriate.

31. ***Step 4:*** Subject to the previous findings, the IAIS would develop policy measures or enhance existing policy measures, preventative or curative, to address any residual systemic risk. Any ABA policy measure that will be developed will then be reviewed as needed in order to take into account market or other developments.

32. This step also entails the definition of the scope of application of the identified policy measure(s). Application of an ABA would require the use of proportionality as well as the consideration of cost and benefit aspects.

Questions to stakeholders:

- **Question 4**: Do you agree with the IAIS's conceptual approach? Please explain any suggested changes.

V. Identification of potentially systemically risky activities (Step 1)

33. The first step of the proposed approach is identifying potentially systemically risky activities. The IAIS's previous work on systemic risk identified as main areas for consideration in assessing systemic risk the following aspects: exposure to liquidity risk, macroeconomic exposure (including credit guarantees), counterparty exposure, substitutability, global activity and size[14]. As a starting point, the IAIS decided to primarily focus on these aspects for the development of an ABA.

34. As previously mentioned, rather than considering the legal form of the specific activities associated with those areas, the IAIS has chosen to instead define these activities in terms of the risk exposures associated with them. This better captures the sources of potential systemic risk that can be associated with the overall activity of the insurer (including the interaction between its assets and liabilities) allows the recognition of risk mitigating practices, and reducing the potential for regulatory arbitrage driven by classification differences.

[14] Cf. IAIS 2016 G-SII Assessment Methodology, available under: http://www.iaisweb.org/page/supervisory-material/financial-stability-and-macroprudential-policy-and-surveillance/file/61179/updated-g-sii-assessment-methodology-16-june-2016

35. At this stage, the IAIS has tentatively determined to focus the development of ABA policy measures on liquidity risk exposures and macroeconomic risk exposures as they could be strongly correlated across institutions and have the potential to cause a number of correlated cases of distress or responses[15].

36. In this phase of the work, however, the IAIS is also investigating the systemic relevance of other aspects that go beyond or are not directly linked to the two risk exposures identified above.

37. With regards to counterparty exposure and substitutability, the IAIS tentatively concluded that they are mainly entity-specific concepts and are not a key consideration for this consultation paper. However, this does not preclude the IAIS from exploring further their relevance in the context of an ABA.

38. In an EBA, with its emphasis on risks cascading from one (failing) entity to others, counterparty exposure to the failing firm is a central element of systemic risk assessment. Indeed, the capital linkages of a failing firm may lead to knock-on effects at other institutions. However, in the case of an ABA, considering its focus on the activity rather than the individual firm, counterparty exposure could be considered as a risk enhancing factor but not the source of risk.

39. This consultation paper assumes that substitutability does not play a key role in an ABA context. While a particular firm may be systemically relevant because it wields market power in some critical market, operating in this market should not automatically be considered an activity of potential systemic concern. Smaller firms operating in this market may actually decrease systemic risk by increasing substitutability.

40. Similarly, issues related to size and global activity do not appear paramount in the context of an ABA.

Questions to stakeholders:

- **Question 5**: Do you agree with defining activities broadly in terms of risk exposures (e.g. liquidity risk) rather than more narrowly in terms of their legal form (e.g. securities lending)? If not, what changes should the IAIS make and why?
- **Question 6**: Do you agree with the two main risk exposures identified for the purposes of an ABA (i.e. liquidity risk and macroeconomic risk exposures)? If not, how could this be improved?
- **Question 7**: How should counterparty exposure be treated under the ABA?
- **Question 8:** How should substitutability be treated under the ABA?
- **Question 9**: Should any other activity or risk exposure be considered potentially systemically risky under this framework?

[15] Cf. Cummins and Weiss (2014): Systemic Risk and the US Insurance Sector, Journal of Risk and Insurance, Vol. 81, Issue 3, pp. 489 - 528 or Schwarcz and Schwarcz (2014): Regulating Systemic Risk in Insurance, 81 *University of Chicago Law Review* 1569-1640 (2014).

A. Liquidity risk

41. For insurers, which have comparatively longer-term liabilities and assets to match their duration, liquidity risk is generally well-contained. Nevertheless, there are some ways in which (significant) liquidity risks could contribute to potential systemic risk as a consequence of specific circumstances or features.

42. Insurers may face unexpected liquidity outflows stemming from a number of sources, including claims, expiration of funding sources, collateral calls or policyholder withdrawals. As a result, these insurers may be forced to liquidate assets that are not sufficiently liquid – i.e. assets that are traded in markets that are (or have become) insufficiently deep and liquid – in order to satisfy these outflows. These situations can be considered a systemic concern if the liquidation of assets reaches a level that it considerably impacts assets prices.

43. A few examples of materialisation of liquidity risk:

- An insurer may lend out assets to other (financial) institutions and receives collateral in return. Assuming the insurer reinvests cash collateral in a less liquid asset or reuses securities collateral, and the securities borrower returns the borrowed security, the insurer may be forced to sell those reinvestments at a discount to raise cash, break the rehypothecation transaction or replace the security collateral.

- If policyholders have the legal right to surrender a policy at short notice with little or no economic disincentive, insurers could face sudden cash outflows from withdrawals. If an insurer has not sufficiently invested in liquid assets, it may be forced to sell less liquid assets to raise the necessary funds

- Insurers that use derivatives, either to hedge or to gain synthetic exposure to market movements, may be required to post collateral/margin. Following significant movements in markets, an insurer could be forced, on short notice, to post significant amounts of collateral/margin in the form of cash or liquid assets. For many life insurers, this posting requirement could be significant if interest rates were to increase rapidly due to the nature of their derivative hedging portfolios that seek to mitigate the risks of low interest rates.

44. If the public becomes concerned about the viability of a particular business model or widely-held asset class, insurers could collectively be forced to liquidate assets in a stressed environment to meet the resulting withdrawals, termination of short-term funding arrangements or collateral/margin calls. If this liquidation of assets would then reach a significant size, it could have the potential to affect market prices and/or the orderly functioning of certain markets. This may not be the case if the underlying markets are deep and liquid, but these sales could have a significant impact for smaller, less liquid markets. If insurers have to accept sizeable haircuts on their assets to satisfy outflows, insurers could face losses and may even be forced to sell additional assets, which would aggravate the systemic impact. Through these price impacts, shocks could be transferred to other parts of the financial markets and the real economy by imposing losses, distorting the signalling function of prices or impacting the ability of firms to fund activities.

45. To the extent that the industry is investing in assets issued by financial entities, the systemic impact could also be magnified (see discussion on counterparty exposure). In addition, insurers may lend out high quality securities to allow other financial firms to meet liquidity requirements. A liquidity need at the insurer could force them to recall their loaned securities and transmit the stress to their counterparties, who may no longer meet its own liquidity requirements. By constraining funding or liquidity to the banking sector, the effects of the initial liquidity shock will be exacerbated.

Examples in practice[16]:

Liquidity problems are an important source of insurer distress, though solvency issues are often the underlying problem in the first place[17].

While the vast majority of these liquidity problems have not adversely affected the broader economy, some arguably have and fears have occasionally forced governments to step in and provide funding. AIG experienced liquidity issues during the financial crisis resulting from collateral calls on its derivative books and counterparties recalling cash collateral from securities lending operations. Concerns about a run were one of the reasons that government support was sought and provided.[18] This event showed the potential liquidity problems arising from both non-insurance activities as well as from collateral calls on derivatives contracts.

In the first few days after AIG's financial difficulties came to light, repercussions in the form of somewhat increased surrenders were also experienced by AIA, then an AIG subsidiary, in South East Asia. While this may not have been systemic, it shows how liquidity risk can affect many firms simultaneously.

During the crisis, Ethias SA, partially due to losses on large holdings of Dexia and growing insurance liabilities, was downgraded and experienced a run on some products. To stave off a potentially disruptive shock to the economy resulting from Ethias' capital and liquidity problems, the Belgian government injected capital into the insurer[19] and extended its deposit protection scheme to cover many of the vulnerable insurance products.[20]

The Asian Financial Crisis in 1997, specifically its impact on South Korea's insurance sector, provides another example of how liquidity-constrained firms can resort to asset sales, triggering price spirals. As the indirect result of a currency shortage, market interest rates in Korea spiked. Korean insurers at the time functioned similarly to banks, offering easily

[16] This is only an exemplary list of cases where liquidity risk played an important role. Elaboration of various case studies of failures including a discussion of the respective reverberations of the event can be found in various sources, including IAIS (2011): Insurance and financial stability, available under: http://www.iaisweb.org/page/supervisory-material/other-supervisory-papers-and-reports/file/34379/insurance-and-financial-stability-november-2011 and Victoria Saporta (2016): Macroprudential Policy for Insurers, available under: http://www.bankofengland.co.uk/publications/Documents/speeches/2016/speech941.pdf

[17] Standard and Poors Ratings Services (2013): What May Cause Insurance Companies to Fail and How this Influences Our Criteria

[18] Cf. IAIS (2011): Insurance and financial stability

[19] *Cf.* European Commission (20 May, 2010): State Aid: Commission approves restructuring of Belgian insurance company Ethias, press release

[20] *Cf.* Mayer Brown (2009): Summary of Government Interventions, Belgium, p.9.

surrenderable policies and originating large volumes of loans. As a result of the rate shock, non-performing loans spiked and large numbers of policyholders surrendered their policies. Whether this occurred due to concern for the insurers' financial soundness or in order to purchase other products with higher rates is not clear, however, the resulting liquidity drain caused insurers to sell assets, triggering price spirals in an already weak economy.

During the Great Depression, redemptions from insurance contracts were suspended after a run on the industry[21]. Additionally, there is some evidence linking the 1906 San Francisco earthquake to the Banking Panic of 1907 as foreign insurers had to liquidate assets and buy dollars in order to satisfy the resulting claims[22].

Table 1: Non-exhaustive list of examples of activities or practices that may lead to liquidity risk exposure

Activity or practice	Factors affecting the extent of liquidity risk
Liquidity risk as a result of product characteristics: (e.g. policyholders have the legal right to surrender a policy at short notice with (almost) no economic disincentive)	For instance: - Extent of any guarantees applicable on surrender - Absence of disincentives to surrender (e.g. surrender penalties, tax penalties, etc.) - Existence of alternative investments
Liquidity risk from non-insurance, e.g. securities lending	For instance: - Changes in value and liquidity of collateral - Investment of collateral in other (illiquid) assets - Mark to market changes in value of underlying instrument

Questions to stakeholders:

- **Question 10:** Do you agree with the assessment of liquidity risk in the context of an ABA? If not, please explain why and how this could be improved.
- **Question 11**: Do you agree with the transmission channel, i.e. the reasons and conditions for this risk to be potentially systemic and how it is described in this section?
- **Question 12**: Are there additional examples of significant exposure to liquidity risk that should be considered?

B. Macroeconomic exposure

46. In 2016, the IAIS provided the following description of macroeconomic exposure: "*One way that systemic as opposed to idiosyncratic risk can arise is through common exposures to macroeconomic risk factors across institutions. In such cases, the underlying exposures*

[21] Cf. New York Times (1933): Insurance concerns tighten loan rules, New York Times, 9 March 1933, p.6

[22] Odell and Weidenmeier (2002): Real Shock, Monetary Aftershock: The San Francisco Earthquake and the Panic of 1907, NBER working paper.

are highly correlated with each other and with the market, limiting the potential to diversify through the pooling of idiosyncratic risks. If a firm's financial position is highly correlated with the broader economy, the risk of systemic impact from insurance failures increase. Losses given default will be higher when the economy is already under stress[23]."

47. Insurance products continue to expand in scope and complexity, insuring against a variety of risks including against movements of financial market. Many savings-oriented products (or protection-oriented products with a savings component) offer a guaranteed return on policyholders' premium payments. These risks are economy-wide, and thus cannot be diversified away.

48. These guarantees described above are often economically similar to financial derivatives (e.g. options or swaps). A derivatives contract allows the holder to gain exposure to a given asset (the underlying). In contrast to purchasing the asset outright, a derivative can create the exposure without significant upfront cost. As a result, the contract holder can receive returns on an amount that exceeds their initial capital investment. This is economically similar to the use of borrowing to increase potential investment returns, which also allows the borrower to gain exposure to a quantity of assets that exceeds their own capital contribution.

49. Examples of derivatives embedded in insurance products could include the insurer contracting to provide a fixed stream of cash flows regardless of the performance of the insurer's assets or guaranteeing a minimum annual growth rate on a policyholder's investment in mutual funds. Given the relatively small upfront capital contribution of the insurer to the underlying exposure, macroeconomic shocks, both positive and negative, could have a large effect on its balance sheet compared to purchasing the underlying asset outright.

50. It is important to note that insurance guarantees are not inherently systemic and represent a fundamental aspect of insurance business model. When insurers closely match the guarantees they offer to the maturities and investment returns available in the market, these risks are effectively hedged and the aggregate risk of the system stays constant. The aggregate risk of the financial system will increase where such risk is retained by the firms. Macroeconomic events such as significant interest rate movements or equity market falls could for instance lead to shortfalls arising simultaneously across policies. As opposed to guarantees on underwriting risks, which in general should diversify away over a large number of policies, retained market risk is much harder to diversify, leading to highly correlated individual losses. In such cases, a single insurer may not be systemically significant because its own potential solvency concerns, but instead, could be significant as a contributor to the aggregate losses stemming from such a macroeconomic event.

51. Macroeconomic exposure in the insurance sector does not solely accumulate through insurance liabilities, but may also be created through non-insurance activities. Such exposure can arise directly through the writing of derivatives contracts that are not used to hedge risk or do not closely match the underlying exposure. For the same reasons as financial guarantees embedded in insurance products, these exposures stemming from

[23] Cf. IAIS (2016): Systemic Risk in Insurance Product features, published on 16 June 2016

non-insurance activities are difficult to diversify and, to the extent that many firms are pursuing similar strategies, may trigger correlated losses.

52. Insurers' macroeconomic exposure can also amplify risks to the global financial system indirectly through their participation in capital markets. Where insurers retain exposure to non-diversifiable risk, macroeconomic shocks will be reflected in a decline in their financial resources. Depending on the nature of the shock, insurers may react by actively de-levering/de-risking and selling assets or by retrenching and discontinuing their purchases of particular asset classes such as equities or corporate bonds. Given the correlated nature of these exposures, many companies may react in a similar manner, which could lead for example to reduced funding for firms that rely on these instruments for financing. Acute changes in investment expectations could even prompt correlated sales and downward price spirals, causing the cost of financing to surge at the time it is most needed. To the extent that affected insurers hold assets issued by financial firms, the effects of such actions on the real economy could be exacerbated, particularly if insurers withdraw funding from the financial sector at the same time that it is already under stress.

53. In addition to the direct economic effects of an insurer's failure to pay claims on consumption, by a reduction of policyholders' wealth, a number of correlated failures could have additional knock-on effects, such as through some insurance guarantee schemes.

54. The macroeconomic exposure of insurance firms is not binary, but depends on the way in which the insurer manages risk – in particular its approach to asset and liability management (ALM). In addition, the risks stemming from liquidity and the macroeconomic risk exposures are not unrelated.

Examples in practice[24]:

Monoline bond insurers provide a useful historical example of how the guarantees embedded in insurance products can disrupt financing to the broader economy. These monoline insurers traditionally provided insurance to municipal or local authority bonds. However, when spreads began to tighten, the monolines began wrapping other securities, such as collateralised debt obligations (CDOs). As these bonds took losses during the crisis, these insurers' solvency became a concern, dramatically reducing the value of the guarantees they had written: at the peak of the crisis, insured bonds were generally trading at similar spreads to uninsured bonds. As a result, many municipalities and other entities saw a dramatic spike in the cost of funding. During the Great Depression, National Surety experienced similar issues after writing guarantees on mortgage backed securities, resulting in the injection of capital by the

[24] This is only an exemplary list of cases where macroeconomic exposure played an important role. Elaboration of various case studies of failures including a discussion of the respective reverberations of the event can be found in various sources, including IAIS (2011): Insurance and financial stability, OECD (2001): Policyholder Protection Funds: Rationale and Structure, available under http://www.oecd.org/finance/insurance/1813504.pdf, Saporta (2016): Macroprudential Policy for Insurers, OECD (2001): Policyholder Protection Funds: Rationale and Structure, available under http://www.oecd.org/finance/insurance/1813504.pdf, and IMF (2003) Japan: Financial System Stability Assessment and Supplementary Information, available under https://www.imf.org/external/pubs/ft/scr/2003/cr03287.pdf

government sponsored Reconstruction Finance Corporation and use of emergency powers by insurance regulators to resolve the firm[25].

As mentioned in the box above, the Asian Financial Crisis ultimately drove a rapid spike in interest rates. While opposite of the present concern, namely, prolonged low interest rates, the sudden "rates up" scenario still triggered a correlated response to the resulting liquidity demands. This example highlights the connection between Macroeconomic Exposure and Liquidity Risk.

There have been other instances, however, where the exposure to market risk led to correlated failures, even though it has not entailed a systemic event, possibly due to government intervention.

In Japan, seven small or mid-sized life insurance companies failed from 1997 to 2001. While the triggers for the failures were different from one to the other, most of these insurers had been selling a large amount of products that guaranteed high interest rates and thereby suffered a higher negative spread gap. In 1998, the government established Life Insurance Policyholder Protection Corporation of Japan as a safety net, which is pre-funded by the industry and guaranteed 90% of policy reserves.

The failure of Equitable Life was similarly triggered by in the money guarantees in 2000. Equitable Life had written a large volume of with-profits policies with a guaranteed annuity rate. Many of the policies were written in the 1970's, when interest rates were significantly higher, but, in the early 1990's, these guaranteed rates were nearly all higher than the available market rate. The firm was ultimately closed for new business and the UK parliament approved a £1.5 billion payment package for policyholders affected by the insolvency. This firm's failure highlighted a broader issue in the UK insurance sector: in the early 2000's it was highly exposed to equity markets, likely to back a large volume of with-profits policies. When the Dotcom Bubble burst in 2000, this asset allocation may have resulted in rapid sales of equities into a declining market as firms reallocated their portfolios. However, the supervisor used regulatory flexibility to manage the ensuing volatility in capital resources and avoid a large-scale sale of equities in the aftermath of the bubble bursting.

Table 2: Non-exhaustive list of examples of activities or practices that involve macroeconomic risk exposure

Activity or practice	**Factors affecting the level of macroeconomic exposure**
Fixed benefit guarantees (e.g. annuities, fixed death or survival benefits, unit-linked products with minimum benefit guarantees, participating products with minimum benefit guarantees, etc.)	For instance: - Richness of guarantees relative to expected investment returns - Character of guarantee

[25] Cf. Jonathan Rose (2016): The resolution of a systemically important insurance company during the Great Depression, available at: https://www.federalreserve.gov/econresdata/feds/2016/files/2016005pap.pdf

	- Approach to ALM and the extent of reinvestment risk
Speculative derivatives	For instance: - Potential future exposure - Current derivative position
Mortgage insurance and financial guarantees	For instance: - Richness of guarantees - Effect of any risk mitigations in place (e.g. derivative hedges to limit exposure)

Questions to stakeholders:

- **Question 13**: Do you agree with the IAIS's assessment of macroeconomic risk in the context of an ABA? If not, please explain why and what changes you think should be made.
- **Question 14**: Do you agree with the transmission channel, i.e. the reasons and conditions for this risk to be potentially systemic and how it is described in this section?
- **Question 15:** What are your views on the inclusion of the negative impact of reduced funding of other financial sectors?
- **Question 16:** Are there additional examples for significant macroeconomic exposure that should be considered?

C. Other potentially relevant aspects under evaluation

55. The IAIS is evaluating the relevance of potential additional aspects that may generate systemic consequences and may not sufficiently be captured by considering the exposures to the previously covered risk categories.. At this stage of the process, the IAIS is still assessing the systemic relevance of those aspects in the development of an ABA.

56. The IAIS has initially identified the following aspects for further discussion:

- Operational risk
- Other common or procyclical behaviours that do not directly stem from either liquidity risk or macroeconomic exposure

Operational risk

57. Operational difficulties and business transition issues at insurers generally have not caused serious market disruptions in the past and have not raised financial stability issues. However, operational difficulties and business transition issues could potentially become a financial stability concern if they were to materialise during stressed market conditions, depending on the nature and scope of the activities of the affected firms. Insurers are

exposed to a number of operational risks, which may have significant impacts on their business and in an extreme case could also cause disruptions to broader markets. Certain risks, such as cyber risk, are common across all types of financial institutions. Similar to asset managers, another example of where operational difficulties at an insurer may have systemic implications is when an insurer, which itself may be under stress, faces the need to transfer policies during stressed market conditions.

Other common or procyclical behaviours that do not directly stem from either liquidity risk or macroeconomic exposure

58. This section focuses on the systemic concerns stemming from the collective reactions to events or shocks to which insurers have been exposed, irrespective of the nature of the underlying shock (i.e. exogenous or endogenous). In addition, the focus on common behaviours triggered by reactions to exogenous events allows for a discussion of issues such as pro-cyclicality or herding behaviour, which can only be explained by assessing the aggregate rather than the individual risk exposure.

59. The approach to new insurance businesses might expose companies to the risk of inadequate provisioning triggered by mispricing due to the lack of expertise and/or lack of historical data. Underwriting contracts for which premium income does not adequately cover claims, or for which the assumptions used for the calculation of the provisions are not appropriate, might lead to distress in the companies. The reactions of insurers might generate systemic impacts through wide-spread asset liquidation/reallocation and/or the eventual collective failings of many insurers. The same process could apply in case of under-pricing triggered by competitive dynamics and attempts to gain market share.

60. Another example of potential common or procyclical behaviour that could be not directly related to liquidity or macroeconomic exposures is the case of a company that is perfectly immunised against interest rate movements, but may still react to falling interest rates to compensate for diminishing returns. It may be induced to reallocate its investments towards more remunerable assets, assuming it cannot change product pricing or adjust otherwise for the loss in asset return. Insurers are to a various extent exposed to macroeconomic risks, potentially enhancing the “search for yield” behaviour in a low interest rates environment. In the case where the “search for yield” behaviour is applied broadly by several insurers, the impact on the market might be significant, potentially exacerbating market movements.

61. Common behaviours could be further pronounced where products contain guarantees that are tied to funds utilising automated reallocation triggers or where these triggers require dynamic hedging. These products can procyclically aggravate market movements, which can lead to “buy high, sell low” asset trades, especially if the automated strategies are used to control the insurer’s downside risk. Even where the guarantees do not require automatic reallocation, dynamic hedging could create procyclical effects by requiring the insurer to sell equities when volatility is rising and buy equities when volatility is falling. If conducted in sufficient quantities, these trades can exacerbate volatility and lead to further disruptions in markets. However, insurance products often include product features that

essentially act to create lags in trading following a volatility spike and so minimise concerns regarding systemic risk. .

Questions to stakeholders:

- **Question 17**: What are your views on the IAIS's consideration of operational risk in the development of ABA policy measures?
- **Question 18:** What are your views on the IAIS's consideration of other common or procyclical behaviours that do not directly stem from either liquidity risk or macroeconomic exposure?

VI. Overview of existing mitigants in IAIS's suite of supervisory materials to address vulnerabilities (Step 2)

62. Section VI provides an overview of policy measures within the existing IAIS policy tool kit that may mitigate the risks stemming from the activities discussed in the previous section[26]. Many of these policy measures have primarily a micro-prudential purpose, i.e. to reduce the probability of failure of individual insurers and its impact on policyholders. However, these measures could also play a role in mitigating the systemic concerns that are associated with the risk exposures of potential systemic relevance.

63. The scope of this identification exercise is based only on the currently publicly available suite of IAIS supervisory material (cf. chart below), i.e.:

    i) the adopted ICPs which apply to all insurers and groups[27];

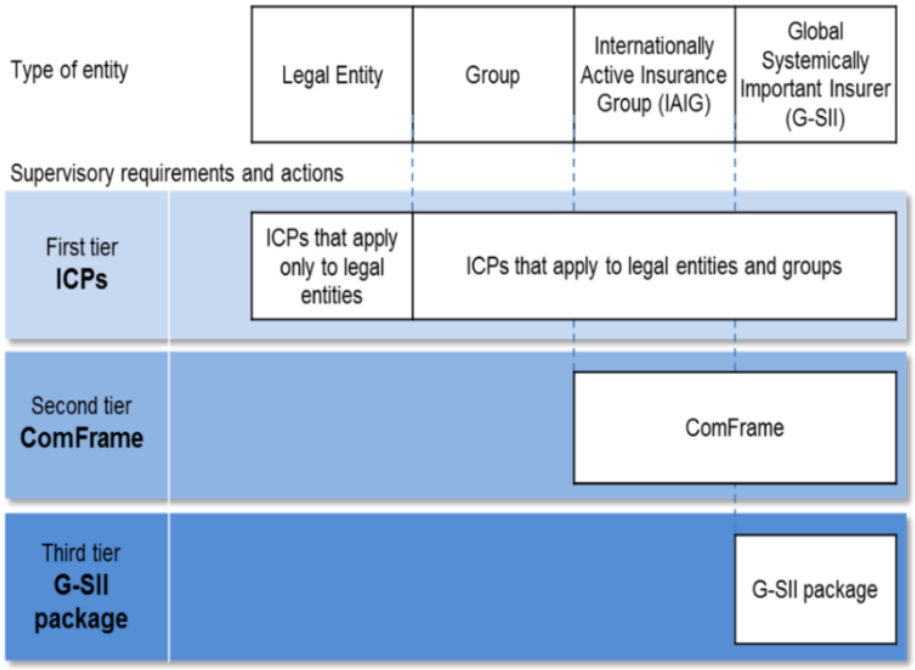
    ii) the draft ComFrame standards, which only apply to IAIGs[28]. Importantly, this includes the risk-based global ICS version 1.0[29] for extended field testing as a reference or proxy for future developments on group-wide capital standard; and

    iii) the G-SII Policy Measures aimed at insurers that have been identified as systemically important.

64. This identification approach focuses on the existing, published policy measures. The implementation of these measures by the various jurisdictions is not part of this assessment.

[26] As described in section VII, the purpose of this exercise is to identify any gap in the current IAIS's suite of supervisory materials; therefore, national frameworks or other specific policy measures are not considered in the analysis.
[27] NB: Some ICPs are currently under revision. For the purpose of this stock take the November 2017 updated version adopted by the general membership and published on the IAIS website was used for reference.
[28] NB: The document includes ComFrame text under its current public version (published in September 2014). The Comframe material as well as the ICPs related to ComFrame are subject to revisions.
[29] July 2017 version.

Architecture of IAIS international supervisory requirements



65. This mapping exercise provides a view of existing IAIS policy measures. This helps identifying potential policy gaps, to be further addressed in Steps 3 and 4 of the proposed framework.

66. The following table shows the policy measures that have been identified as available to both insurers and supervisors to address the identified risk exposures with systemic relevance. More details can be found in Annex C.

Table 3: Current tools to address potential systemically relevant risk exposure within IAIS framework

ICP[30]	ComFrame[31]	G-SII Policy measures
ICP8 Risk Management and Internal Controls ICP 9 Supervisory review and reporting ICP 13 Reinsurance and other Forms of Risk Transfer ICP 15 Investment ICP 16 Enterprise Risk Management for Solvency Purposes ICP 17 Capital Adequacy ICP 20 Public Disclosure ICP 24 Macroprudential Surveillance and Insurance Supervision	Module 2 Element 2 – Governance – Communication Module 2 Element 3 - ERM Module 2 Element 5 – Capital adequacy assessment, including the ICS (in particular its market risk and credit risk components) Module 2 Element 4 Investment – Reinsurance	Liquidity Risk Management Plan Systemic Risk Management Plan

67. Apart from the ICS, the tools identified are largely qualitative in nature and generally not highly prescriptive. Furthermore, they are similar across the ICPs and in the draft ComFrame, with differences mainly in the level of detail of the standards. The qualitative requirements are substantially of a pre-emptive nature.

68. Quantitative policy measures are essentially covered in ICP17 Capital Adequacy, in the draft ComFrame and (more specifically) the ICS. These measures are based on the potential adverse changes in capital resources resulting from "unexpected changes, events or other manifestations of the specified risks" (stress[32] and factor-based approaches[33]). The risks and their definitions considered in ICS build on those proposed in the 2014 draft ComFrame. Those risks are: insurance risk, market risk, credit risk and operational risk. Liquidity risk is not part of the framework.

69. The following paragraphs briefly summarise the main aspects of the policy measures identified. These aspects are described, at this stage, mainly for illustrative purposes and are not intended to highlight all the direct or indirect ways that the policy measures could

[30] For the sake of this exercise, the ICPs - November 2015 update public version, available on the IAIS webpage, has been used.
[31] The document includes ComFrame text under its current version, the text is currently being revised and ComFrame is integrated into the wider ICP.
[32] Under a stress approach, the capital requirement for each individual risk is determined as the decrease between the amount of capital resources on the pre-stress balance sheet (CR0) and the amount of capital resources on the post-stress balance sheet (CR1). Stresses can be applied individually, with individual stressed balance sheets being calculated (CR0 - CR1) to determine the capital requirement with respect to each individual stress.
[33] Under a factor-based approach, the calculation of the ICS capital requirement for a particular risk, or a number of risks, is determined by applying factors to specific exposure measures.

be relevant for the identified exposures. The detailed list of policy measures is presented in Annex C.

A. Liquidity risk

70. The IAIS policy tool kit has several requirements related to management of liquidity risk. While these policy measures are mostly micro-prudential and qualitative in nature, they can serve a macro-prudential purpose in the context of an ABA.

71. A first set of relevant requirements relates to enterprise risk management and own risk and solvency assessment (ERM/ORSA). They guide companies to address and manage all material risks to which they are exposed. This includes liquidity risk. If considered at an aggregate level, information included in the ORSA might also help detect potential excessive risk taking and common patterns in behaviours across firms. It could also form the basis for more targeted supervisory action.

72. Additionally, investment and ALM requirements provide incentives for insurers to properly consider all risks in their asset portfolio and appropriately manage them *vis-à-vis* their liabilities. Insurers have to select investments that are appropriate to the nature of their liabilities and are required to properly assess and manage the inherent risks.

73. The capital adequacy requirements emphasise the need to address all material risks including liquidity risk (which is explicitly referenced), even if not considered as part of a capital framework.

74. Stress testing can be one of the main instruments when operating an effective risk management and control system. The ICPs and draft ComFrame both require that the level of risk borne by the insurer should be assessed regularly using appropriate forward-looking quantitative techniques (i.e. risk modelling, stress testing, reverse stress testing, scenario analysis). Stress tests also provide insurers and supervisors with assessments of adverse (but plausible) stress scenarios together with the insurer's projected strategies to manage these scenario.

75. These tools, together with regular reporting (reporting requirements) and examinations, are essential tools for macro-prudential surveillance, as they feed into the horizontal assessment (cf. ICP 24 Macroprudential Surveillance and Insurance Supervision) of the sector or the economy. The findings may also serve as the basis for supervisors' actions at the market level.

76. The requirements are very similar across the ICPs and draft ComFrame; with the latter partly being more prescriptive and granular, for instance with regard to treatment of certain activities, such as securities lending and maturity transformation undertaken by entities.

77. In addition to the ICPs and draft ComFrame, the Liquidity Risk Management Plan (LRMP) for G-SIIs requires them to set out a plan that clearly demonstrates how they are able to manage liquidity risk given different stress scenarios. Mismanagement of liquidity and liquidity risks has contributed to distress and failure in the insurance industry. For example, some historical examples of insurance failures have been the consequence of concentrated investments in illiquid assets backing liability structures where the payment obligations could be accelerated in a time of distress. If firms properly manage both liquidity

sources and liquidity needs, it is expected that the risk of sudden asset sales can be mitigated.

78. Liquidity risk (other than that addressed via the lapse risk module) is not expected to be quantified in the ICS (nor is quantification required under the ICPs). The main reference to liquidity risk is in the draft ComFrame's qualitative requirements (i.e. Module 2 Elements 3 and 4, which address ERM).

B. Macroeconomic exposure

79. As in the case of liquidity risk, there are a number of existing policy measures within the IAIS frameworks that could mitigate the market and credit risks.

80. ERM/ORSA, investment guidelines, ALM and stress tests are tools that guide companies to address all material risks to which they are exposed, including market and credit risk.

81. Additionally, ALM requirements provide incentives for insurers to properly consider all risks in their asset allocation and appropriately manage them *vis-à-vis* their liabilities. Insurers have to select investments that are appropriate to the nature of their guaranteed liabilities and are required to properly assess and manage the inherent risks.

82. The capital adequacy requirements emphasise the need to address all material risks including market and credit risk.

83. In addition, stress testing that is foreseen in the ICPs and draft ComFrame provides insurers and supervisors with assessments of adverse stress scenarios together with the strategies foreseen to manage them.

84. The requirements are very similar across the ICPs and draft ComFrame, with the latter partly being more specific, for instance with regard to treatment of certain activities, such as securities lending, maturity transformation undertaken by entities, etc.

85. With regard to the G-SII policy measures, the analysis and assessment included in the Systemic Risk Management Plan should be focussed also on systemic concerns related to macroeconomic exposures.

86. Additionally, in ICS Version 1.0 for extended field testing, the capital requirements for market and credit risk, assessed via stress or factor based approaches are intended to be risk sensitive and could serve as another important tool.

C. Other potentially relevant aspects

87. Further aspects have to be considered in order to identify vulnerabilities or situations that are likely to have a macro-prudential impact, but are not specifically related to the two risk categories above. These aspects have been included under the concept of "common or procyclical behaviours". The policy measures listed above in relation to liquidity, market and credit risks could also play a role in relation to these aspects. However, some existing policy measures may address them without a specific reference to the source of risk.

88. For example, ICP 16 (ERM) stresses the quality and quantity of capital resources to be managed in a forward looking manner as a means to address any procyclicality issues that may arise, and ICP 17 (Capital Adequacy) gives some consideration to pro-cyclicality as a consequence of risk-based capital regimes in times of economic downturn.

89. In addition, many requirements included in ICP 24 Macroprudential Surveillance and Insurance Supervision could have a particular relevance. With the exception of policy measures to be specifically applied to systemically relevant institutions, the focus of the policy measures in this area is on the identification of macro risks and trends which could impact the solvency position of individual insurers. These policy measures recommend to supervisors to carry out horizontal analysis and assessments that could concur in identifying common behaviour by insurers.

Questions to stakeholders:

- **Question 19:** Do you agree with the description of how the existing policy measures could mitigate systemic risk?
- **Question 20:** Are there other mitigating policy measures in the wider IAIS policy framework that should be taken into account? If so, what are these and how do they mitigate the risk?

VII. Next steps in the work by the IAIS on ABA (Steps 3 and 4)

90. As explained in Section IV (conceptual approach to developing ABA policy measures) a 4-step framework describes the process from identifying relevant activities to eventually determining any necessary revised or additional policy measures, including to whom those measures would apply. The IAIS will conduct considerable further work to identify and evaluate residual risks and the corresponding policy measures.

91. This section provides a high level overview of the aspects that will inform the IAIS's proposals. They will be elaborated further and explained in detail in the 2018 consultation document.

A. Gap analysis (Step 3)

92. A gap analysis, which the IAIS will undertake in 2018, is a prerequisite for any potential additional policy measure to address potential systemic risk. Any identified residual risks then determine the appropriate policy measures. In order to identify any potential new or refined policy measures, one first has to compare the systemic vulnerabilities described in Section VI against the policy measures that the IAIS already has in its policy tool kit, irrespective of whether those policy measures have specifically been established in order to mitigate systemic risk.

93. As financial market participants, insurers also have to adhere to other international standards (e.g. IOSCO), specifically those related to the capital market. An example of this is the FSB's over the counter (OTC) derivatives market reforms[34]. The gap analysis will consider those policy measures when identifying any residual systemic risk. Any material remaining gap, after this assessment, is an indication that the existing IAIS or international framework may need some refinement to address the residual risk. Specific national requirements are not part of the gap assessment in Step 3. Those become relevant only at the stage of implementation of standards, which is outside the scope of this work.

94. As part of its analysis, the IAIS seeks feedback on the identification of three areas of systemic relevance: 1) liquidity risk, 2) macroeconomic exposure, and 3) other relevant aspects; recognising that the third area cannot be fully disentangled from the other two areas. These sources of potential systemic concern need to be assessed in light of the policy measures identified in Section VI. The residual risks that are not addressed by existing policy measures could be assessed using simple volume measures. Examples include the notional value of guarantees or non-hedging derivatives or the stock of liquid assets or liabilities. However, given the importance of asset-liability matching in insurance, such measures may be insufficient as they ignore the interaction between both sides of the balance sheet and, hence, any potentially mitigating (or exacerbating) factors. For example, as described in Section VI, certain insurance guarantees have a similar economic function as derivatives. When those guarantees are properly hedged, systemic risk is contained.

95. If appropriately developed, stress and scenario tests may also serve as useful measurement approaches. While there are challenges in calibration and a lack of common metrics, to have comparable results across jurisdictions, such an approach could prove useful in assessing the interactions between assets and liabilities.

Questions to stakeholders:

- **Question 21**: Do you agree with the IAIS's description of the gap analysis? If not, please explain how it could be improved.
- **Question 22**: Do you have any suggestion on how to measure (residual) liquidity risk in a proportionate manner?
- **Question 23:** How can the (residual) macroeconomic risk be appropriately measured, taking into account the extent that this risk is managed through ALM?
- **Question 24**: Are there any other important considerations that are not included?

B. Policy measures that follow from the gap analysis (Step 4)

96. Below is a brief outline of some possible policy measures the IAIS will provisionally be focussing on for addressing liquidity risk, macroeconomic exposures and for the identified

[34] FSB (2017) OTC Derivatives Market Reforms: Twelfth Progress Report on Implementation, available under: http://www.fsb.org/2017/06/otc-derivatives-market-reforms-twelfth-progress-report-on-implementation/

”other potentially relevant aspects”. These are only included for the purposes of gathering early stakeholder feedback and are subject to future changes as the IAIS progresses with its analysis.

97. As a general approach, the IAIS intends to include in any developed policy measure appropriate considerations of relevant risk mitigants that are available in concrete circumstances[35].

Liquidity risk

98. Two categories of options to address liquidity risks have thus far been identified as potential policy measures: either (i) quantitative, stress-based requirements, or (ii) qualitative planning.

    (i) The development of quantitative liquidity requirements would take time to develop and may not be feasible in the short-term. Quantitative requirements may be explored by the IAIS as a longer-term initiative.

    (ii) As a short-term measure, the IAIS could instead focus on qualitative planning for the ABA policy measures to be proposed in 2019. While currently only applicable to G-SIIs, the Liquidity Risk Management Plan (LRMP) is already in the IAIS’s current policy framework and could be reviewed and proportionally applied. While all companies should understand the liquidity risks they face, it would not be required that all companies apply the highest level of granularity and specificity to their identification and reporting of liquidity risk.

99. In either a quantitative or qualitative framework the level of detail, frequency of reporting, time horizons, and other features could be tailored to firms’ business models to ensure proportionality. In addition, quantitative metrics to properly assess the liquidity risk could be developed.

100. Within both of these options, interconnectedness with the financial sector (counterparty exposure) could be assessed and potentially mitigated. To reduce the risk that such interconnections could exacerbate a systemic concern, additional guidance on the treatment of assets issued by the financial sector as well as loans from banks and other financial institutions could be incorporated into any proposed policy measures or the ICPs. While such policy measures could reduce funding to the financial sector in the short-term, they may also serve to mitigate the risk of a sudden stop in a stressed period. Pros and cons of these policy measures would be evaluated to assess whether the resulting effect would be beneficial to financial stability.

101. Finally, other enhanced qualitative requirements on liquidity risk governance and management and reporting will be considered in the review. The IAIS will also consider the adequacy of data elements and the transparency of supervisory reporting as it pertains to liquidity[36].In the 2018 consultation document the IAIS will elaborate in more detail on

[35] This includes national frameworks or others as well as firm specific mitigating tools.
[36] See, for example, the Section, *Data Elements and Granularity* in FSB (2015) Transforming Shadow Banking into Resilient Market-based Finance: Standards and processes for global securities financing data collection and aggregation, retrieved from http://www.fsb.org/wp-content/uploads/FSB-Standards-for-Global-Securities-Financing-Data-Collection.pdf.

the potential policy measures for liquidity risk and how they may be integrated into the IAIS policy framework.

Macroeconomic exposure

102. As outlined above, the degree of macroeconomic exposure in insurance liabilities is not binary and depends on the richness and characteristics of any applicable investment guarantees as well as the complexity of the underlying risk/legal environment.

103. An effective measurement of this exposure should recognise the relationship between the assets and liabilities of the firm in a holistic manner. This could for instance be done by stress-testing the total balance sheet of an insurer against a comprehensive set of market events, such as changes in interest rates and equity prices. The IAIS may consider guidance on how such company-run stress tests could be proportionately applied, building on what is already set out in the ICPs. This could for instance be applied by firms in completing the ORSA or as part of their own ERM framework. It is worth noting that the application of the ICS would likely be sufficient in complying with any such guidance, though the ABA is not intended to mandate the extension of the ICS beyond IAIGs.

104. Interconnectedness (counterparty exposure) could be incorporated in such an approach, for instance by considering whether it may be appropriate to have a different treatment applied to other financial sector assets.

105. As noted in Section V, insurers may engage in other non-insurance activities that expose them to macroeconomic risk. In particular, the use of derivatives outside of a hedging program could create systemic concerns. While the broader application of stress testing would capture such activities, a more tailored approach for this particular risk could be adopted. One such option could be guidance to supervisors on the development of derivatives-use plans or hedging program documentation to constrain the use of such instruments outside of a documented program.

106. In addition to entity specific stress testing, ICP24 Macro-prudential Surveillance and Insurance Supervision is a useful diagnostic tool for assessing the risk from common exposures at a market-wide level. It offers guidance on what type of analysis could be undertaken by supervisors to monitor and assess aggregated exposures to macroeconomic risk. The IAIS will need to further explore whether it describes sufficiently the potential ways to monitor systemic risk.

107. As in the case of liquidity risk, enhanced qualitative requirements governance and management of macroeconomic exposure will be considered in the review.

108. Furthermore, despite currently only being applicable to G-SIIs, resolution and recovery plans may serve as a measure to increase trust in the insurance sector and thus limit the risk of market-wide runs or stress if a number of insurers fail. The IAIS could investigate how appropriate consideration of recovery plans could play a role in mitigating macro-economic effects.

Other potentially relevant aspects

109. Although the "other potentially relevant aspects", as described in Section V, are still under consideration with regard to their systemic relevance, it seems useful to highlight the potential policy measures that the IAIS could consider to address the associated potential systemic risk.

110. Operational risk may already be adequately addressed for insurers, for instance through regulatory requirements for insurers in establishing appropriate operational risk management processes and risk limits and requirements to hold capital to cover operational risk. The IAIS would consider whether the existing guidance in the ICPs (particularly related to ERM require amendment, especially with regards to business continuity plans and transition plans, for example, to enable orderly transfer of clients' accounts and investment mandates in stressed conditions. Any such amendments would recognise that risk management frameworks and practices should be commensurate with the level of risks that the insurers' activities pose to the financial system.

111. As to the issue of common behaviour not stemming from liquidity risk and macroeconomic exposure, possible policy measures could be developed as an enhancement of ICP24 Macroprudential Surveillance and Insurance Supervision. ICP24 can be a useful diagnostic tool for assessing common exposures at a market- wide level. Enhancements could include guidance on types of analysis supervisors could undertake to monitor and assess the potential externalities generated by common or procyclical behaviour under specific circumstances.

Scope of application and proportionality

112. For any policy measure to be beneficial on net, the IAIS should consider proportionality and, where feasible, assess the associated costs and benefits of such policy measures. Policy measures should be applied such that the gain of additional risk mitigation outweighs the costs of its application. The IAIS will prioritise its work accordingly. An example of such a consideration is that of scalability, specifically that the application of a given policy measure may vary considerably by company and may be subject to the company's size and its activities.

113. From this follow two conclusions:

- the application of policy measures may vary across firms and may be subject to individual circumstances and
- not all companies would be affected by those policy measures. Companies may be excluded because 1) they do not undertake activities that expose them to the noted risk exposures, or 2) they are deemed too small and the imposition of the policy would not be practicable or beneficial for financial stability purposes.

114. These points highlight the need for a proportionate application of policy measures. Some firms may be so small or undertake such a trivial amount of an identified activity that, even when taken together with similar firms, the effects on the financial system are

negligible. The IAIS is considering the application of thresholds such that, firms that do not meaningfully contribute to the insurance sector's risk will not be subject to additional policy measures. For example, firms that do not write meaningful amounts of surrenderable products or reinvest securities lending collateral to enhance yield could have some version of an LRMP or any potential liquidity stress testing applied in a proportionate manner (including the potential application of de minimis thresholds). Firms not writing significant volumes of guarantees may also not have to conduct stress testing or at least may not have to share results with supervisors.

Questions to stakeholders:

- **Question 25**: Do you have any comments on the potential policy measures considered?
- **Question 26**: How should the IAIS determine the scope of any proposed policy measures? Should they scope vary based on the policy measure in question or should the scope be the same for all policy measures?
- **Question 27**: How could costs and benefits be measured by the IAIS?
- **Question 28**: How could a materiality threshold be set?

VIII. Implications on the overall systemic risk framework

115. The work described in this consultation paper is not part of the G-SII assessment framework. However, it may impact the work on the G-SII assessment methodology review, which will start at the beginning of 2018. The G-SII assessment methodology review and the review of the IAIS policy measures for the purpose of systemic risk mitigation in an ABA context will be done jointly.

116. The IAIS intends to develop a holistic framework for the assessment and mitigation of systemic risk in the insurance sector. This work will consider the entire IAIS framework, including on-going IAIS projects. The ABA's conclusions and any proposals on policy measures will have to be incorporated consistently in the IAIS policy framework.

Questions to stakeholders:

- **Question 29**: Are there other aspects the IAIS should consider in assessing the implications of ABA work?
- **Question 30**: What impact, if any, do you think the ABA should have on the revision of the G-SII Assessment Methodology?
- **Question 31**: Do you have any other comments on the approach taken?

IX. Annex

A. Comparison between ABA and EBA

Comparisons	EBA	ABA
Comparison by type of assessment	Assessment of impact of failure of single institution. The focal point is the failed institution and the repercussion that failure could have on the financial sector and eventually on the real economy. Vertical assessment of systemic risk (aggregation of risks within firm) and comparison relative to other firms The focus is on the institution. As the EBA is an impact given default approach, the focus is mostly on the largest institutions[37]	Includes assessment of impact of many failures, sector-wide distress and synchronised responses. The failure of an institution is not a prerequisite. The focal point is the activity or exposure that can lead to negative externalities to the financial sector and the real economy, independent of the failure of a single institution. The focus on activities/exposures means that the size of the individual company plays less of a role. The starting point is the activity in aggregate across markets. Restrictions on the number of institutions covered in the assessment are a matter of proportionality and de minimis considerations, but will likely cover significant shares of insurance markets around the globe and in specific geographical areas / jurisdictions. Horizontal assessment of systemic risk (aggregation of particular risks exposures across firms)
Comparison by type of impact	“Domino view”/ ”direct view”: The failure of an institution causes shocks to propagate to other institutions	“Tsunami view”/ ”indirect view”: Common exposure causes correlated actions or impacts
Comparison by scope of application of policy measures	Additional policies specifically apply to companies that are identified as systemic. The intention is, as mentioned in the guidance for the systemic risk	In principle, any policies related to the mitigation of systemic risk stemming from a particular activity are independent of the institution undertaking that activity. Restrictions

[37] The criteria for sample selection can be found in the 2016 Updated G-SII Assessment Methodology in Section IV, paragraph 29.

	management plan, to mitigate, reduce or manage systemic risk stemming from a particular institution.	may apply due to proportionality and de minimis considerations.
Assessment of risk categories	Size (of the insurer), global activity, substitutability, interconnectedness (both counterparty and macroeconomic exposure), asset liquidation.	The assessment essentially focuses on the main transmission channels: macroeconomic exposure, asset liquidation.

B. Task Force on Systemically Important Banks and Insurers

The task of the Task Force on Systemically Important Banks and Insurers (TFBI) is to address unjustified inconsistencies between the Globally Systemically Important Banks' (G-SIB) framework and the Globally Systemically Important Insurers' (G-SII) assessment methodology.

The TFBI will: (i) assess whether the G-SIB and G-SII methodologies taken together are coherent and comprehensive in assessing the systemic importance of banks and insurers; (ii) develop specific proposals to fill gaps, address inconsistencies or unintended consequences in the overall G-SIB and G-SII frameworks; and report their parent groups on issues of consistency related to the two methodologies.

To meet these objectives, the TFBI will undertake a stocktake of work done within the BCBS and IAIS on the treatment of insurance subsidiaries of banking groups and of banking subsidiaries of insurance groups. In particular, it will assess whether (a) potential SIBs and SIIs are not captured by either the G-SIB and G-SII assessment methodologies; and (b) data related to insurance subsidiaries or subgroups of banking groups should be included in the G-SII data collection and assessment.

TFBI will also assess whether any inconsistency in the G-SIB and G-SII assessment methodologies creates unintended consequences and, if so, propose enhancements to the G-SIB and G-SII frameworks to address these inconsistencies. In particular the TFBI will (a) assess whether the treatment of banking subsidiaries or subgroups of insurance groups for G-SII purposes is consistent with the G-SIB assessment; (b) assess whether the approach being developed by the BCBS to take into account insurance subsidiaries or subgroups of banking groups for the purpose of the G-SIB assessment is consistent with the G-SII assessment. It is also responsible for proposing a framework with procedures for collecting and sharing data between the BCBS and IAIS for the purpose of fulfilling its mandate.

The TFBI is composed of the representatives from the BCBS and IAIS. It reports to the Macroprudential Supervision Group (MPG) - a permanent group of the BCBS – and to the Systemic Risk Assessment Task Force (SRATF) – a task force that reports to the IAIS Executive Committee.

C. Summary of relevant existing IAIS policy toolkit

The table below consists of an abstraction of the existing policy measures in ICPs, draft ComFrame and G-SIIs policy measures that deal with liquidity risk, macroeconomic exposure and other potentially relevant factors as indicated in the main text. This collection is not intended to include all the policy measures that even indirectly could address those aspects.

For all the activities identified in the main text, the existing relevant policy measures have been grouped based on a sort of macro classes: Stress testing, Enterprise risk management and ORSA, Investment Requirements, ALM, Capital adequacy requirement, Reinsurance, Reporting requirement, Macroprudential surveillance and insurance supervision, G-SII measures.

N.B.: For the purpose of this stock take the following versions of the IAIS policy frameworks have been considered:

i. ICPs - as adopted in November 2017;
ii. ComFrame - revised draft September 2014 public version, available on the IAIS webpage;

References to the ComFrame have been reported in grey cells, those to G-SIIs Policy measures in light blue;

The reference to ICPs and ComFrame is there **only to illustrate** the proposed process. The ComFrame draft material as well as the ICPs related to ComFrame are subject to revisions, which are at various stages (cf. https://www.iaisweb.org/page/supervisory-material/common-framework/file/69454/timelines-and-status-of-comframe and https://www.iaisweb.org/page/supervisory-material/insurance-core-principles/file/69991/timelines-and-status-of-icps). The revisions of ComFrame elements and related ICPs will be taken into account in the ABA Policy proposals that will be proposed at the end of 2018.

Type of Risk exposure: Liquidity risk	
Tools	**Description of macro-prudential role of the tool by framework**
Stress testing	(***ICP[38] 8.1*** *Risk Management and Internal Controls*); The supervisor requires the insurer to establish, and operate within, an effective risk management system. (*8.1.2 – basic component of a risk management system*) An effective risk management system typically includes elements such as: ……suitable processes and tools (including stress testing and, where appropriate, models); (*8.4.4- risk management functions- main activities of risk management function*) The risk management function should …..: …conduct regular stress testing and scenario analyses as defined in ICP 16 (Enterprise Risk Management for Solvency Purposes); (***ICP 16*** *Enterprise risk management for solvency purposes*); (*16.1.6 Measuring, analysing and modelling the level of risk*). The level of risk is a combination of the impact that the risk will have on the insurer and the probability of that risk materialising. (*16.1.7- 16.1.17* fit the purpose of stress test/reverse stress test/scenario analysis/internal model) Same hold true for the stress test in a Group context (*16.1.20 – Additional guidance for insurance group*).
	(***ComFrame[39] Module 2 Element 3 - ERM***) (*Standard M2E3-3*)The IAIG establishes, within its ERM Framework, effective means for identifying, measuring, reporting and managing risk on a group-wide basis (*Parameter M2E3-3-6*) The IAIG's risk identification and measurement includes stress (and reverse stress) testing and scenario analysis using scenarios identified by the IAIG. Guideline M2E3-3-6-1. (*Guideline M2E3-3-6-1*) Stress and scenario testing should reflect the IAIG's own risk profile and are an important element of the ERM, used in assessing the financial strength of an insurance entity/group, under stressed circumstances. Although predominantly

[38] All current adopted ICPs can be consulted here: www.iaisweb.org
[39] ComFrame can be consulted here: https://www.iaisweb.org/page/supervisory-material/common-framework//file/58726/revised-comframe-draft-2014

	quantitative in nature, stress tests are based on important qualitative components, such as key assumptions and (the limitations of) available data. The IAIG should document the methodologies, key assumptions and limitations related to its stress and scenario testing, and communicate these internally as well as to the group-wide supervision. (***ComFrame Module 2 Element 5 – Capital adequacy assessment***) (*Parameter M2E5-13-5*) The IAIG documents its scenario and stress testing including…. (*Guideline M2E5-13-5-1*) Particular note should be taken to determine scenarios which are relevant, i.e. scenarios which would have significant impact on the insurance industry. Careful consideration should be given to whether or not historic scenarios are still relevant in today's economic environment.
Enterprise risk management and ORSA	(***ICP 16*** *Enterprise risk management for solvency purposes - ERM*) - The supervisor establishes enterprise risk management requirements for solvency purposes that require insurers to address all relevant and material risks; (*16.0.4*) Insurers should exhibit an understanding of their enterprise risk issues and show a willingness and ability to address those issues. (*16.1 - Risk identification*) (*16.1.1*) The ERM framework should identify and address all reasonably foreseeable and relevant material risks to which an insurer is, or is likely to become, exposed. Such risks should include, at a minimum, underwriting risk, market risk, credit risk, operational risk and liquidity risk and may also include, for example, legal risk and risk to the reputation of the insurer. (*16.1.5 – causes of risk and relationship between risks*) As an illustration, insurers should be particularly aware that certain major trigger events, such as catastrophes, downgrades from rating agencies or other events that have an adverse impact on the insurer's reputation, can result, for example, in a high level of claims, collateral calls or policyholder terminations, especially from institutional counterparties or institutional policyholders and hence lead to serious liquidity issues. The ERM framework should adequately address the insurer's options for responding to such trigger events. (*16.1.19 – additional guidance for insurance groups*) Group risk may arise, for example, through contagion, leveraging, double or multiple gearing, concentrations, large exposures and complexity. Participations, loans, guarantees, risk transfers, liquidity,

	outsourcing arrangements and off-balance sheet exposures may all give rise to group risk. Many of these risks may be borne by standalone insurance legal entities and are not specific to membership of a group. However, the inter-relationships among group members including aspects of control, influence and interdependence alter the impact of risks on group members and should therefore be taken into account in managing the risks of an insurance legal entity that is a member of an insurance group and in managing the risks of that insurance group as a whole. To be effective, the management of insurance group risk needs to take into account risks arising from all parts of an insurance group including non-insurance entities (regulated or unregulated) and partly-owned entities. (*16.6 - The supervisor requires the insurer to have a risk management policy*) (*16.6.7*) For complex investment strategies, aspects to consider include liquidity and responsiveness to sudden market movements. Stress testing as well as contingency planning for stressed situations, is essential. (*16.9 - The supervisor requires the insurer's ERM framework to be responsive to changes in its risk profile*) (*16.9.1*) The ERM framework and risk management policy of the insurer should be responsive to change as a result of both internal and external events. The framework should include mechanisms to incorporate new risks and new information on a regular basis. …. (*16.13 - ORSA*) The supervisor requires the insurer's **ORSA** to encompass all reasonably foreseeable and relevant material risks including, as a minimum, underwriting, credit, market, operational and liquidity risks and additional risks arising due to membership of a group.
	(***ComFrame M2E3 (ERM)*** (*Par M2E3-1-2*) ERM framework both at individual and group-wide basis (*Guideline M2E3-1-2-1*) The ERM framework should contain written policies that include a definition and categorisation of the material risks to which the IAISG is exposed and the level of acceptable risk. *(Parameter M2E3-3-1)* the IAIG's ERM Framework covers at least the following risks and the management of these risks in a cross-border context: • …, …., credit risk, • liquidity risk, concentration risk, ..

	In measuring these risks, the IAIG also considers the net risk, taking into account any risk mitigation techniques applied, including reinsurance. (*Guideline M2E3-2-8-4*) Particular note should be made by the IAIG of any financial or other activities (e.g. maturity transformation, securities lending) being undertaken by individual entities, that might change the risk profile of the group. For example, in securities lending transactions, the groupwide ERM policy may provide that high quality assets not be swapped with low quality assets, that appropriate arrangements for the provisioning of collateral are in place or that the maturity of the swapped assets do not significantly increase the risk profile of the IAIG. (*Parameter M2E3-2-8/ Guideline M2E3-2-8-4*) Particular note should be made by the IAIG of any financial or other activities (e.g. maturity transformation, securities lending) being undertaken by individual entities, that might change the risk profile of the group. For example, in securities lending transactions, the group wide ERM policy may provide that high quality assets not be swapped with low quality assets, that appropriate arrangements for the provisioning of collateral are in place or that the maturity of the swapped assets do not significantly increase the risk profile of the IAIG (*Guideline M2E3-2-8-5*) The IAIG's ERM Framework covers at least the following risks and the management of these risks in a cross-border context: • ….,• market risk, • credit risk, • liquidity risk…. In measuring these risks, the IAIG also considers the net risk, taking into account any risk mitigation techniques applied, including reinsurance. (*Par M2E3-3-1*)The IAIG should also take account of the aggregation of exposures to external parties across the IAIG. (*Guideline M2E3-3-1-3*) The IAIG should make note of how reinsurers are used within the IAIG in the mitigation of risk. Of particular concern is the knock-on effect any failure of these reinsurers would have on the solvency position of the various group entities making use of their facilities and on the IAIG itself (*Guideline M2E3-4-4-1)* In conducting its **ORSA**, the IAIG should consider risks arising from insurance and other entities, including non-regulated ones. Some other risks that are important to consider are: liquidity risk, reputational risk
Investment Requirements	(***ICP15*** - *Investment*) - The supervisor establishes requirements for solvency purposes on the investment activities of insurers in order to address the risks faced by insurers.

	(15.2.2 – *supervisor is open and transparent as to the regulatory investment requirements*...) *Additional guidance for insurance groups* -A supervisor for insurance groups should be explicit as to the requirements that apply both on a group-wide basis as well as to insurance legal entities within the group and should address issues specific to groups, such as requirements for liquidity, transferability of assets and fungibility of capital within the group. (*15.3 Regulatory investment requirements regarding asset portfolio*). The regulatory investment requirements address at a minimum, …. Liquidity…of an insurer's portfolio of investments as a whole. (15.3.15 - *Liquidity*) The insurer is required to pay benefits to the policyholder when the benefits become due. In order to do so, the insurer needs to have available assets which can be used to generate cash when it needs to do so. (15.3.17 *Liquidity*) The ability to realise or liquidate an investment at any point in time is important. *(15.4.3 Regulatory investment requirements relative to the nature of the liabilities)* As liability cash flows are often uncertain, or there are not always assets with appropriate cash flow characteristics, the insurer is usually not able to adopt a completely matched position. The insurer may also wish to adopt a mismatched position deliberately to optimise the return on its business. In such circumstances, the supervisor may require the insurer to hold additional technical provisions and/or capital to cover the mismatching risk. The regulatory investment requirements may also constrain an insurer's ability to mismatch its assets and liabilities as the extent of mismatching should not expose policyholders to risks that cannot be effectively managed by the insurer. Where a regime requires assets to be closely matched to such liabilities, other restrictions on investments may be appropriate to contain the investment fund risk being borne directly by policyholders. (*15.4.5*) The insurer should manage conflicts of interest (e.g. between the insurer's corporate objectives and disclosed insurance policy objectives) to ensure assets are invested appropriately. For with profits liabilities, an insurer should hold an appropriate mix of assets to meet policyholders' reasonable expectations. (15.5 – *Regulatory investment requirement regarding risk assessability*) The supervisor requires the insurer to invest only in assets whose risks it can properly assess and manage**.**
	(**ComFrame M2E4**) ERM policies – recall ICP *Standard 15.5: The supervisor require insurers to invest only in assets whose risks it can properly assess and manage.* (*Parameter M2E4-1-3*) The group-wide investment policy establishes limits on the nature and total value of intra-group participations

	(*Guideline M2E4-1-3-1*) Limits on such participations should have regard to: • their lack of liquidity, • contagion or reputational risk, • valuation uncertainty, • potential impact on capital resources (Standard M2E4-2) The IAIG's group-wide investment policy establishes criteria pertaining to the quality of its investments. (Parameter M2E4-2-1) The group-wide investment policy addresses the selection of, and/or exposure to, low-quality investments or investments whose security is difficult to assess. (*Parameter M2E4-2-2*)The IAIG monitors investments on a group-wide basis to identify inappropriate levels of exposure to certain investments compared to the group-wide investment policy (*Guideline M2E4-2-2-1*)… Reports to the Governing Body should also include exposures that, even if within limits, could create financial difficulties within the IAIG if the value or liquidity of the investments decreases. (*Parameter M2E4-2-3*)The group-wide investment policy sets minimum criteria for the liquidity and location of its investment portfolio so that it can make payments to policyholders or creditors when and where they fall due. (*Guideline M2E4-2-3-1*) The IAIG should consider its liquidity needs, transferability of assets and the fungibility of its capital in a stressed environment when determining the minimum criteria for liquidity of its investment portfolio (*Parameter M2E4-2-5*)The group-wide investment policy sets limits or other requirements so that assets are properly diversified and asset concentration risk is mitigated (*Guideline M2E4-2-5-1*) The IAIG should avoid excessive concentrations in any particular: • type of asset • issuer/counterparty or related entities of an issuer/counterparty …….
ALM	(***ICP16***) (16.5- *The supervisor requires the insurer to have a risk management policy which includes an explicit asset-liability management (ALM) policy which clearly specifies the nature, role and extent of ALM activities and their relationship with product development, pricing functions and investment management*).

	(*16.5.1*) ALM is the practice of managing a business so that decisions and actions taken with respect to assets and liabilities are coordinated. (*16.5.6*) Some liabilities may have particularly long durations, such as certain types of liability insurance and whole-life policies and annuities. In these cases, assets with sufficiently long duration may not be available to match the liabilities, introducing a significant reinvestment risk, such that the present value of future net liability cash flows is particularly sensitive to changes in interest rates. Many financial markets throughout the world do not have long fixed income assets to back long duration liabilities. There may also be gaps in the asset durations available. This may be an issue even in the most well developed markets for some types of liabilities. Risks arising from mismatches between assets and liabilities require particular attention. The insurer should give explicit attention within its ALM policy to risks arising from liabilities with substantially longer durations or other mismatches with assets available from the corresponding financial markets to ensure that they are effectively managed by holding adequate capital or having appropriate risk mitigation in place.
	(**ComFrame Element M2E3-2-6**) The group-wide ERM policy includes an explicit group-wide asset liability management (ALM) policy which clearly specifies the nature, role and extent of ALM activities and their relationship with investment management and, where applicable, product development and pricing functions.
Capital Adequacy Requirement	(***ICP17 -*** *Capital Adequacy*) (ICP17.1 – Capital adequacy). The supervisor requires that a total balance sheet approach is used. (17.7) The supervisor addresses all relevant and material categories of risk in insurers and is explicit as to where risks are addressed, whether solely in technical provisions, solely in regulatory capital requirements or if addressed in both, as to the extent to which the risks are addressed in each.The supervisor is also explicit as to how risks and their aggregation are reflected in regulatory capital requirements. (17.7.1) The supervisor should address all relevant and material categories of risk - including as a minimum underwriting risk, credit risk, market risk, operational risk and liquidity risk. This should include any significant risk concentrations, for example, to economic risk factors, market sectors or individual counterparties, taking into account both direct and indirect exposures and the potential for exposures in related areas to become more correlated under stressed circumstances.
Reinsurance	(**ICP 13** *Reinsurance*)

	(13.5.1) Liquidity risk has historically not been considered to be a major issue in the insurance sector, because of the nature and direction of cash flows within a cedant. However, there can be liquidity issues within an individual cedant and these could arise specifically from such cedant's reinsurance programme. (*Guideline M2E4-6-1-2*) changed/variation from ICP 13 In developing the approved security criteria for reinsurance transactions, the overall approach to credit risk set out in the groupwide ERM Framework should be used.
Reporting requirement	(***ICP 9.2.10***) - *Supervisory review and reporting – Framework for supervisory review and reporting* - The framework should enable the supervisor to analyse trends and compare risk assessments including against any stress test outcomes. (**ICP 20 –** *public disclosure*) (ICP 20.4.6) - Disclosure about the financial position of the insurer - It may be appropriate if an insurer discloses sufficient information, including quantifiable information, about its exposure to: • Currency risk • Market risk (including interest rate risk) • Credit risk • Liquidity risk • Concentration risk. (20.4.12) On the disclosure of credit risk, in addition to breakdowns on ratings and types of credit issuers described in Guidance 20.4.11, it is recommended that an insurer discloses the aggregate credit risk arising from off-balance sheet exposures. (20.5 *Disclosure about the financial position*) Disclosure about the financial position of the insurer includes appropriately detailed quantitative and qualitative information about enterprise risk management (ERM) including asset-liability management (ALM) in total and, where appropriate, at a segmented level. At a minimum, this information includes the methodology used and the key assumptions employed in measuring assets and liabilities for ALM purposes and any capital and/or provisions held as a consequence of a mismatch between assets and liabilities.

	(20.5.5) It may be appropriate if the insurer discloses the sensitivity of regulatory capital resources and provisions for mismatching to: changes in the value of assets, changes in the discount rate or rates used to calculate the value of the liabilities.
	(**ComFrame Parameter M2E2-6-2**) The Governing Body designates individual(s) at an appropriate level of seniority as having responsibility for the accuracy and timeliness of the group-wide reporting to supervisors and of disclosures to the public. (*Guideline M2E2-11-2-1*) The group-wide actuarial function should focus on group-wide reporting and disclosure as well as group-wide internal management reporting. (*Parameter M2E2-14-1*) The IAIG has systems and structures in place to fulfil reporting and disclosure needs on a group-wide basis. …
Macroprudential Surveillance and Insurance Supervision	**ICP 24)** (*24.2 - The supervisor, in performing market analysis, considers not only past developments and the present situation, but also trends, potential risks and plausible unfavourable future scenarios with the objective and capacity to take action at an early stage, if required)* (*24.2.2*) The supervisor should design macroprudential surveillance approaches from a multi-disciplinary and cross-sectoral perspective to identify trends and developments that might negatively impact the risk profile of insurers. It should consult and coordinate with all relevant stakeholders, including public and private sector organisations. (*24.3.3*) The supervisor performs both quantitative and qualitative analysis and makes use of both public and other sources of information, including horizontal reviews of insurers and relevant data aggregation. (*24.5*) The supervisor assesses the extent to which macro-economic vulnerabilities and financial market risks impinge on prudential safeguards or the financial stability of the insurance sector. (*24.5.1*)Supervisors should monitor insurers' connections with financial markets and the real economy in order to obtain early identification of potential or existing build-up of risks in other sectors that could adversely impact the insurance sector. *(24.6*) The supervisor has an established process to assess the potential systemic importance of insurers, including policies they underwrite and instruments they issue in traditional and non-traditional lines of business.

Recovery Plans	**G-SII Policy Measures** A recovery plan identifies options to restore financial strength and viability when a firm comes under severe stress. Recovery plans should include: i. credible options to cope with a range of scenarios including both idiosyncratic and market wide stress; ii. scenarios that address capital shortfalls and liquidity pressures; and iii. processes to ensure timely implementation of recovery options in a range of stress situations. Source: FSB Key Attributes, 2014, page 16.
Liquidity Risk Management Plan	(**G-SIIs Policy Measures** - *Liquidity Risk Management Plan*) The group-wide supervisor is responsible for evaluating and monitoring liquidity management and planning on a group-wide basis. The group-wide supervisor should require the G-SII to conduct regular gap analysis of its liquidity risks and the adequacy of its available liquidity resources, under normal and stressed conditions. …. These should include written strategies and policies for regular gap analysis and liquidity risk management, subject to clearly documented governance requirements. This should include an assessment of the arrangements the G-SII has in place to manage (so as to mitigate or reduce) those risks for the whole group.

Type of Risk exposure: Macroeconomic exposure	
Tools	**Description of macro-prudential role of the tool by framework**
Stress testing	(***ICP 8.1*** *Risk Management and Internal Controls*); The supervisor requires the insurer to establish, and operate within, an effective risk management system. (8.1.2 – basic component of a risk management system) An effective risk management system typically includes elements such as: ……..suitable processes and tools (including stress testing and,where appropriate, models); (8.4.4- risk management functions- main activities of risk management function) The risk management function should …..: …conduct regular stress testing and scenario analyses as defined in ICP 16 (Enterprise Risk Management for Solvency Purposes); (***ICP 16*** *Enterprise risk management for solvency purposes*); (*16.1.6*) *Measuring, analysing and modelling the level of risk.* (*16.1.7- 16.1.17* fit the purpose of stress test/reverse stress test/scenario analysis/internal model) Same hold true for the stress test in a Group context (*16.1.20*). (***ICP17.7***) - *Capital Adequacy –* (17.3) *Structure of regulatory capital requirements –*. (17.7.1) *Type of risks to be addressed*. • credit risk (*Parameter M2E5-13-5*) The IAIG documents its scenario and stress testing including…. (*Guideline M2E5-13-5-1*).

	ComFrame Module 2 Element 3 - ERM) (*Standard M2E3-3*)The IAIG establishes, within its ERM Framework, effective means for identifying, measuring, reporting and managing risk on a group-wide basis (*Parameter M2E3-3-6*) (*Guideline M2E3-3-6-1*). (***ComFrame Module 2 Element 5 – Capital adequacy assessment***) (ComFrame Standard M2E5-12) The IAIG, for the purposes of calculating its group capital benchmark, uses a scenario-based approach. (Parameter M2E5-12-7) When applying an individual stresses approach, the IAIG determines the financial impact of individual stresses on its balance sheet by applying stresses for: • insurance risk • market risk
Enterprise risk management and ORSA	(***ICP 16*** *Enterprise risk management for solvency purposes - ERM*) - (*16.0.4*) (*16.1 - Risk identification*) (*16.1.1*) … Such risks should include, at a minimum, underwriting risk, market risk, credit risk, ….. (*16.1.5*) ….. insurers should be particularly aware that certain major trigger events…the ERM framework should adequately address the insurer's options for responding to such trigger events. (*16.1.19*) Group risk may arise, for example, through contagion, leveraging, double or multiple gearing, concentrations, large exposures and complexity. Participations, loans, guarantees, risk transfers, liquidity, outsourcing arrangements and off-balance sheet exposures may all give rise to group risk.

	(*16.6*) The supervisor requires the insurer to have a risk management policy (16.6.2) The insurer's investment policy should outline its policy towards inherently risky financial instruments such as derivatives of various types, hybrid instruments that embed derivatives, private equity, alternative investment funds such as hedge funds, insurance linked instruments and commitments transacted through special purpose entities. (*16.6.7*) For complex investment strategies. Stress testing as well as contingency planning for stressed situations, is essential (*16.13*) The supervisor requires the insurer's **ORSA**
	(***ComFrame M2E3 (ERM)*** (*Par M2E3-1-2*) ERM framework both at individual and group-wide basis (*Guideline M2E3-1-2-1*) The ERM framework should contain written policies ….and the level of acceptable risk. *(Parameter M2E3-3-1)* the IAIG's ERM Framework covers at least the following risks and the management of these risks in a cross-border context: • …, …., credit risk,.. (*Parameter M2E3-2-8/ Guideline M2E3-2-8-4*) Particular note … activities (e.g. maturity transformation, securities lending) ..that might change the risk profile of the group. ..that appropriate arrangements for the provisioning of collateral are in place or that the maturity of the swapped assets do not significantly increase the risk profile of the IAIG. (*Guideline M2E3-2-8-5*) The IAIG's ERM Framework covers at least the following risks and the management of these risks in a cross-border context: ….credit risk .. In measuring these risks, the IAIG also considers the net risk, taking into account any risk mitigation techniques applied, including reinsurance. (*Par M2E3-3-1*)The IAIG should also take account of the aggregation of exposures to external parties across the IAIG. (*Guideline M2E3-3-1-3*) The IAIG should make note of how reinsurers are used within the IAIG in the mitigation of risk (*Guideline M2E3-4-4-1)* **ORSA**

Investment Requirements	(***ICP15***) Investment - The supervisor establishes requirements for solvency purposes on the investment activities of insurers in order to address the risks faced by insurers (15.1 - *The supervisor establishes requirements that are applicable to the investment activities of the insurer*). (15.1.7- *basis for establishing regulatory investment requirement*) Rules-based requirements may be used to prohibit or limit specific classes of investment. Such requirements may be used, for example, for classes that have very volatile payouts, such as commodities, certain derivatives, asset classes where the counterparty is below a certain credit rating, unsecured loans, unquoted shares and exposures to closely related companies. Rules may also be defined to restrict exposure to any single counterparty, group, or homogeneous risk group (such as industry and geographical area) to, for example, a defined percentage of the total assets or capital base. Such rules or restrictions may either be applied directly to the investments or lead to charges to or deductions from available capital which act as a disincentive to investment in risky assets or high concentrations in particular assets rather than as a prohibition (*15.2.2 – the supervisor is open and transparent as to the regulatory investment requirement .. - additional guidance for insurance groups*) A supervisor for insurance groups ….should address issues specific to groups, such as requirements for liquidity, transferability of assets and fungibility of capital within the group. (*15.3.8 – Security*) Where external credit ratings of the investment are available, these may assist the insurer in determining the security of the counterparty and the associated risk of default. However, the insurer should be aware of the limits of using credit ratings and, where appropriate, conduct its own due diligence to assess the counterparty credit risk exposure. The supervisor may also establish requirements on the appropriate use of credit ratings by the insurer to ensure a sufficient degree of security of investments. (*15.3.17 – additional guidance on security for insurance group*) The ability to realise or liquidate an investment at any point in time is important. *(15.3.24 - diversification)* With respect to its investment portfolio, the insurer should ensure that it is diversified both within as well as between risk categories taking into account the nature of the liabilities.

	(15.3.25 - *diversification*) To ensure that its investment portfolio is adequately diversified, the insurer should avoid excessive reliance on any specific asset, issuer, counterparty, group, or market and, in general, any excessive concentration or accumulation of risk in the portfolio as a whole. *(15.4.3 – regulatory investment requirements relating to the nature of the liabilities)* As liability cash flows are often uncertain, or there are not always assets with appropriate cash flow characteristics, the insurer is usually not able to adopt a completely matched position. The insurer may also wish to adopt a mismatched position deliberately to optimise the return on its business. In such circumstances, the supervisor may require the insurer to hold additional technical provisions and/or capital to cover the mismatching risk. … (*15.4.5*) The insurer should manage conflicts of interest (e.g. between the insurer's corporate objectives and disclosed insurance policy objectives) to ensure assets are invested appropriately. (15.5) The supervisor requires the insurer to invest only in assets whose risks it can properly assess and manage**.**
	(**ComFrame 2E4** *ERM policies* – recall ICP *Standard 15.5: The supervisor require insurers to invest only in assets whose risks it can properly assess and manage*). (*Parameter M2E4-1-3*) The group-wide investment policy establishes limits on the nature and total value of intra-group participations (Standard M2E4-2) The IAIG's group-wide investment policy establishes criteria pertaining to the quality of its investments. (Parameter M2E4-2-1) The group-wide investment policy addresses the selection of, and/or exposure to, low-quality investments or investments whose security is difficult to assess. (*Parameter M2E4-2-2*)The IAIG monitors investments on a group-wide basis to identify inappropriate levels of exposure to certain investments compared to the group-wide investment policy (*Parameter M2E4-2-3*)The group-wide investment policy sets minimum criteria for the liquidity and location of its investment portfolio so that it can make payments to policyholders or creditors when and where they fall due. (*Parameter M2E4-2-5*)The group-wide investment policy sets limits or other requirements so that assets are properly diversified and asset concentration risk is mitigated. (*Guideline M2E4-2-5-1*) The IAIG should avoid excessive concentrations in any particular:

	• type of asset • issuer/counterparty or related entities of an issuer/ counterparty • market • industry • geographic area.
ALM	(***ICP16 -*** *ERM*) (16.5 -*The supervisor requires the insurer to have a risk management policy which includes an explicit asset-liability management (ALM) policy* ….) (*16.5.1*) ALM is the practice of managing a business so that decisions and actions taken with respect to assets and liabilities are coordinated. (*16.5.6*) Some liabilities may have particularly long durations. Many financial markets throughout the world do not have long fixed income assets to back long duration liabilities. There may also be gaps in the asset durations available. This may be an issue even in the most well developed markets for some types of liabilities. ….ensure that they are effectively managed by holding adequate capital or having appropriate risk mitigation in place.
	(ComFrame Element M2E3-2-6) The group-wide ERM policy includes an explicit group-wide asset liability management (ALM) policy which clearly specifies the nature, role and extent of ALM activities and their relationship with investment management and, where applicable, product development and pricing functions.
Capital Adequacy Requirement	(***ICP17 -*** *Capital Adequacy*) (ICP17.1 – Capital adequacy). The supervisor requires that a total balance sheet approach is used. (17.1.1 – capital adequacy in the context of a total balance sheet approach) The overall financial position of an insurer should be based on consistent measurement of assets and liabilities and explicit identification and consistent measurement of risks and their potential impact on all components of the balance sheet. In this context, the IAIS uses the term total balance sheet approach to refer

	to the recognition of the interdependence between assets, liabilities, regulatory capital requirements and capital resources. A total balance sheet approach should also require that the impacts of relevant material risks on an insurer's overall financial position are appropriately and adequately recognised (17.7-*Types of risks to be addressed*) The supervisor addresses all relevant and material categories of risk in insurers and is explicit as to where risks are addressed, whether solely in technical provisions, solely in regulatory capital requirements or if addressed in both, as to the extent to which the risks are addressed in each. The supervisor is also explicit as to how risks and their aggregation are reflected in regulatory capital requirements. (17.7.1) The supervisor should address all relevant and material categories of risk - including as a minimum underwriting risk, credit risk, market risk, operational risk and liquidity risk. This should include any significant risk concentrations, for example, to economic risk factors, market sectors or individual counterparties, taking into account both direct and indirect exposures and the potential for exposures in related areas to become more correlated under stressed circumstances. (17.7.2 - *dependencies and interrelations between risks*) The assessment of the overall risk that an insurer is exposed to should address the dependencies and interrelationships between risk categories (for example, between underwriting risk and market risk) as well as within a risk category (for example, between equity risk and interest rate risk). This should include an assessment of potential reinforcing effects between different risk types as well as potential "second order effects", i.e. indirect effects to an insurer's exposure caused by an adverse event or a change in economic or financial market conditions. (17.18.1 Ongoing validation and supervisory approval of the internal model) - Over time an insurer's business may alter considerably, as a result of internal factors or events (such as a change in insurer strategy) and external factors or events (such as a change in interest rates), so that the internal model may no longer fully capture the risks to which the insurer is exposed unless adapted. The supervisor should reassess an insurer's internal model and the results that it produces on a regular basis against the criteria of the statistical quality test, calibration test and use test so that it remains valid for use, both as a strategic decision-making tool in the context of the insurer's own risk and capital management, and as a means of calculating regulatory capital requirements where appropriate.
	(***ComFrame Parameter M2E5-Capital adequacy assessment)*** *(M2E5-11-3)* The key market risks to be considered are:

	• interest rate risk: the risk of adverse change in the value of capital resources resulting from changes in the level or volatility of interest rates ……. • spread risk: the risk of adverse change in the value of capital resources resulting from changes in the level or volatility of credit spreads over the risk-free interest rate term structure (Parameter M2E5-11-4) The key credit risk to be considered is the risk of adverse change in the value of capital resources due to unexpected counterparty default, including their inability or unwillingness to meet contractual obligations in a timely manner. (**ComFrame Standard M2E5-12**) The IAIG, for the purposes of calculating its group capital benchmark, uses a scenario-based approach. (*Parameter M2E5-12-4*) When applying the event-based financial crisis scenario, the IAIG determines the impact on its balance sheet due to changes in the global economic environment *(Guideline M2E5-12-4-1)* Financial crisis scenarios can be either historical or synthetic. Historical scenarios mimic events which happened in the past. For example, the event “Financial Crisis 2008” could be specified as changes in the following risk factors: • decrease in interest rates • increase in credit spreads • increase in swap-government spreads • decrease in equity indices • increase in equity implied volatility • decrease in real estate indices. A synthetic scenario is based on hypothetical events. For example, the hypothetical event “Deflation with spread widening” could be specified as a change in the following risk factors*:* •*decrease in interest rates*

	• *increase in credit spreads.* (*Parameter M2E5-12-7*) When applying an individual stresses approach, the IAIG determines the financial impact of individual stresses on its balance sheet by applying stresses for: • insurance risk • market risk • credit risk (*Parameter M2E5-11-4*)The key credit risk to be considered is the risk of adverse change in the value of capital resources due to unexpected counterparty default, including their inability or unwillingness to meet contractual obligations in a timely manner. (*Guideline M2E5-12-5-3*) ….The IAIG should also consider the other risks that may be impacted, including credit risk associated with large reinsurance receivables, …
Reinsurance	(**ICP 13**) *Reinsurance* (13.0.6) The supervisor should be able to assess whether ceding insurers make effective use of reinsurance. This involves gaining an understanding of, and comfort with, at a minimum: • the ceding insurer's reinsurance strategy and reinsurance programme, • the systems of risk management and internal controls put in place in order to • implement the reinsurance strategy and execute the reinsurance programme, • the economic impact of the risk transfer originating from the ceding insurer's reinsurance programme, and • the impact of reinsurance on the ceding insurer's liquidity management. (13.1.2) When articulating the part played by reinsurance in the overall risk and capital management strategies, the ceding insurer should take into account its business objectives, levels of capital and business mix, with particular reference to: • risk appetite (both gross limit and net retention); • peak exposures and seasonality in the insurance book; • levels of diversification in the insurance book; and

	• appetite for credit risk posed by reinsurers.
	(**ComFrame *Guideline M2E4-6-1-2***) from ICP 13 In developing the approved security criteria for reinsurance transactions, the overall approach to credit risk set out in the group wide ERM Framework should be used.
Reporting requirement	(***ICP 9.2.10***) - *Supervisory review and reporting – Framework for supervisory review and reporting* - The framework should enable the supervisor to analyse trends and compare risk assessments including against any stress test outcomes. (**ICP 20** – *public disclosure*) (ICP 20.4.6 - Disclosure about the financial position of the insurer) - It may be appropriate if an insurer discloses sufficient information, including quantifiable information, about its exposure to: • Currency risk • Market risk (including interest rate risk) • Credit risk • Liquidity risk • Concentration risk. (20.4.12) On the disclosure of credit risk, in addition to breakdowns on ratings and types of credit issuers described in Guidance 20.4.11, it is recommended that an insurer discloses the aggregate credit risk arising from off-balance sheet exposures. (20.5) Disclosure about the financial position of the insurer includes appropriately detailed quantitative and qualitative information about enterprise risk management (ERM) including asset-liability management (ALM) in total and, where appropriate, at a segmented level. At a minimum, this information includes the methodology used and the key assumptions employed in measuring assets and liabilities for ALM purposes and any capital and/or provisions held as a consequence of a mismatch between assets and liabilities. (20.5.5) It may be appropriate if the insurer discloses the sensitivity of regulatory capital resources and provisions for mismatching to: changes in the value of assets, changes in the discount rate or rates used to calculate the value of the liabilities.

	(ComFrame Parameter M2E2-6-2) The Governing Body designates individual(s) at an appropriate level of seniority as having responsibility for the accuracy and timeliness of the group-wide reporting to supervisors and of disclosures to the public. (Guideline M2E2-11-2-1) The group-wide actuarial function should focus on group-wide reporting and disclosure as well as group-wide internal management reporting. (Parameter M2E2-14-1) The IAIG has systems and structures in place to fulfil reporting and disclosure needs on a group-wide basis. …
Macroprudential Surveillance and Insurance Supervision	**(ICP 24)** (*24.2 - The supervisor, in performing market analysis, considers not only past developments and the present situation, but also trends, potential risks and plausible unfavourable future scenarios with the objective and capacity to take action at an early stage, if required)* (*24.2.2*) The supervisor should design macroprudential surveillance approaches from a multi-disciplinary and cross-sectoral perspective to identify trends and developments that might negatively impact the risk profile of insurers. It should consult and coordinate with all relevant stakeholders, including public and private sector organisations. (*24.3.3*) The supervisor performs both quantitative and qualitative analysis and makes use of both public and other sources of information, including horizontal reviews of insurers and relevant data aggregation. (*24.5*) The supervisor assesses the extent to which macro-economic vulnerabilities and financial market risks impinge on prudential safeguards or the financial stability of the insurance sector. (*24.5.1*)Supervisors should monitor insurers' connections with financial markets and the real economy in order to obtain early identification of potential or existing build-up of risks in other sectors that could adversely impact the insurance sector. *(24.6*) The supervisor has an established process to assess the potential systemic importance of insurers, including policies they underwrite and instruments they issue in traditional and non-traditional lines of business.

Other potentially relevant factors under evaluation	
Tools	**Description of macro-prudential role of the tool by framework**
Risk management and internal controls	*(ICP 8) (8.1. The supervisor requires the insurer to establish, and operate within, an effective risk management system)* *(8.1.3 - Scope and embedding of the risk management system)* The risk management system should at least cover underwriting and reserving, asset-liability management, investments, liquidity and concentration risk management, operational risk management, conduct of business, and reinsurance and other risk-mitigation techniques.
Reinsurance	***(ICP 13)*** (*13.6 In jurisdictions that permit risk transfer to the capital markets, the supervisor understands and assesses the structure and operation of such risk transfer arrangements, and addresses any issues that may arise.*) *(13.6.5)* Despite the many similarities with mainstream insurance, transactions transferring insurance risk to the capital markets have special features that the supervisor should bear in mind in order to assess the appropriateness and effectiveness of their use by ceding insurers and reinsurers**.** (13.6.7) …….Licensing of SPEs should be appropriately tailored to take into consideration the unique characteristics of SPEs….. (13.6.8) Key elements of any SPE structure include: • the insurance risk that it assumes is "fully funded" (i.e., that the exposure taken by the SPE is funded across a range of foreseeable scenarios from the time the SPE goes on risk to the time it comes off risk); • the claims of any investors in the SPE are subordinate to those of the ceding insurer; and • the investors in the SPE have no recourse to the ceding insurer in the event of an economic loss. (13.6.9) In order to be able to understand and assess whether an SPE structure meets the criteria above, the supervisor should take the following into account: • ownership structure of the SPE; • suitability of the Board and Senior Management of the SPE; • the SPE's management of credit, market, underwriting and operational risks; • investment and liquidity strategy of the SPE; ranking and priority of payments; • extent to which the cash flows in the SPE structure have been stress tested; • arrangements for holding the SPE's assets (e.g. trust accounts) and the legal ownership of the assets; • extent to which the SPE's assets are diversified; and use of derivatives, especially for purposes other than risk reduction and efficient portfolio management *(13.6.13)* Supervisors should understand and assess: …. operational risk within the SPE structure and any mitigation arrangements; ….

Investment requirement	***(ICP 15) Regulatory investment requirements relating to specific financial instrument.*** *(15.6.1)* ***...*** additional considerations need to be given for assets in which investment is permitted by the regime (because the risk is generally sufficiently assessable) but which are less transparent compared to other investments. Other assets could be less well governed in terms of the systems and controls in place for managing them or the market regulation that applies to them. Such assets may present operational risks that may arise in adverse conditions which are difficult to assess reliably. …
ERM	*(**ICP 16 – ERM**) (ICP 16 Enterprise risk management for solvency purposes - ERM) - (* *(16.1 - Risk identification) (16.1.1) … Such risks should include, at a minimum, underwriting risk, market risk, credit risk, operational risk…..* *(16.14.13) An ERM framework should address all reasonably foreseeable and relevant material risks the insurer faces in accordance with a properly constructed risk management policy. To be most effective, therefore, an internal model used for the ORSA needs to address all those identified risks and assess their impact on the insurer's business given the possible situations that could occur. The risks to be considered should include underwriting risk, credit risk, market risk, operational risk and liquidity risk (including any significant risk concentrations). The categories of risks considered should be clearly defined. The methods by which this analysis could be conducted range from simple stress testing of events to more complex stochastic modelling as appropriate to the nature, scale and complexity of the risks concerned.* *(16.14.8 –ORSA – economic and regulatory capital - Re-capitalisation)* When market conditions are good, many insurers should be readily able to issue sufficient volumes of high quality capital instruments at reasonable levels of cost. However, when market conditions are stressed, it is likely that only well capitalised insurers, in terms of both the quality and quantity of capital resources held, will be able to issue high quality capital instruments. Other insurers may only be able to issue limited amounts of lower quality capital and at higher cost. Therefore, supervisors should make sure that insurers have regard for such variations in market conditions and manage the quality and quantity of their capital resources in a forward looking manner. In this regard, it is expected that high quality capital instruments, such as common shares, should form the substantial part of capital resources in normal market conditions as that would enable

	insurers to issue capital instruments even in stressed situations. Such capital management approaches also help to address the procyclicality issues that may arise, particularly in risk based solvency requirements.
	(ComFrame M2E3 (ERM) *(Parameter M2E3-3-1)* the IAIG's ERM Framework covers at least the following risks and the management of these risks in a cross-border context: • …, …., operational risk,.. *(Parameter M2E3-4-4)* Through its ORSA, the IAIG considers all reasonably foreseeable and relevant material risks on a group-wide basis including, as a minimum: … • operational risk.
Capital adequacy	*(**ICP 17-** Capital adequacy)* (17.7 - *Types of risks to be addressed*) The supervisor addresses all relevant and material categories of risk in insurers and is explicit as to where risks are addressed, whether solely in technical provisions, solely in regulatory capital requirements or if addressed in both, as to the extent to which the risks are addressed in each. The supervisor is also explicit as to how risks and their aggregation are reflected in regulatory capital requirements. (17.7.1) The supervisor should address all relevant and material categories of risk - including as a minimum underwriting risk, credit risk, market risk, operational risk and liquidity risk. This should include any significant risk concentrations, for example, to economic risk factors, market sectors or individual counterparties, taking into account both direct and indirect exposures and the potential for exposures in related areas to become more correlated under stressed circumstances. (17.7.5) Treatment of risks which are difficult to quantify. The IAIS recognises that some risks, such as strategic risk, reputational risk, liquidity risk and operational risk, are less readily quantifiable than the other main categories of risks. Operational risk, for example, is diverse in its composition and depends on the quality of systems and controls in place. The measurement of operational risk, in particular, may suffer from a lack of sufficiently uniform and robust data and well developed valuation methods. Jurisdictions may choose to base regulatory capital requirements for these less readily quantifiable risks on some simple proxies for risk exposure and/or stress and scenario testing. For particular risks (such as liquidity risk), holding additional capital may not be the most appropriate risk mitigant and it may be more appropriate

	for the supervisor to require the insurer to control these risks via exposure limits and/or qualitative requirements such as additional systems and controls. (17.7.6) However, the IAIS envisages that the ability to quantify some risks (such as operational risk) will improve over time as more data become available or improved valuation methods and modelling approaches are developed. Further, although it may be difficult to quantify risks, it is important that an insurer nevertheless addresses all material risks in its own risk and solvency assessment. *(ICP 17.8 The supervisor sets appropriate target criteria for the calculation of regulatory capital requirement …)* *(ICP 17.8.11 – 14 Procyclicality) (17.8.11)* When applying risk-based regulatory capital requirements, there is a risk that an economic downturn will trigger supervisory interventions that exacerbate the economic crises, thus leading to an adverse "procyclical" effect. For example, a severe downturn in share markets may result in a depletion of the capital resources of a major proportion of insurers. This in turn may force insurers to sell shares and to invest in less risky assets in order to decrease their regulatory capital requirements. A simultaneous massive selling of shares by insurers could, however, put further pressure on the share markets, thus leading to a further drop in share prices and to a worsening of the economic crises. *(17.8.12)* However, the system of solvency control levels required enables supervisors to introduce a more principles-based choice of supervisory interventions in cases where there may be a violation of the PCR control level and this can assist in avoiding exacerbation of procyclicality effects: supervisory intervention is able to be targeted and more flexible in the context of an overall economic downturn so as to avoid measures that may have adverse macroeconomic effects. *(17.8.13)* It could be contemplated whether further explicit procyclicality dampening measures would be needed. This may include allowing a longer period for corrective measures or allowance for the calibration of the regulatory capital requirements to reflect procyclicality dampening measures. Overall, when such dampening measures are applied, an appropriate balance needs to be achieved to preserve the risk sensitivity of the regulatory capital requirements. *(17.8.14)* In considering the impacts of procyclicality, the influence of external factors (for example, the influence of credit rating agencies) should be given due regard. The impacts of procyclicality also heighten the need for supervisory cooperation and communication.

	(ComFrame Standard M2E5-11) In determining the group capital benchmark, the IAIG addresses the key categories of risk (including risk concentrations) which are: insurance risk, market risk, credit risk, group risk and operational risk. *(Parameter M2E5-11-6)* The key operational risk to be considered is the risk of adverse change in the value of capital resources resulting from operational events such as inadequacy or failure of internal systems, personnel, procedures or controls, as well as external events. *(Guideline M2E5-12-5-3)* The IAIG should evaluate the full range of insurance risks that a catastrophic event can produce, including direct and indirect property loss, injury, and loss of life. The IAIG should also consider the other risks that may be impacted, including credit risk associated with large reinsurance receivables, operational risk associated with disruption of facilities and workforce, and market risk associated with downturns in regional economies. *(Guideline M2E5-12-6-1)* The pandemic scenario should assess the impact on the IAIG in respect of the following areas: … • operational risks, mainly in relation to failure of internal systems and their effects on the business model. *(Parameter M2E5-12-7)* When applying an individual stresses approach, the IAIG determines the financial impact of individual stresses on its balance sheet by applying stresses for: …..• operational risk as well as other material risks to which the IAIG is exposed.
Macroprudential Surveillance and Insurance Supervision	**(ICP 24)** (*24.2 - The supervisor, in performing market analysis, considers not only past developments and the present situation, but also trends, potential risks and plausible unfavourable future scenarios with the objective and capacity to take action at an early stage, if required)* (*24.2.2*) The supervisor should design macroprudential surveillance approaches from a multi-disciplinary and cross-sectoral perspective to identify trends and developments that might negatively impact the risk profile of insurers. It should consult and coordinate with all relevant stakeholders, including public and private sector organisations. (*24.3.3*) The supervisor performs both quantitative and qualitative analysis and makes use of both public and other sources of information, including horizontal reviews of insurers and relevant data aggregation.

	(*24.5*) The supervisor assesses the extent to which macro-economic vulnerabilities and financial market risks impinge on prudential safeguards or the financial stability of the insurance sector. (*24.5.1*)Supervisors should monitor insurers' connections with financial markets and the real economy in order to obtain early identification of potential or existing build-up of risks in other sectors that could adversely impact the insurance sector. *(24.6*) The supervisor has an established process to assess the potential systemic importance of insurers, including policies they underwrite and instruments they issue in traditional and non-traditional lines of business.
Supervisory cooperation and coordination	**(ICP 25) (***Supervisory Cooperation and Coordination - The supervisor cooperates and coordinates with other relevant supervisors and authorities subject to confidentiality requirements.)* *(25.10.21*) In particular the involved supervisors should be encouraged to provide the group-wide supervisor with relevant key information in relation to: … • operational risk including mis-selling claims and frauds.