



IAIS

INTERNATIONAL ASSOCIATION OF
INSURANCE SUPERVISORS

Public

IAIS Capital-Related Stakeholder Meeting

New York, 20 June 2016



Agenda (before lunch)

- 1. Introduction and Overview (90 minutes)**
- 2. Looking ahead to the ICS Consultation Document (60 minutes)**
- 3. GAAP with Adjustments (30 minutes)**

Agenda (after lunch up to coffee break)

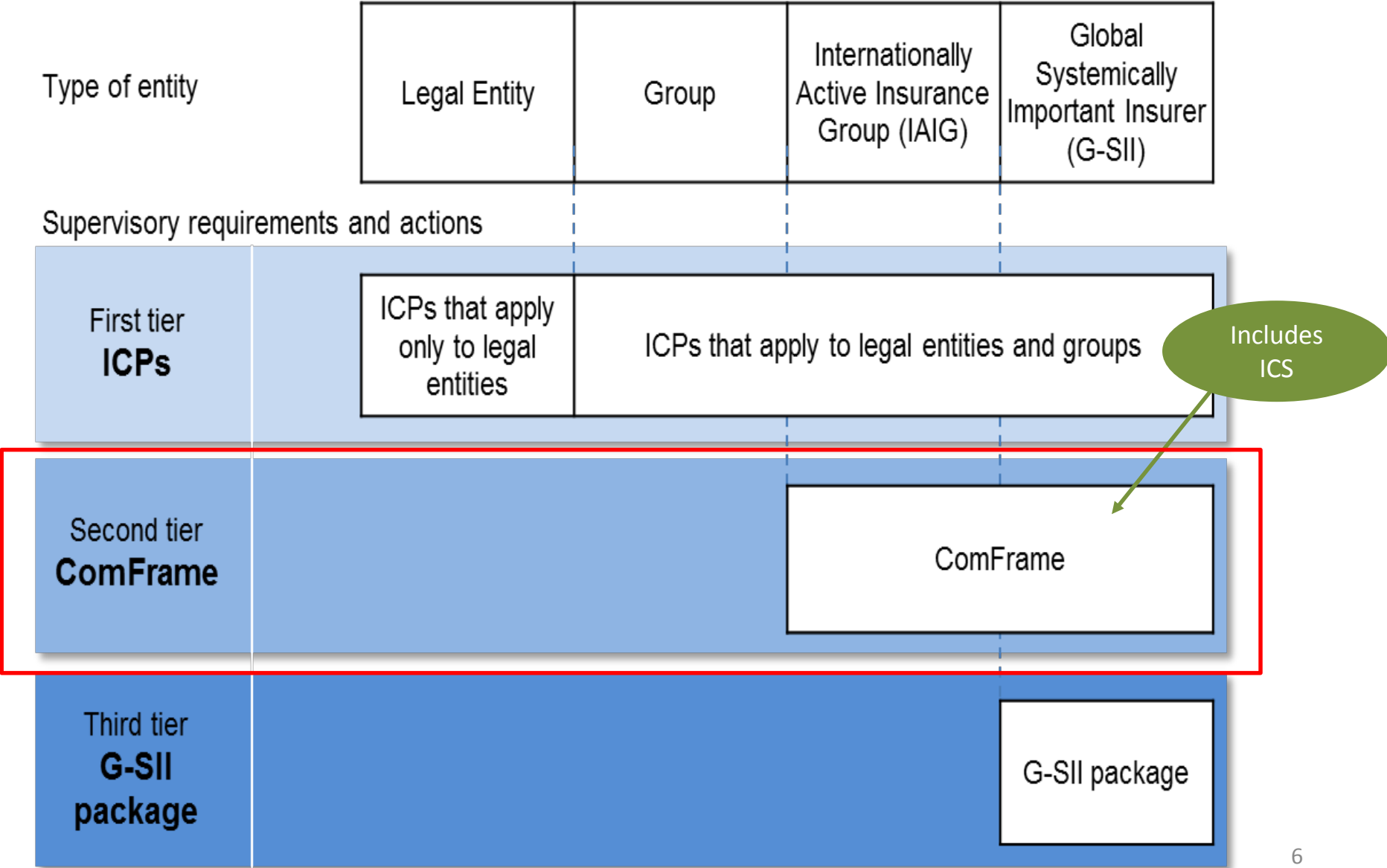
- 4. Market Adjusted Valuation (30 mins)**
- 5. Capital Resources (30 mins)**
- 6. Margin Over Current Estimate (30 mins)**
- 7. Overview of risks (15 mins)**
- 8. Health / Morbidity-Disability risk (15 mins)**

Agenda (last session)

- 9. Credit risk (15 mins)**
- 10. Interest Rate risk (30 mins)**
- 11. Diversification (15 mins)**
- 12. Tax issues (20 mins)**
- 13. Open question time for stakeholders (30 mins)**
- 14. Wrap up and next steps (10 mins)**

1. INTRODUCTION AND OVERVIEW

Architecture of IAIS international supervisory requirements



ComFrame for IAIGs

- **Common Framework for the Supervision of Internationally Active Insurance Groups (IAIGs)**
- **Rationale:**
 - Increasingly globalised insurance markets need a global solution
- **Objectives:**
 - Establish a comprehensive framework for group-wide supervision that builds upon ICPs
 - Capital requirements for IAIGs
 - Qualitative requirements for IAIGs
 - Scope of group-wide supervision
 - Requirements for supervisors
 - Crisis Management and Resolution
 - Foster global convergence of regulatory and supervisory requirements for insurance groups

ComFrame – Scope of application

ComFrame (including ICS) will apply to **all IAIGs including G-SIIs** ('Global Systemically Important Insurers')

IAIGs to be identified by supervisory colleges based on two criteria (both need to be satisfied):

1. International activity

- Premiums are written in three or more jurisdictions, and
- Percentage of gross premiums written outside the home jurisdiction is at least 10% of the group's total gross written premium

2. Size (average on 3 years)

- Total assets are at least USD 50 billion or
- Gross written premiums are at least USD 10 billion

Supervisors have discretion in applying the criteria

ComFrame – Structure

Module 1 - Scope

Identification of
IAIGs

Process of
identifying IAIGs

Scope of
supervision

Identification of
GWS (group-wide
supervisor)

Module 2 – the IAIG

IAIG's legal and
management
structures

Governance

ERM

ERM Policies

Capital adequacy
assessment:
development of
Insurance Capital
Standard (ICS)

Module 3 – The Supervisor

Group-wide
supervisory
process

Supervisory
colleges,
cooperation and
coordination

Crisis
management and
resolution
measures among
supervisors

Insurance Capital Standard (ICS)

The ICS is being developed in the context of the IAIS Mission:

- maintain fair, safe and stable insurance markets
- for the benefit and **protection of policyholders**
- and to contribute to **financial stability**

- The ICS aims at **comparability of outcomes across jurisdictions**
 - increased mutual understanding
 - greater confidence in cross-border analysis of IAIGs among group-wide and host supervisors

ICS - key points

- The ICS is a **group-wide, consolidated insurance capital standard** applicable to IAIGs
- The ICS is part of ComFrame, which addresses qualitative AND quantitative requirements for IAIGs
- The ICS is not intended as a legal entity requirement
- Once finalised and agreed, the ICS will be a measure of capital adequacy for IAIGs
- The ICS will constitute the **minimum standard** to be achieved and one which the supervisors represented in the IAIS are expected to implement in their respective jurisdictions (implementation issues are still under discussion)
- Supervisors will be free to adopt additional arrangements that set higher standards or higher levels of minimum capital.
- Moreover, they are free to put in place supplementary measures of capital adequacy for the IAIGs in their jurisdiction

Goals for the ICS – Version 1.0

Goal for ICS Version 1.0 (for confidential reporting): The goal for this milestone is the delivery of an ICS for confidential reporting purposes based on:

- the identified two valuation approaches
- a standard method for calculating the ICS capital requirement

Upon completion of ICS Version 1.0, there will also be a plan to consider other methods of calculation of the ICS capital requirement including:

- the use of internal models (partial or full)
- external models
- variations of the standard method.

**To be adopted by May/June 2017
for confidential reporting**

Goals for the ICS – Version 2.0

Goal for ICS Version 2.0 (for adoption within ComFrame): The goal for this milestone is the delivery of an ICS that is fit for implementation by supervisors:

- that will achieve an improved level of comparability compared to ICS Version 1.0 but possibly not the level of comparability envisaged by the ultimate goal
- may still include the two valuation approaches but aspires to reduce differences in valuation
- may allow for both the standard method for calculating the ICS capital requirement and other methods of calculation including:
 - the use of internal models (partial or full)
 - external models
 - variations of the standard method.

To be consulted on beginning May/June 2018, and adopted (together with ComFrame) in 2019

Goals for the ICS – Ultimate Goal

The ICS Ultimate Goal (no final date attached):

- A single ICS that includes a common methodology by which one ICS achieves comparable, i.e. substantially the same, outcomes across jurisdictions.
- Ongoing work is intended to lead to improved convergence over time on the key elements of the ICS towards the ultimate goal.
- Not prejudging the substance, the key elements include valuation, capital resources and capital requirements.

ICS Structure and Consultations

- 3 Main components of ICS:
 - Valuation
 - Qualifying capital resources
 - ICS capital requirement

ICS Ratio = qualifying capital resources / ICS capital requirement

- ICS applies to all IAIGs including G-SIIs
 - Definition of 'IAIGs' and 'Group' to be taken from ComFrame
- First Consultation Document (Dec 2014 – Feb 2015) focused on Insurance activities
- Second Consultation Document (Jul – Oct 2016) will focus on the standard method for Insurance activities
 - Treatment of Non-Insurance activities will be briefly described in ICS CD

Potential benefits of a global Insurance Capital Standard

- **For supervisors** - an appropriately designed international capital standard will provide home and host supervisors with a **common language** to assess the solvency of insurance groups operating in their jurisdictions, enhancing supervisory cooperation between home and host supervisors and helping to build trust.
- **For investors and rating agencies** - this should also enable investors to assess and compare the solvency of insurance firms competing internationally, enhancing market discipline and reducing regulatory arbitrage.
- **For industry and policyholders** - over time, such a standard should also reduce the need for multiple overlapping and conflicting local practices in measuring the same risks, reducing costs for firms, which in turn should deliver a better proposition for policyholders.

ICS development – general points

- Developing a global capital standard for IAIGs is no easy task, given the different starting points and regulatory capital regimes in place across different jurisdictions
- This is why the IAIS has decided to deliver the ICS in stages with identified key milestones: version 1, version 2 and an ultimate goal
- It is a multi-annual process with field testing, consultation, stakeholders' meetings providing inputs to its development/amendments over the years
- **Important to recognise that not all issues will be addressed immediately, but the learning from field testing and general feedback is helping us to improve on the approaches/design/calibrations over the years...**

ICS development – engagement with stakeholders

- ICS is the topic on which the IAIS most visibly engages with stakeholders
- Since the 2014 ICS Consultation Document (CD) was published there have been a number of interactions with stakeholders to discuss important issues regarding the ICS. For example:
 - **2015** – 4 Capital-related full-day stakeholder meetings (February 2015 **USA**, March 2015 **Italy**, May 2015 **USA** and **Japan**) and part of October 2015 IAIS Stakeholder Sessions and Dialogues
 - **2016** – 2 Capital-related full-day stakeholder meetings (March 2016 **Singapore**, April 2016 **Switzerland**) + today's meeting in **New York**
- Most of the key issues for the 2016 ICS CD have been previewed with stakeholders through this informal consultation process
- Stakeholders continue to raise issues of implementation and the future design of the ICS. Important to highlight that:
 - Focus of 2016 ICS CD is on the design of the standard method for ICS Version 1.0.
 - Certain issues can only be advanced, once the technical issues have been more advanced, but certainly prior to ICS Version 2.0

ICS development – engagement with FT Volunteers

- Since 2015 Field Testing data was received there have been a number of interactions with volunteers focused on the results of 2015 field testing and how that has informed 2016 field testing
 - December 2015, **Switzerland**; February 2016, **Switzerland**; April 2016, **Switzerland**
 - Workshops to deal with 2016 Field Testing launch are being held in **Hungary, USA** and **Hong Kong** in June 2016
- In essence, 2016 field testing covers the same topics and approaches as the 2016 ICS CD
- 2016 Field Testing materials were subject to a beta testing process with volunteers that began in February 2016 and concluded in April 2016 (including the February and April workshops)
- **Volunteers contributed significantly to the development of the 2016 FT Technical Specifications – constructively providing technical input (e.g. treatment of commercial mortgages, discounting, health risk, etc.)**

ICS development and field testing (1)

- **2015 Field testing** - Focus was on **testing design options** (e.g. practicality, complexity, robustness, ability to capture risks written in different jurisdictions) with initial notional calibrations (proxies for VaR 99.5% over a year)
 - For some ICS risk charges, field testing results and feedback suggested we are on the right track – no change in design foreseen
 - For some other ICS risk charges field testing results and feedback suggested that design may not be appropriate – exploring design changes
- **2016 Field testing** - **now need to focus on calibration** - need to ensure calibration level is more appropriate for 2016. To this end, we need to consider access to data for:
 - Global calibration
 - Justification of regional differences of calibration
 - Other granularity requested – is there calibration data?
 - A part of the next field testing exercise will also be used to collect data from volunteers to assist the calibration of insurance risk (life, non-life and health)
 - The 2016 ICS Consultation Document will seek feedback on design, methodologies and data to calibrate ICS risks

ICS development and field testing (2)

- Other issues we are trying to improve with respect to last year include:
 - **Valuation** – identifying an approach to deal with inappropriate volatility in capital resources – part 1 of the 2016 field testing will focus mainly on this including an assessment under a stress scenario
 - **Capital resources** – we have a better understanding of what is causing financial instruments not to qualify, including materiality – we made a few changes and we are collecting further data this year to identify appropriate solutions
 - **Management actions** - Interpretation and application needs more work – potentially broader scope, but need to avoid double counting
 - **Tax** – aim is for a consistent approach across all ICS
 - **Interest rate risk** – calibration methodology that also works in a negative and low interest rate environment
 - **Currency risk** – more appropriate granularity of calibration, consideration of requirements to hold capital locally
 - **Equity risk** – more appropriate calibration of equity volatility
 - **Credit risk** – more granular risk-based approach to commercial mortgages

Quantitative Field Testing for 2016

- Material for all phases released on 20 May; expected to be made public in mid-July
- **Phase 1 (data due 3 August)**
 - Set of discounting options for the calculation of Current Estimate
 - Discounting options to be assessed also with respect to a “2007-08” type of scenario
 - BCR and HLA based on a default discounting option for 2016
- **Phase 2 (data due 15 September)**
 - ICS capital charges for each risk
 - Based on default discounting option for 2016
 - Non-life supplementary data to assist refinement of future calibrations
 - Deadline provides time to revise for June 2017 ICS Version 1.0
- **Phase 2+ (data due 31 October)**
 - Life supplementary data to assist refinement of future calibrations
 - Deadline provides time to revise for June 2017 ICS Version 1.0

Global Engagement with Volunteers and Stakeholders

- **2015 Field Testing – 34 Volunteer IAIGs** and their supervisors
 - US\$ 1.0 trillion of equity (GAAP)
 - US\$ 1.3 trillion of premiums (36% non-life / 64% life)
 - US\$ 10.8 trillion of insurance assets
 - US\$ 8.3 trillion of insurance liabilities
 - *Underlying liabilities expressed in ~ 70 different currencies*
- **2016 Field Testing – 42 Volunteer IAIGs** and their supervisors
 - Headquartered in a wide range of countries and territories across North America, Europe, Africa and Asia
- Regular engagement with Field Testing Volunteers via numerous Field Testing workshops around the world
- Multiple capital-related stakeholder meetings every year around the world

Global involvement of Supervisors (1)

- Broad global membership of the IAIS Capital, Solvency and Field testing Working Group (CSF WG) in charge of the ICS technical development - *Australia, Belgium, Bermuda, Canada, Chile, China, EIOPA, European Commission, France, Germany, Hong Kong, India, Italy, Japan, Korea, Netherlands, Singapore, South Africa, Spain, Switzerland, UK, USA*



Global involvement of Supervisors (2)

- 45+ CSF WG members plus numerous more supporting experts from 26 Member organisations
- 15 workstreams focusing on various aspects of the ICS
 - United States represented across all workstreams
- Extensive US involvement and contribution by US members from:
 - *Department of Treasury (Federal Insurance Office)*
 - *Federal Reserve Board*
 - *Federal Reserve Banks of New York and Boston*
 - *National Association of Insurance Commissioners*
- 9 weeks of CSF WG meetings + 11 weeks of data analysis meetings in 2016

Global involvement of Supervisors (3)

ICS-related topical workstreams:

Workstream	Led by representative from	Participation (countries or jurisdictions)
Market Adjusted Valuation	European Insurance and Occupational Pensions Authority (Europe)	Canada, Chile, France, Germany, Italy, Japan, Korea, Netherlands, Singapore, Switzerland, UK, US
GAAP with Adjustments	Department of Treasury (Federal Insurance Office) (US)	Canada, Chile, Europe, Germany, Japan, UK, US
Capital Resources	Office of the Superintendent for Financial Institutions (Canada)	Canada, France, Germany, Japan, Korea, UK, US
MOCE	Bank of England (UK)	Canada, Chinese Taipei, France, Italy, Japan, Korea, Switzerland, US
Life risks (overall)	National Association of Insurance Commissioners (US)	(see below)
Mortality & Longevity Risk	Financial Services Agency (Japan)	Chile, Chinese Taipei, France, Germany, Korea, Singapore, US
Health / Morbidity / Disability risk	Autorité de contrôle prudentiel et de résolution (France)	Europe, France, Germany, Japan, Korea, Netherlands, Singapore, US
Lapse risk	Monetary Authority of Singapore	France, Germany, Japan, Korea, Singapore, US
Expense risk	Monetary Authority of Singapore	France, Germany, Singapore, US

Global involvement of Supervisors (4)

ICS-related topical workstreams:

Workstream	Led by representative from	Participation (countries or jurisdictions)
Non-Life and Catastrophe risk	Bank of England (UK)	Bermuda, Canada, Chinese Taipei, France, Japan, Korea, Netherlands, Switzerland, US
Interest Rate risk	Co-led by Office of the Superintendent for Financial Institutions (Canada), Federal Reserve Board (US) and Federal Reserve Bank of New York (US)	Europe, France, Germany, Japan, Korea, Netherlands, US
Equity and Real Estate risk	Autorité de contrôle prudentiel et de résolution (France)	Canada, France, Korea, US
Currency risk	Office of the Superintendent for Financial Institutions (Canada)	France, Korea, UK, US
Credit risk & Asset Concentration risk	Office of the Superintendent for Financial Institutions (Canada)	France, Italy, Japan, Korea, Netherlands, US
Operational risk	National Association of Insurance Commissioners (US)	Europe, Japan, US
Aggregation and Diversification	Bank of England (UK)	Germany, Japan, US

ICS development timeline (1)

Date	Action
May 20, 2016	Launch Field testing package Begin Field testing period
Jun 17-24, 2016	3 volunteer workshops – 17 June Budapest, 21 June New York, 24 June Hong Kong
Jun 20, 2016	Stakeholders' meeting in New York
Mid-Jul, 2016	Publish ICS Consultation Document (CD) (3-month consultation period) and 2016 Field Testing Technical Package
Aug 3, 2016	Phase 1 Field testing data due (Discounting, BCR and HLA confidential reporting)
Sep 15, 2016	Phase 2 data due (including non-life supplementary data for future calibrations)
Oct 31, 2016	Phase 2+ Life risks supplementary data due (for future calibrations) Comments due on ICS CD
Mid-2017	Adoption & Publication of ICS Version 1.0 for confidential reporting <i>(a comment period will be provided to stakeholders after publication; the comments received will be taken into account in ICS Version 2.0 development)</i> Launch of 2017 confidential reporting process
Sep/Oct 2017	Data due for 2017 confidential reporting process

ICS development timeline (2)

Date	Action
May/Jun 2018	Launch of 2018 confidential reporting process
Mid-2018	Publication of comprehensive ComFrame consultation including ICS Version 2.0 Consultation
Sep /Oct 2018	Data due for 2018 confidential reporting process Comments due on ICS Version 2.0 and ComFrame consultation
Apr/May 2019	Launch of 2019 confidential reporting process
Aug/Sep 2019	Data due for 2019 confidential reporting process
IAIS 2019 General Meeting	Adoption of ComFrame, including ICS Version 2.0

1. INTRODUCTION AND OVERVIEW – QUESTIONS?

2. LOOKING AHEAD TO THE ICS CONSULTATION DOCUMENT (“ICS CD”)

2016 ICS CD – an overview

- Expected to be published in mid-July 2016
- Recognising the importance of this consultation – consultation period extended to 3 months (up to mid-October 2016)
- Since the 2014 ICS CD was published there have been a number of interactions with stakeholders that essentially update them on how the IAIS is dealing with important issues regarding the ICS:
 - 2015 – 4 Capital-related 1 day stakeholder meetings (February 2015 USA, March 2015 Italy, May 2015 USA and Japan) and part of October 2015 IAIS Stakeholder Sessions and Dialogues
 - 2016 – 3 Capital-related 1 day stakeholder meetings (March 2016 Singapore, April 2016 Basel, June 2016 New York)
- **Most of the key issues for the ICS CD have been previewed with stakeholders through this informal consultation process**

2016 ICS CD – an overview

- The focus of this CD is on technical questions (some strategic issues also included)
 - In the 2014 ICS CD, questions were exploratory in nature aiming to solve a number of strategic and technical issues.
 - Focus of the 2016 ICS CD is on specific details for valuation, capital resources and the ICS Standard Method for the capital requirement.
- A large number of issues are under consultation. Expect over 200 questions.
- Most questions have been phrased as a ‘yes or no’ question followed by a request for explanation.

Answers will be most helpful for the IAIS if they:

- Explicitly indicate ‘yes or no’ upfront
- Provide logical explanations with clear, detailed rationales
- Are in line with the role of the ICS as a **global minimum standard**
- In some cases stakeholders are requested to provide justification for using an alternative approach. Where available, please provide details, references and sources.

2016 Field Testing package

- The ICS CD focuses on technical issues related to the Version 1.0, providing background and rationales for the approaches that are considered in 2016 Field Testing
- The 2016 Field Testing package (Technical Specifications, Template, Questionnaire etc.) provides more technical details and it will be made public at the same time as the 2016 ICS CD is published
- The ICS CD will contain cross-references to the 2016 Field Testing Package. These will help stakeholders to provide feedback on approaches described

Topics to be covered in ICS CD

- ICS Valuation;
 - Market-Adjusted Valuation (MAV); and
 - GAAP (Generally Accepted Accounting Principles) with Adjustments (GAAP Plus);
 - ICS capital resources;
 - ICS capital requirement based on the standard method;
 - Scope of the group: perimeter of the calculation of the ICS;
 - Preliminary considerations for a holistic approach to tax
-
- **Note that issues covered are focused on ICS Version 1.0**
 - **Separate consultation will be conducted for ICS Version 2.0 in 2018 (see timeline)**

Some topics likely to be *not* covered in ICS CD

- Longer-term strategic issues are not part of the CD. Difficult to answer many questions on these issues until the technical nature of the ICS is more settled.
- For example:
 - **Internal models** - This matter will be considered in the progression from ICS Version 1.0 to ICS Version 2.0 – see ICS Goals
 - The manner in which **comparability** of the ICS will be assessed in practice
 - The possibility of the ICS being part of the International Monetary Fund's (IMF) Financial Sector Assessment Program (**FSAP**).
 - The manner in which ICS Version 2.0 will be communicated to the public including consumer and investor education.
 - **Transitional arrangements** from existing supervisory regimes to the implementation of the ICS.
 - Interaction between local legal entity capital requirements and the ICS as a consolidated group-wide capital requirement
 - Issues related to **fungibility** of capital

2. LOOKING AHEAD TO THE ICS CONSULTATION DOCUMENT (“ICS CD”) – QUESTIONS?

VALUATION – A SHORT INTRODUCTION

Valuation – setting the scene

- The valuation basis of assets and liabilities is an integral component of the ICS
- The balance sheet used for ICS purposes provides some of the underlying exposures for the calculation of the ICS Capital Requirement *
- The balance sheet also provides the foundation for determining qualifying capital resources

* For example, for 2016 Field Testing, the balance sheet provides the basis for measuring risks except for Cat risk, part of Operational risk and Premium risk

Valuation and ICS goals

Important to note that with respect to valuation:

- **Goal for ICS Version 1.0** is the delivery of an ICS for confidential reporting purposes based on the two valuation approaches
 - Market-Adjusted Valuation (MAV) and
 - GAAP with Adjustments Valuation (GAAP Plus)
- **Goal for ICS Version 2.0** is the delivery of an ICS that is fit for implementation by supervisors:
 - that will achieve an improved level of comparability compared to ICS Version 1.0 but possibly not the level of comparability envisaged by the ultimate goal
 - may still include the two valuation approaches but aspires to reduce differences in valuation

3. GAAP WITH ADJUSTMENTS (“GAAP PLUS”)

Similarities and Differences: GAAP+ and MAV

Similarities:

1. Both start with jurisdictional GAAPs and make adjustments thereto
2. Both adjust technical provisions to current estimates
3. Both aim for a reasonable approach that would limit undue volatility and procyclicality (the approach to do so may differ between the two valuation bases)
4. Both utilize the same definition/specifications for capital resources

Differences:

1. For all amounts and adjustments, GAAP+ relies on amounts, processes and/or systems that are subject to audit by independent auditors. That can also occur for MAV, but for MAV such reliance on audit is not an explicit principle.
2. Unlike MAV, GAAP+ adjustments to reported GAAPs may differ by jurisdiction (and in some cases, by firm) in order to maximize the use of balances or processes subjected to audit and to produce symmetrical valuation of assets and liabilities.
3. For some jurisdictions, certain GAAP+ figures are not market-based, and will react differently to stress, compared with stresses applied to MAV data.

Analysis phase of 2015 field testing exercise completed

- Focused on each jurisdictional GAAP reported, rather than each jurisdiction; liability reconciliations; stresses of several risks (but not all)
- With some exceptions/outliers, convergence was generally seen as data migrated from GAAP => GAAP+ => GAAP+ at IAIS rates
- Compared with jurisdictional GAAPs, GAAP+ is much closer, and more consistently so, to MAV
- Non-Life - Current estimate liabilities are generally consistent with MAV across most firms
- Life – the clearest difference is the impact of using GAAP+ vs. IAIS discount rates in liability valuation
- Other differences in determining insurance liabilities (assumptions, contract boundaries) are not captured consistently by firms, but they are considerably less material in the aggregate than the impact of the GAAP+ vs. IAIS discount rates
- Other significant differences include Deferred Tax adjustments driven by differences in liabilities between reported GAAP and GAAP +
- For stresses tested, results were considered preliminary, differences were generally minor

New for 2016 Field Testing of GAAP+

- Updates of specifications, template and questionnaire for the 2016 field test exercise; changes are relatively minor, with the following exceptions:
 - “AOCI adjustment” for GAAP+ to address asymmetrical valuation of assets and liabilities.
 - Application of the AOCI adjustment to U.S. GAAP example initially
 - Data collection for all jurisdictions where invested assets unrealized gains/losses are reported in AOCI to evaluate whether appropriate for other jurisdictional GAAPs
 - New 2016 GAAP+ examples: IFRS/GAAPs in Korea, Singapore, and Chinese Taipei
 - For 2016, will test capital requirements for all subject risks; approach will be consistent to MAV except for Interest Rate risk and Real Estate risk:
 - Two methods under interest rate risk will be evaluated
 - Alternate method to address Real Estate reported at cost under GAAP+

2016 Field Testing: Key Objectives for GAAP+ (1)

General

- Seeking to improve quality of data collected
 - Minimize outliers caused by misinterpretation or deviation from instructions
 - Obtain more complete responses on qualitative questions, narrative descriptions, and suggestions to improve GAAP+

Valuation

- Understanding the key differences between GAAP+ and MAV, identified by Volunteer IAIGs through the Reconciliation template and narrative responses
- Requesting input from Volunteers to refine GAAP+ examples, highlight any operational concerns, improve comparability among jurisdictions

2016 Field Testing: Key Objectives for GAAP+ (2)

Capital Resources

- Collecting data to evaluate and further refine the AOCI adjustment

Capital Requirements

- Test options and evaluate the appropriateness of design across all risks. Calibration will also be considered and evaluated.

Not specifically addressed in 2016 Field Testing

- Adapting consistent and comparable MOCE for GAAP+
- Changes that may result from holistic approach to tax (not addressed in 2016 for MAV either)

AOCI Adjustment – US GAAP Reporters

- Currently the AOCl Adjustment is only being proposed for Volunteers reporting US GAAP to address asymmetry in the valuation of assets and liabilities, where liabilities are valued using a book value approach and assets are measured at fair value through AOCl
- The AOCl adjustment would be applied to capital resources such that assets and liabilities would both be measured on a more consistent basis, thus reducing unintended volatility in capital.
- The AOCl adjustment deducts from capital resources any unrealized gains/losses related to debt securities backing long term liabilities, where the gain/loss is unlikely to be realized.
- For 2016 field testing, simplifying assumptions were used to identify the portion of AOCl related to the above. These criteria are expected to be refined over time.
- For 2016 field testing, an AOCl adjustment would also be incorporated into GAAP+ options being considered for the interest rate stress capital requirement.

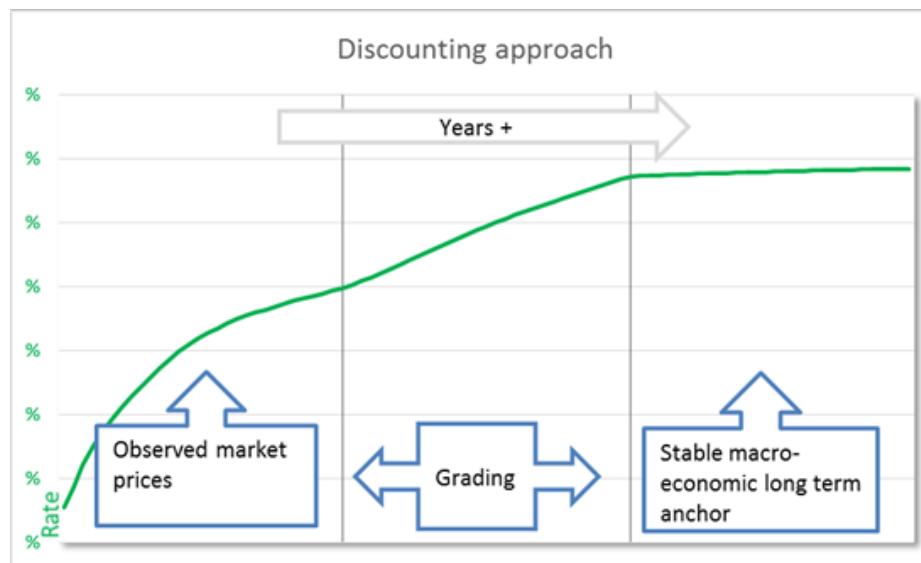
4. MARKET ADJUSTED VALUATION (“MAV”)

Current status on MAV

- Methodology for the calculation of current estimate
 - No significant changes with respect to last year
- Contract boundaries
 - 2016 ICS CD will seek feedback on this issue, including potential impact/revision of other elements of the ICS framework (ie capital requirements, Margin Over Current Estimate (MOCE), capital resources, etc.)
- Discounting
 - Determining base yield curves per currency
 - No significant change with respect to last year
 - Applying an adjustment to the base yield curve
 - Focus of the 2016 Field Testing exercise for MAV

Construction of the base yield curves (1)

- The 2015 Field Testing exercise introduced significant changes to the determination of the bases yield curves used under the MAV valuation approach
 - Three-segment approach instead artificially flattening the curve after the 30-year point
 - Extrapolation methodology
 - Convergence to Long Term Forward Rate (LTFR)



Construction of the base yield curves (2)

- Changes to the determination of the bases yield curves used under the MAV valuation approach introduced in 2015 were well received both by IAIGs and Supervisors
- No further changes introduced in the 2016 Field Testing as the main focus of MAV changes is on discounting
- However, FT questionnaires and the 2016 ICS CD will seek feedback on the appropriateness of:
 - The three-segment approach
 - The instrument used to construct the base yield curve per currency (e.g. either swaps or government bond)
 - The start year of extrapolation for each currency
 - The convergence point (i.e. end of extrapolation) to the LTFR per currency
 - The methodology used for the determination of the LTFR

Adjustment to the base yield curve

- Volunteers remained concerned about **the volatility that the methodology used for the 2014 and 2015 Field Testing could potentially introduce on Capital Resources in a stress scenario**
- To this end, Volunteers have been advocating for a change to the adjustment methodology, to better align the behaviour on the two sides of the balance sheet
- As a response, the IAIS has committed to explore possible refinements to the adjustments to the basic curves, including their appropriateness during a stress scenario
- 2016 Field Testing Exercise and ICS CD will collect both data and feedback to try to assess and resolve the issue

How should the adjustment be constructed?

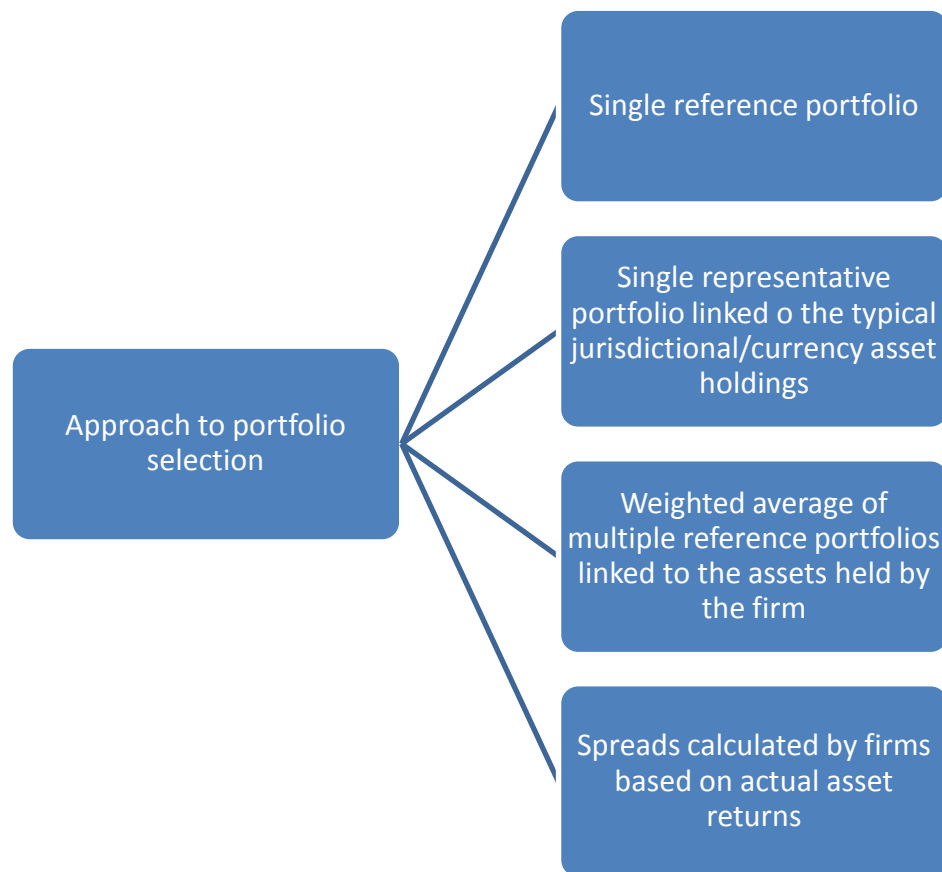
- The adjustment should be consistent with the overall MAV construct and recognise:
 - the long term nature of insurance business; and
 - strike the balance between reflecting changes in market conditions
 - that affect the solvency of the IAIG (signal); and
 - that do not affect the solvency of the IAIG (noise)
- This means that, as part of credit spreads observed in the markets are due to short-term fluctuations and do not stem from expected or unexpected risks, this part should be accounted for in the valuation (and potentially mitigate inappropriate volatility in capital resources).
- The degree of adjustment is linked to the ability of the insurer to earn such spreads, by holding assets to maturity

Adjustment – main points under consideration

- The 2016 Field Testing and the Draft 2016 ICS CD include discussion and options on several policy issues:
 - Approach to portfolio selection for the calculation of spreads
 - Approach to liability bucketing
 - Level of granularity of the calculation
 - Methodology for the adjustment of spreads for default and other risks
 - The segments of the base yield curve that should be affected by the application of the adjustment
- In addition, the identification/design of a “stress scenario” (e.g. 2008) is fundamental to assess the appropriateness of any of these options

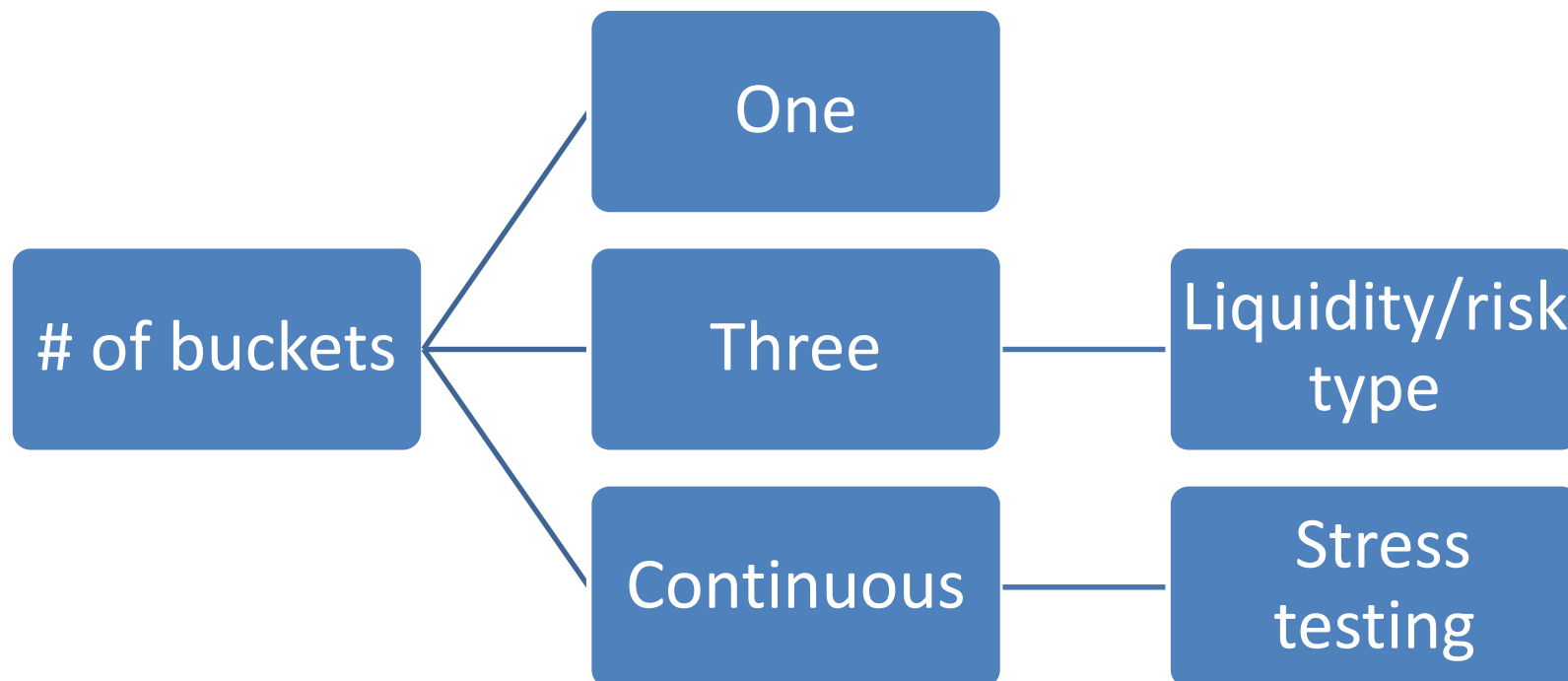
Approach to portfolio selection for the calculation of spreads

- Should the credit spread adjustment be determined on the basis of a single reference portfolio, multiple reference portfolios or based on IAIG-specific assets?



Approach to liability bucketing

- Should the credit spread adjustment be applied equally to all liabilities (ie single bucket) or should the approach be more nuanced through the use of multiple buckets linked to the liability features?



Other policy issues

- What level of granularity is more appropriate for the calculation of the credit spread adjustment?
 - Need to strike the right balance between simplicity, risk-sensitivity and prudential consideration
- What methodology should be used for the adjustment of spreads for default and other risks to reflect unexpected losses that are not reflected in observed market spreads?
- What segments of the base yield curve should be affected by the application of the adjustment? Should the IAIS consider introducing an adjustment to the third segment (ie LTFR)?

Approach to 2016 Field Testing

- It is important that during the 2016 Field Testing **the IAIS collects the necessary information** to allow for a **sound and evidence-driven policy decision**
- To this end, part of the 2016 Field Testing exercise will be used to test a range of different options concerning the design of the adjustment
 - Streamlining the number of field testing options has been essential to keep the exercise manageable – option selected do not prejudice outcome for ICS v 1.0
- **Each of the options will be tested under two different economic scenarios (end-2015 and 2008-type of scenario)** - This will allow the IAIS to assess the appropriateness and effectiveness of the different proposed measures under different economic conditions
- Stakeholders' feedback on the various approaches will be sought in the ICS CD (stakeholders will need to refer to the 2016 Field Testing Technical Specifications for details of the approaches)
- This approach will allow the IAIS to assess the effectiveness of the different approaches in the mitigation of excessive volatility of Capital Resources in the MAV balance sheet

Reference Methods and Options for 2016 field testing

	Reference Methods			Options		
	Risk-free	2015 methodology	Asset earned rate	Option 1: currency-specific	Option 2: firm-specific	Option 3: Bucketing
Liability segmentation (buckets)	N/A	1	3	1	1	3
Portfolio Composition	N/A	Reference portfolio per currency	Volunteer IAIG's own portfolio – own view of earning rate	Representative portfolio per currency	Weighted average based on firm's assets	Weighted average based on firm's assets
Default Deduction	N/A	Included in 60% deduction of spread	Risk Correction	Risk Correction	Risk Correction	Risk Correction
Liquidity buckets	1	100%	80%	100%	100%	80%
	2		60%			60%
	3		40%			40%

Discounting in 2016 FT – Reference Methods

Collected for information to allow the IAIS to explore discounting options

- Reference Method 1: **Discounting with no adjustment to the base curves** (liabilities are discounted using the base yield curve)
 - Will be used to assess the effectiveness of the options under consideration in order to make a decision after the 2016 Field Testing exercise
- Reference Method 2: **applying the 2014/15 field testing Approach**
 - IAIS-defined adjustment for each currency based on 40% of a good quality corporate bond index
 - Default approach throughout 2016 Field Testing to ensure comparability with other years' data
- Reference Method 3: **using entity-specific portfolio of assets**
 - Emphasis is on alignment between the asset portfolio held and the adjusted yield curve used to discount insurance liabilities
 - Allow the IAIS to assess the degree of basis risk introduced by other methods (i.e. the extent to which the assets held by IAIGs deviate from those captured in the reference/representative portfolios)

Discounting in 2016 FT – Options

Discounting options being explored in 2016 Field Testing (does not pre-judge discounting for ICS Version 1.0)

- Option 1: **representative portfolio that aims to reflect the assets typically held by all IAIGs in a particular currency**
- Option 2: **weighted average of market portfolios (WAMP)** that should be weighted by each IAIG depending on its specific asset exposures
 - Aims to achieve a balance between sensitivity to the actual exposures of the IAIG and comparability of insurance liability valuation across IAIGs
- Option 3: similar to Option 2 but with bucketing of liabilities

Asset portfolios	Bucket	Mapping criteria	Application Ratio
Licenced life insurers*	Bucket 1	Life insurance and disability annuities in payment with no cash benefits on withdrawal	80% of the spread for the group of assets backing life liabilities
	Bucket 2	Life insurance liabilities with cash benefits on withdrawal	60% of the spread for the group of assets backing life liabilities
Licenced non-life insurers	Bucket 3	All other liabilities	40% of the spread for the group of assets backing non-life and reinsurance liabilities

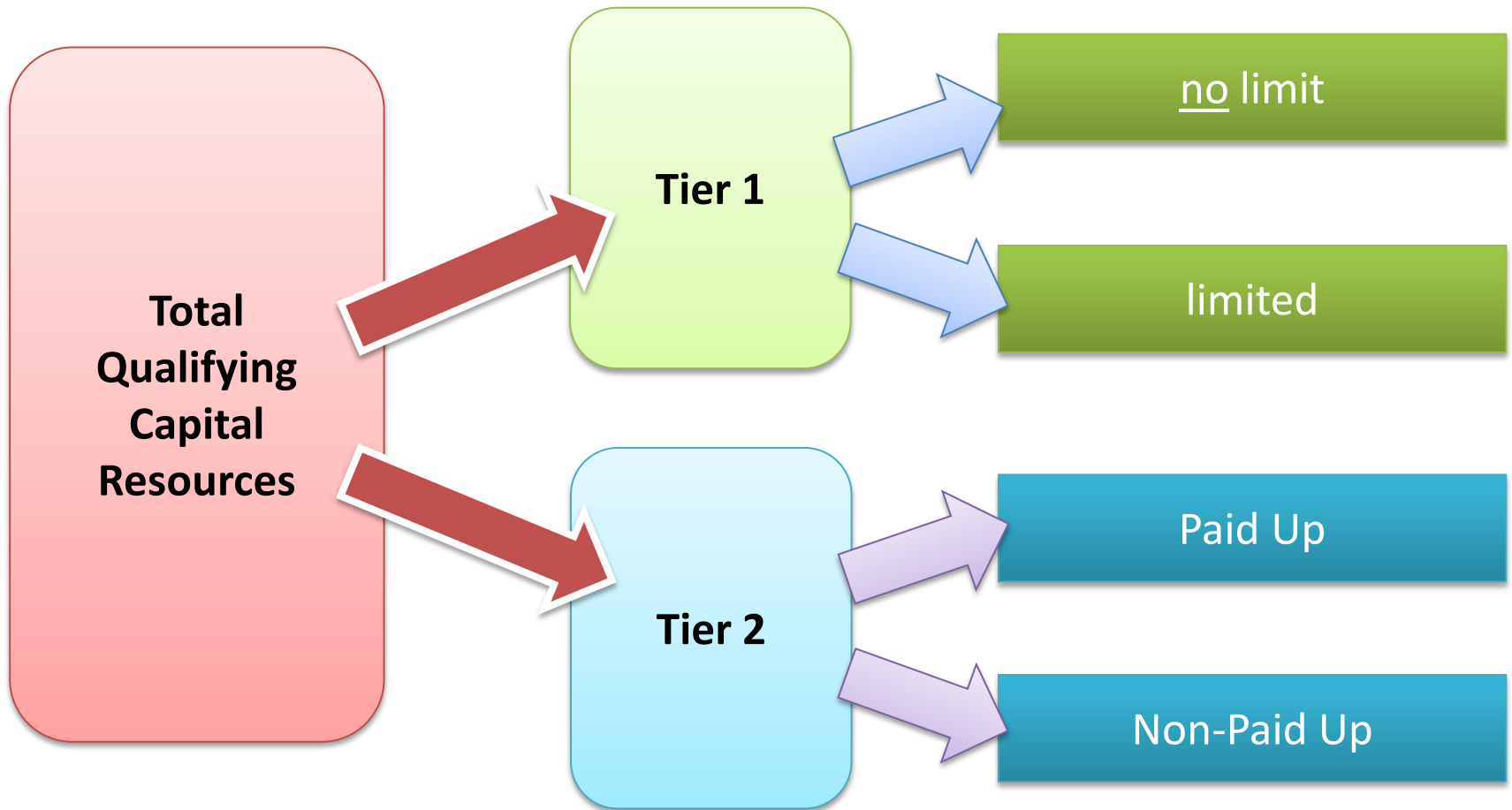
5. CAPITAL RESOURCES

Capital Resources – Overview

- Capital resources comprise both financial instruments and other capital elements (e.g. retained earnings, regulatory reserves, etc.)
- Qualifying capital resources are determined through an assessment of the nature, quality and suitability of all potential capital resources
- The assessment considers the absolute or relative degree of:
 - Subordination
 - Availability to absorb losses
 - Loss absorbing capacity
 - Permanence
 - Absence of encumbrances and mandatory servicing costs

Capital Resources

The tiering being considered:



Capital Resources: Tier 1 vs Tier 2

- Tier 1 capital resources comprise qualifying financial instruments and capital elements other than financial instruments that contribute to financial strength, absorb losses during going concern and winding-up and otherwise contribute to survival through periods when the IAIG is under stress.
- Tier 2 capital resources comprise qualifying financial instruments and capital elements other than those included in Tier 1 capital resources that absorb losses in winding-up and are subordinated to policyholders and non-subordinated creditors.

Capital Resources Overview: Tier 1 vs Tier 2

Instrument Criteria	Tier 1	Tier 2
Loss absorbing capacity	In going concern and winding-up	In winding-up only
Level of Subordination	Policyholders, other non-subordinated creditors and holders of Tier 2 capital instruments	Policyholders and other non-subordinated creditors
Availability to absorb losses	Fully paid-up	May include a portion of non-paid-up capital
Permanence	Perpetual – no incentives to redeem	Initial maturity of five years – may have incentives to redeem but first occurrence deemed to be ‘effective maturity date’
Absence of encumbrances and/or mandatory servicing costs	IAIG has full discretion to cancel distributions (i.e. distributions are non-cumulative)	n/a

Capital Resources Overview: Tier 1 vs Tier 2

- Tier 1 capital resources other than financial instruments
 - Retained earnings
 - Share premium resulting from the issuance of Tier 1 instruments and other contributed surplus
 - Accumulated other comprehensive income (AOCI)
 - Unrestricted reserves
- Tier 2 capital resources other than financial instruments
 - Share premium resulting from the issuance of Tier 2 instruments
 - Restricted reserves
 - Add-backs of items deducted from Tier 1, including the realizable value of DTAs that rely on future profitability, realizable value of computer software intangibles, 50% of the net defined benefit pension plan asset

Capital Resources – changes for 2016 Field Testing

- The criterion for repurchases has been modified in both Tier 1 Limited and Tier 2 Paid-Up capital resources as follows:

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

- Clarify definitions of retained earnings and other forms of contributed surplus to address inconsistent interpretations of amounts to include
- Clarify definitions of unrestricted and restricted reserves
 - 2016 Technical Specifications includes a table of specific jurisdictional reserves and the tier of capital for which they qualify
 - Unrestricted reserves are considered Tier 1, while restricted reserves are considered Tier 2
- AOCI adjustment will be included in capital resources for the GAAP with adjustments approach

Financial instruments – 2016 Field Testing and Consultation

- Collect additional information on worksheet *Financial Instruments* to better assess characteristics of senior debt
 - Type of issuing company (holding company, insurance holding company, insurance company, wholly-owned subsidiary, partially-owned subsidiary, special purpose vehicle)
 - Is instrument subordination legal/contractual or structural?
 - For debt issued by a holding company, what amount has been downstreamed into insurance subsidiaries?
- Treatment of mutual companies with respect to instrument criteria
 - Instruments currently issued mostly by mutual companies (Surplus Notes in the U.S. and Kikin in Japan) do not explicitly meet all of the criteria for inclusion in Tier 1 (Unlimited or Limited)
 - This topic will be further discussed with consideration of the characteristics of mutual companies.

Capital composition limits (1)

- Purpose of capital composition limits: to manage the quality of qualifying ICS capital resources by ensuring an adequate amount of high-quality capital is available to cover the ICS capital requirements
- Capital composition limits are being explicitly tested in 2016 field testing exercise
- For the ICS, there are three capital composition limits being considered:
 - A limit on Tier 1 Limited capital resources
 - A limit on total Tier 2 capital resources
 - A limit on Tier 2 non-paid-up capital resources

Capital composition limits (2)

- Tier 1 Limited capital resources: two possible limits are tested
 - 1) Limit equal to 10% of the ICS capital requirement
 - 2) Limit equal to 20% of ICS net Tier 1 capital resources
- ICS total Tier 2 capital resources are limited to 50% of the ICS capital requirement
- ICS Tier 2 non-paid-up capital resources are limited to 10% of the ICS capital requirement
- ***All limits serve as a starting point for field testing, but are not meant to be interpreted as a final proposal for limits. Different levels of the limits, and the bases on which they are applied, will be assessed following field testing.***

6. MARGIN OVER CURRENT ESTIMATES ("MOCE")

Agenda - MOCE

- Transfer MOCE: proposed refinements for the 2016 FT
 - Cost of capital
 - Projected capital requirement: selection and projection
 - Projections patterns (life & health)
 - Projections patterns (non-life)
- Prudence MOCE: proposed refinements for the 2016 FT
 - Reporting of non-life unearned premium
 - Health will follow similar approach to Life
- Other issues relevant for the 2016 FT
 - Tax treatment
 - MOCE for Morbidity/disability liabilities
- MOCE in the 2016 ICS consultation

Transfer MOCE – Cost of capital

- 2015 FT approach
 - A fixed 6% for all
- Approach being taken in 2016 FT
 - Apply a revised fixed cost of capital (based on observed equity risk premium)
 - Collect volunteer individual cost of capital
- Post 2016 FT
 - Investigate linking the cost of capital with the economic environment (e.g. interest rate level, spread level)
 - the data collected during the FT will allow IAIS to assess the impact

Transfer MOCE – Treatment of market risk

- 2015 FT approach and feedback:
 - Interest rate was included as part of the projected capital
 - It is material for life firms, very material for some firms
 - Feedback received that it is (mostly) hedgeable
- Approach being taken in 2016 FT
 - Remove interest rate risk from the projected capital requirement
 - Interest rate risk is hedgeable for short maturities for which financial instruments are traded, less so for long maturities. It will not be practical to split between the part arguably hedgeable and the part arguably non-hedgeable.

Transfer MOCE – Allocation of projected capital to the patterns

- 2015 FT approach and feedback:
 - Feedback received that allocation of projected capital should be based on the diversified amount
 - The entire amount of CAT risk should not be allocated as premium and reserve risk as cat risk follow a shorter pattern
- Approach being taken in 2016 FT
 - Changes to the allocation process
 - Based on diversified amounts
 - Mainly automated in the template
 - Some allocation (e.g. catastrophe) should be more accurate

Transfer MOCE – Projection pattern – life & health

- 2015 FT approach and feedback:
 - Firm provided one projection pattern (for life)
- Approach being taken in 2016 FT
 - Allow volunteers to provide differentiated patterns for the different life risks and health risk for up to 7 currencies.
 - If consider too burdensome and/or not material, a volunteer could provide a single pattern
 - This will allow analysis of differences and better inform decision for ICS 1.0
 - **This will not prejudice the choice for ICS Version 1.0**
- Data will be collected to investigate the better basis for the projection patterns
 - Default approach based on cash outflows (similar as 2015 FT)
 - Optional alternative based on sums at risk.

Transfer MOCE – Projection pattern – non-life

- 2015 FT approach and feedback:
 - IAIS provided 3 projection patterns and allocated projected capital
- Approach being taken in 2016 FT
 - 3 Revised (longer) patterns based on supervisory data

Prudence MOCE (P-MOCE) – 2015 FT approach and feedback

- Non-life: unearned premium reported for the MOCE purpose
 - Lessons from analysis: unearned premium seems in some cases inconsistent with UPP/pre-claim current estimate
 - Result of more general reporting issues for UPP/pre-claim
- Concerns about double-counting between margin and required capital
 - This and more general issue of how MOCE should interact with the other components of the ICS will be addressed in the CD

Prudence MOCE – 2016 FT

- Approach being taken in 2016 FT
 - No change in approach for Life/Non-Life P-MOCE; same calculations used
 - Health P-MOCE will follow similar approach to Life
 - Improve the specification/definition of non-life unearned premium
 - The template will allow for a more accurate capture of the data relevant for the non-life part of the P MOCE calculation

MOCE – Other topics relevant for the 2016 FT

- Tax treatment
 - 2015 FT: no tax impact was reflected in the MOCE
 - For 2016 FT: remains pre-tax. Tax impact will be considered going forwards consistent with the holistic review of tax issues across the ICS
- Treatment of morbidity/disability
 - For 2016 FT: Two options presented for Health and Morbidity/disability calculations, with the former being the default calculation that flows through into other ICS components. MOCE will be calculated on the basis of the default approach.

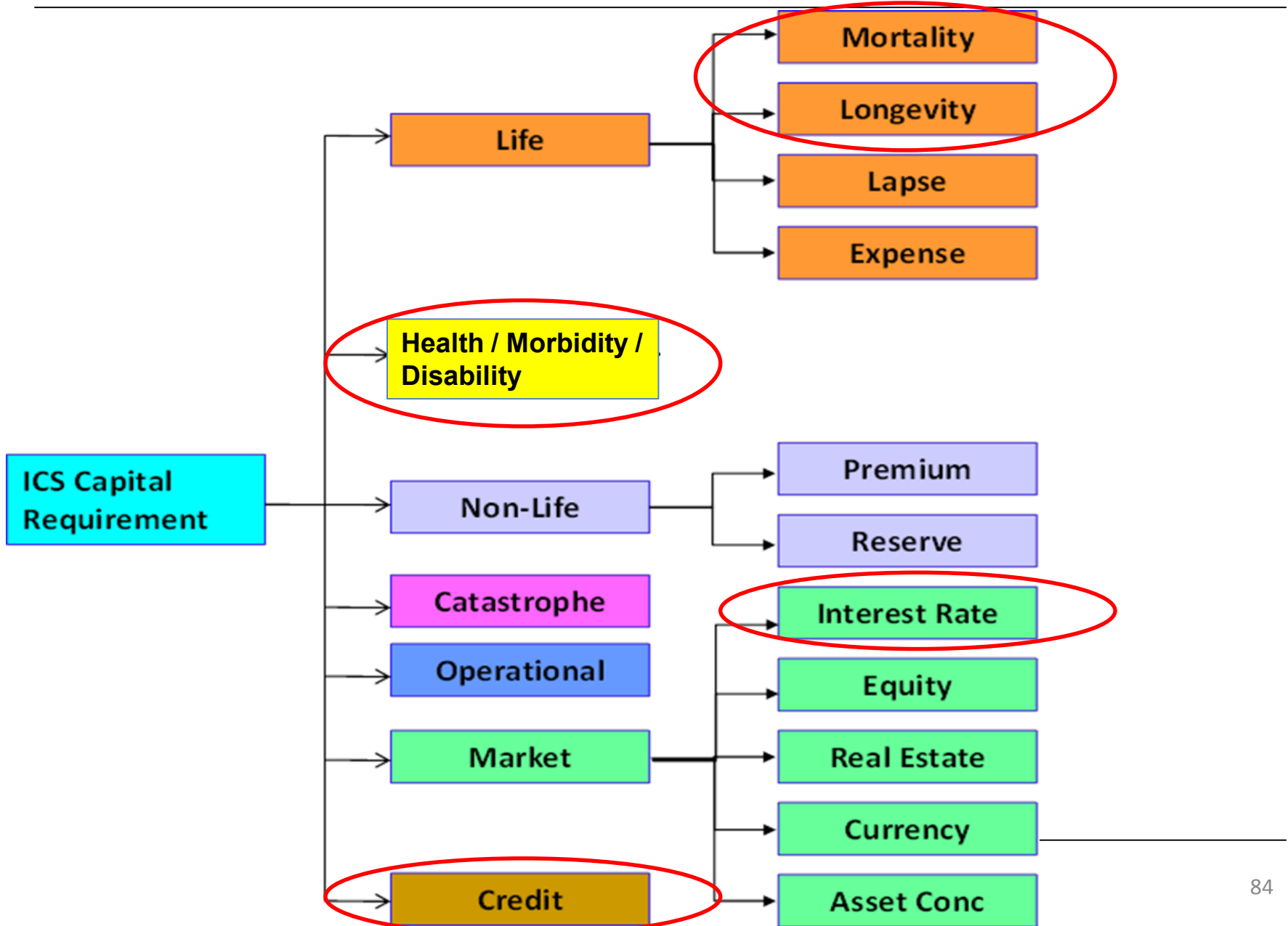
MOCE – in the 2016 ICS consultation

- The consultation will cover
 - Both transfer (cost of capital) and prudence MOCE
 - Rationale for the inclusion of a MOCE
 - How the MOCE should interact with the other components of the ICS (e.g. required capital, capital resources)
- Expected feedback
 - Stakeholders will have the possibility to comment on theoretical rationale for MOCE
 - The consultation also includes specific questions on the design and calibration

7. OVERVIEW OF RISKS

Overview of risks

○ → Risks covered in this meeting. For details of other risks please refer to materials from previous 2016 capital-related stakeholder meetings



MORTALITY/LONGEVITY RISKS

Mortality / Longevity Risk

- **Mortality risk:** Shock only the level component (update from Apr stakeholder meeting)
 - Level shock is a multiplicative shock to base mortality assumptions (i.e. (1+ level shock) x base mortality assumptions)
 - Feedback from volunteers – trend shock is not practical as many volunteers do not have trend assumptions
- **Longevity risk:** Shock both the trend and level components
 - Trend shock first, then level shock; Volunteers will be asked to report the amount of the trend shock and then the combined shock
 - Trend shock is an additive shock to base mortality improvement assumptions (i.e. trend shock + base mortality improvement assumptions)
 - The approach of level shock is the same as mortality risk above

	Trend Shock	Level Shock
Mortality	-	+ X %
Longevity	+ Y %	+ Z %

- Will collect data from volunteers to validate/refine stresses

8. HEALTH / MORBIDITY/DISABILITY RISKS

Morbidity and disability risk – 2015 field testing

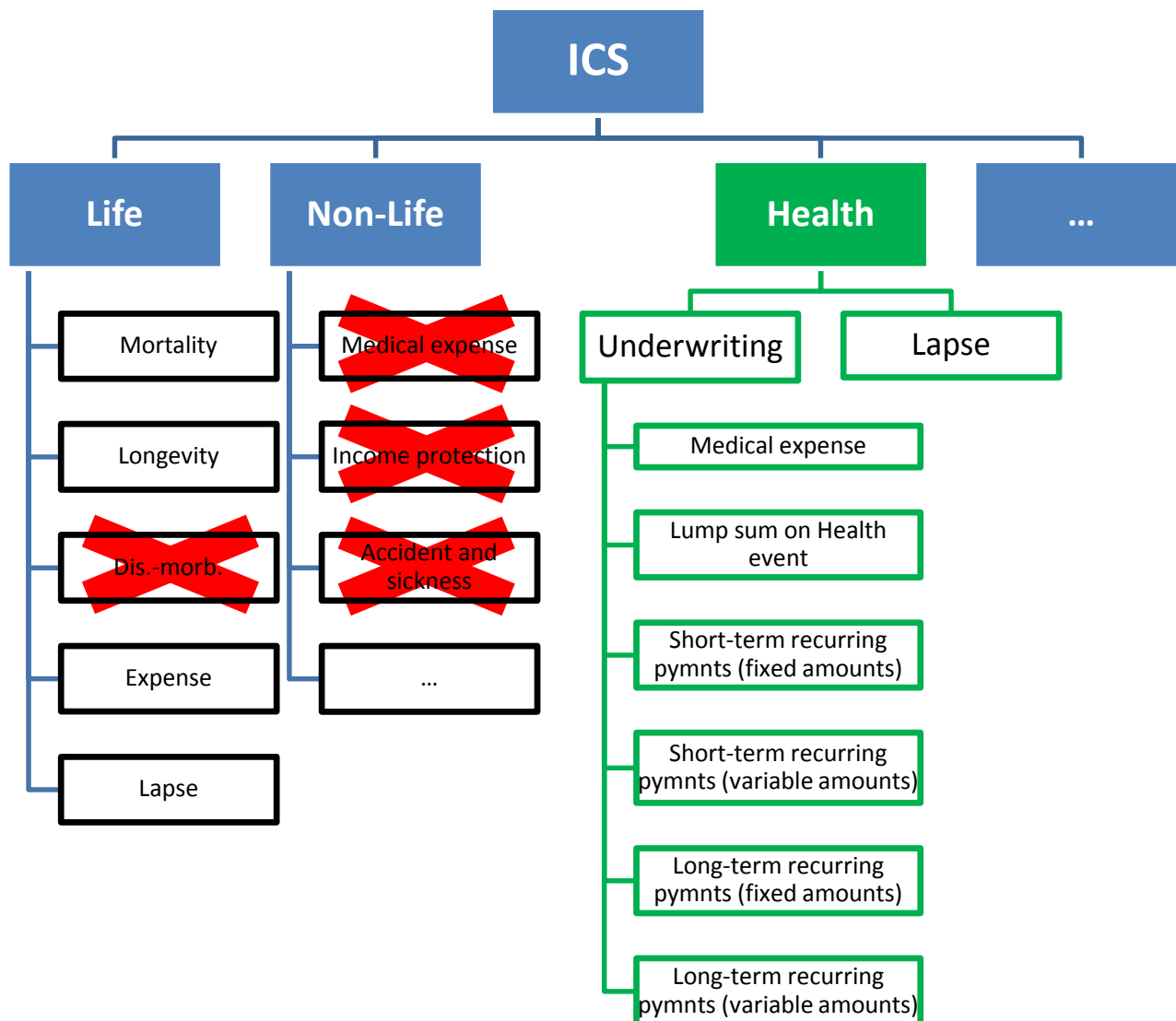
- The 2015 approach caused concerns to some Volunteers, (in particular from US and Asia):
 - The design was very complex. Some data quality issues in reporting.
 - The calibration may be appropriate for some risks / types of business, but not all of them

➔ This highlighted a need to re-think the design and calibration of the formula. Exploring solution to this in 2016 Field Testing

Morbidity and disability risk – 2016 field testing

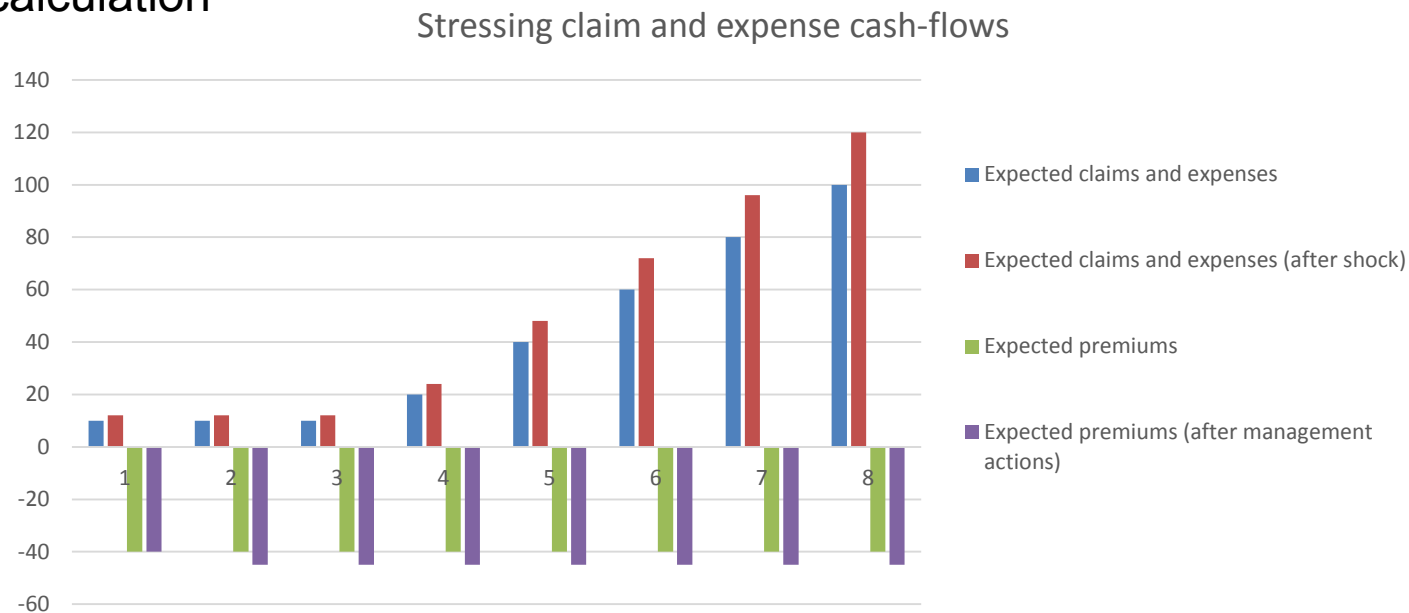
- Two proposals are under consideration (feedback will be sought in the 2016 ICS Consultation on both proposals)
- **Proposal 1:** create a new health module, thereby removing the distinction between “similar to life” and “similar to non-life”
 - stress approach is employed, based on a segmentation by Health lines of business
 - proportional shock factor (by health line of business) would be specified and applied directly to the claim amounts and expenses
 - a specific Health Lapse risk would be included
- **Proposal 2:** addresses the key risk drivers of two very distinct classes of (similar to life) health products:
 - Products that provide medical treatment due to illness, accident, disability or infirmity or financial compensation that is directly linked to the cost of such treatment
 - Products that provide a financial compensation arising from illness, accident, disability or infirmity that is not directly linked to the cost of medical treatment

Morbidity and disability risk – proposal 1



Morbidity and disability risk – proposal 1

- For each Health risk group, specification of a proportional shock factor...
- ... to be applied directly to claims and expenses in the Current Estimate (CE) calculation



- Example of how this could work in practice:
 - CE before shock = 330 – 320 = 10
 - CE after shock = 396 – 320 = 76 → gross capital charge = 66
 - Allowance for management actions → net capital charge = 31

Morbidity and disability risk – proposal 2

- Component 1: “Medical Treatment”
 - Subject to Medical Payments and Inflation stresses
- Component 2: “Financial Compensation”
 - Subject to Inception Rates and Recovery Rates stresses
 - To address the issue of long term business, a different calibration will be used for longer time horizons (i.e. the inception rate stress will be lower after the first year)
 - To address the concern of double counting, but at the same time keep an approach that appropriately captures the risk of products exposed to only one of the two risk drivers, remove the simultaneous application of the Inception Rate and Recovery Rate stresses, capturing the maximum of the two charges instead.

Morbidity and disability risk – proposal 2

The Life Morbidity/Disability risk is defined as the sum of two components (mutually exclusive in terms of scope):

- “Medical Treatment” insurance:
 - i. Claim payments increase:
 - a) For EEA and Switzerland, US and Canada, Japan and Other developed countries, an increase in the amount of medical payments of 5% and an increase in the annual inflation of 1%
 - b) For emerging markets, an increase in the amount of medical payments of 5% and an increase in the annual inflation of 3%

- “Financial Compensation” insurance:
 - MAX (Inception Rate Stress; Recovery Rate Stress), where
 - i. Inception Rate Stress = For all regions, an increase in the inception rate used to calculate the Current Estimate:
 - a) 25%, in the first year
 - b) 15%, in each subsequent year
 - ii. Recovery Rate Stress = For all regions, a decrease in the recovery rate of 20%

9. CREDIT RISK

Credit Risk – key changes for 2016 field testing

- Credit for management actions
 - No credit for management actions permitted in 2015 field testing as methodology was designated as a “factor-based approach”
- Expanded use of external credit ratings/ designations
 - Allowing use of A.M. Best ratings for reinsurance exposures
 - Volunteers may recognise any ratings agency currently recognised by their home insurance regulator for local capital determination purposes, subject to clear instructions provided by the home regulator on how to map those credit agency ratings to the ICS Rating categories and explicit acceptance of the use of those ratings by the IAIS as indicated through future communications provided to Volunteers in advance of field testing submission deadlines
 - Data will be collected on the impacts of use of NAIC designations

Credit Risk – key changes for 2016 field testing

- More granularity for commercial and residential mortgage factors
 - Three granular approaches for commercial mortgages based upon loan to value (LTV) & debt service coverage (DSC) data availability
 - Separate calibrations for agricultural mortgage loans based on LTVs
 - Residential mortgages factors: performing = 3.6%, non-performing = 38%
- Multilateral development bank / Supranational obligations will be given 0% stress factor
 - Consistent with BCBS approach
 - Exposure data will be requested within the supplementary data collection
- Re-labelling of sovereign exposures as exposures to national govt's
 - Avoid certain definitional issues when referring to monetary unions
 - Still 0% factor, with exposure data part of supplementary data collection

Credit Risk – open items for ICS CD

Feedback will be sought on the:

- Various considerations around the use of credit ratings assessments from external agencies and from supervisory owned processes
- More granular approach for commercial and residential mortgages
- Treatment of reinsurance exposures, especially for collateralised reinsurance

10. INTEREST RATE RISK

2015 approach and negative & low rates

- 2015 Field Testing approach was to use two data points for historical data, 90 days and 30 years. The length of historical data depends on the availability of data for each currency.
- Three shock scenarios: (1) up, (2) down, (3) flattening were tested.
- The calibration was carried out using a simplified Cox-Ingersoll-Ross model without a mean reversal parameter. A 0.5% floor was incorporated in the square root formula addressing extremely low or negative interest rates.
- This methodology (0.5% floor) created some anomalous stressed curves in 2015 field testing.
- In 2016, this issue became more pronounced as more currencies of developed economies moved to very low or negative interest rate territory.

Negative yields and low yields prevalent

Sovereign Bond Yield Curves

Jan 29 2016

	1Y	2Y	3Y	4Y	5Y	6Y	7Y	8Y	9Y	10Y	11Y	12Y	13Y	14Y	15Y	20Y	30Y
Switzerland	-0.90	-1.00	-0.95	-0.85	-0.77	-0.65	-0.57	-0.45	-0.35	-0.29	-0.22	-0.16	-0.11	-0.06	-0.01	0.14	0.31
Japan	-0.07	-0.08	-0.07	-0.07	-0.07	-0.08	-0.05	-0.01	0.04	0.10	0.15	0.21	0.27	0.33	0.39	0.81	1.07
Germany	-0.46	-0.48	-0.45	-0.41	-0.30	-0.19	-0.07	0.05	0.21	0.34	0.38	0.43	0.47	0.52	0.56	0.81	1.05
Netherlands	-0.45	-0.46	-0.42	-0.35	-0.26	-0.14	-0.02	0.14	0.28	0.45	0.49	0.53	0.57	0.61	0.65	1.05	1.20
Australia	-0.43	-0.44	-0.39	-0.30	-0.23	-0.10	0.10	0.24	0.41	0.58	0.61	0.64	0.68	0.71	0.74	1.23	1.42
Finland	-0.42	-0.42	-0.38	-0.32	-0.20	-0.14	0.05	0.17	0.35	0.60	0.70	0.80	0.90	1.01	1.11	1.16	1.26
Denmark	-0.28	-0.28	-0.18	-0.08	0.02	0.11	0.20	0.30	0.46	0.61	0.64	0.66	0.69	0.71	0.74	0.87	1.13
France	-0.41	-0.41	-0.34	-0.24	-0.13	-0.01	0.14	0.26	0.47	0.65	0.76	0.87	0.98	1.09	1.21	1.35	1.66
Belgium	-0.40	-0.41	-0.34	-0.28	-0.18	-0.04	0.11	0.43	0.62	0.78	0.87	0.97	1.06	1.15	1.25	1.35	1.64
Ireland		-0.35	-0.24	-0.08	0.03	0.24	0.43	0.68	0.76	0.85	0.87	0.89	0.92	0.94	0.96	1.09	1.35
Sweden	-0.56	-0.37	-0.21	-0.04	0.23	0.33	0.43	0.61	0.73	0.86	1.37	1.40	1.43	1.47	1.50	1.67	
Canada	0.43	0.39	0.41	0.46	0.63	0.65	0.81	0.95	1.06	1.17	1.25	1.33	1.41	1.48	1.56	1.96	1.99
Norway	0.54	0.58	0.58	0.58	0.73	0.88	1.01	1.14	1.22	1.32							
Italy	-0.07	-0.01	0.04	0.24	0.45	0.72	0.88	1.03	1.29	1.44	1.52	1.61	1.69	1.78	1.86	2.16	2.59
Spain	-0.08	-0.01	0.06	0.22	0.47	0.79	1.05	1.20	1.43	1.54	1.65	1.76	1.86	1.97	2.08	2.51	2.73
UK	0.35	0.34	0.51	0.67	0.91	1.04	1.23	1.37	1.49	1.58	1.65	1.72	1.79	1.86	1.94	2.16	2.35
US	0.43	0.78	0.99	1.17	1.35	1.52	1.69	1.77	1.85	1.93	1.97	2.01	2.05	2.09	2.13	2.34	2.74
Israel	0.07	0.25	0.33	0.59	0.75	1.22	1.34	1.47	1.70	1.96	2.01	2.06	2.12	2.17	2.22	2.48	3.00
Portugal	-0.01	0.38	0.86	1.29	1.58	2.12	2.49	2.68	2.78	2.88	2.96	3.05	3.13	3.22	3.30	3.66	3.83
Greece		12.95	12.21	11.46	11.12	10.78	10.43	10.09	9.75	9.40	9.35	9.30	9.25	9.20	9.15	8.95	

	$i < 0\%$
	$0\% \leq i < 0.5\%$
	$0.5\% \leq i < 1.0\%$
	$1.0\% \leq i$

(Source: Bloomberg)

Interest rate risk - Redesign issues

- The high capital charge on interest rate risk for some Volunteer IAIGs suggested that the level and/or shape of the stressed interest rate curves may require revision.
- The shape of stressed curves needed to be refined – done by adding more calibration points along the curves
- The necessity of using all three scenarios (up, down and flattening) was subjected to a review
- Should the long-term forward rates (LTFR) be stressed, and if those rates are stressed, how should the IAIS extrapolate rates between the last observable point and the long-term forward rate?

2016 Field Testing – Interest rate risk - MAV

- Stressed yield curves are provided for the 35 currencies IAIS has specified yield curves
- Formulas are provided to determine stressed curves for other currencies
- The shocked interest rate curves have been generated by using the Principal Component Analysis (PCA), with confidence level set at VaR 99/5%, 1-year time horizon
- PCA calibration based on 12 observable maturities – Years 1 to 10, 20, 30
- Each maturity evaluated using 6 years of historical data, unfiltered
- Calibrations are based on each currency's specific volatility
- Extrapolation (Smith-Wilson methodology) applied from last observable maturity to the long-term forward rate (LTFR)
- A stress of 15% was applied to the long-term forward rate (LTFR) before the notional spread adjustment (10 basis points - see Market-Adjusted Valuation section).
- Comments will be sought on appropriate calibration methods in the 2016 ICS Consultation Document

2016 Field Testing – Interest rate risk - MAV

- PCA only applied to observable part of the curve
- Stress scenarios: Maximum of up and down stress calibrated according to the 1st principal component and combined with flattening stress calibrated according to the 2nd principal component to reflect the first two principal components.
- The steepening scenario will not be required because it is not expected to produce a stress for insurance groups – this could be an additional stress derived from the 2nd principal component
- Change aggregation method from last year: use square root method – as opposed to taking the maximum of the up, down and flattening stress
- For 2016 FT, no correlation/diversification effect is recognized between yield curves in different currencies

$$\sqrt{\left(\text{Risk amount from 1st principal component}\right)^2 + \left(\text{Risk amount from 2nd principal component}\right)^2}$$

GAAP+ Interest Rate Stress Approach – Method 1

- Assets: stress is consistent with the standard method under MAV. The majority of assets under GAAP Plus for all jurisdictions are valued at fair value. In some jurisdictions, there are certain assets (bonds classified as held to maturity, loans) that are measured at cost and would not be impacted by the stress scenario
- Insurance liabilities: where an IAIG uses discount rates for each tenor (based on portfolio earned rates, reinvestment rates or other assumptions), the IAIG should apply the differences between the IAIS base and stress yield curves to corresponding discount rates at each tenor

GAAP+ Interest Rate Stress Approach – Method 1

- For insurance liabilities where a single discount rate is applied, Volunteer IAIGs apply a single rate stress based for each tenor bucket based on the average difference between the IAIS base and stress curves over each tenor bucket that corresponds to the effective duration of each liability:
 - Stresses (in bps) are developed for five duration segments (0-5, 5-10, 10-20, 20-30 and 30+ years for each currency)
 - The stress is the change in value when using the base and stressed GAAP+ discount rate
 - Applied to up and down stresses
 - Flattening stress is subject to an up stress for the 0-5 years and 5-10 years duration buckets, and down stress for 10-20 year, 20-30 year, and 30+ years buckets
 - Where a volunteer cannot separate its liabilities into duration buckets, volunteers should apply the maximum stress from the MAV curves to all contracts, applied to up and down stress only.

GAAP+ Interest Rate Stress Approach – Method 2

- Assets: Stress is consistent with the standard method for MAV, except where assets are measured at cost (e.g. loans, and bonds classified as held to maturity) and thus are not impacted by the market value-based stress scenario.
- An AOCI adjustment (as included in GAAP+ capital resources) is applied where fixed income investments, likely to be held to maturity, backing long term insurance liabilities, would be measured at amortized cost, so their value would not be impacted by the interest rate stress
- For insurance liabilities where a market consistent discount curve is applied directly in valuation under GAAP, such as guarantees and options, the interest rate stress is the same as under MAV.
- For all other insurance liabilities that are discounted using a portfolio earned rate/curve, long term insurance liabilities should be discounted using a blended rate of the portfolio earned rate on existing investments and the stressed IAIS yield curves for reinvestment at each tenor and currency
- The stressed discount rates only apply directly to the reinvestment rates

11. DIVERSIFICATION

Diversification – some background

- Diversification fundamental to insurance. When managing a portfolio of risks diversification between risks is expected. This is expected both within risks and between risks.
- Risks are measured individually in the ICS. To calculate the ICS, volunteers apply a defined list of shocks/factors to the balance sheet. The impact of diversification within a risk is reflected in the assessment (i.e. calibration) of those risk charges.
- Diversification benefits also come into play in a second stage, when the standalone risk charges are aggregated between risks using correlation parameters set in a matrix prescribed by the IAIS.
- The overall ICS calculation (post diversification) should set a level of capital for the IAIG necessary to withstand losses at a 99.5% confidence level.
- ICS is being built for international groups so diversification benefits are expected to be significant

ICS Diversification - approach

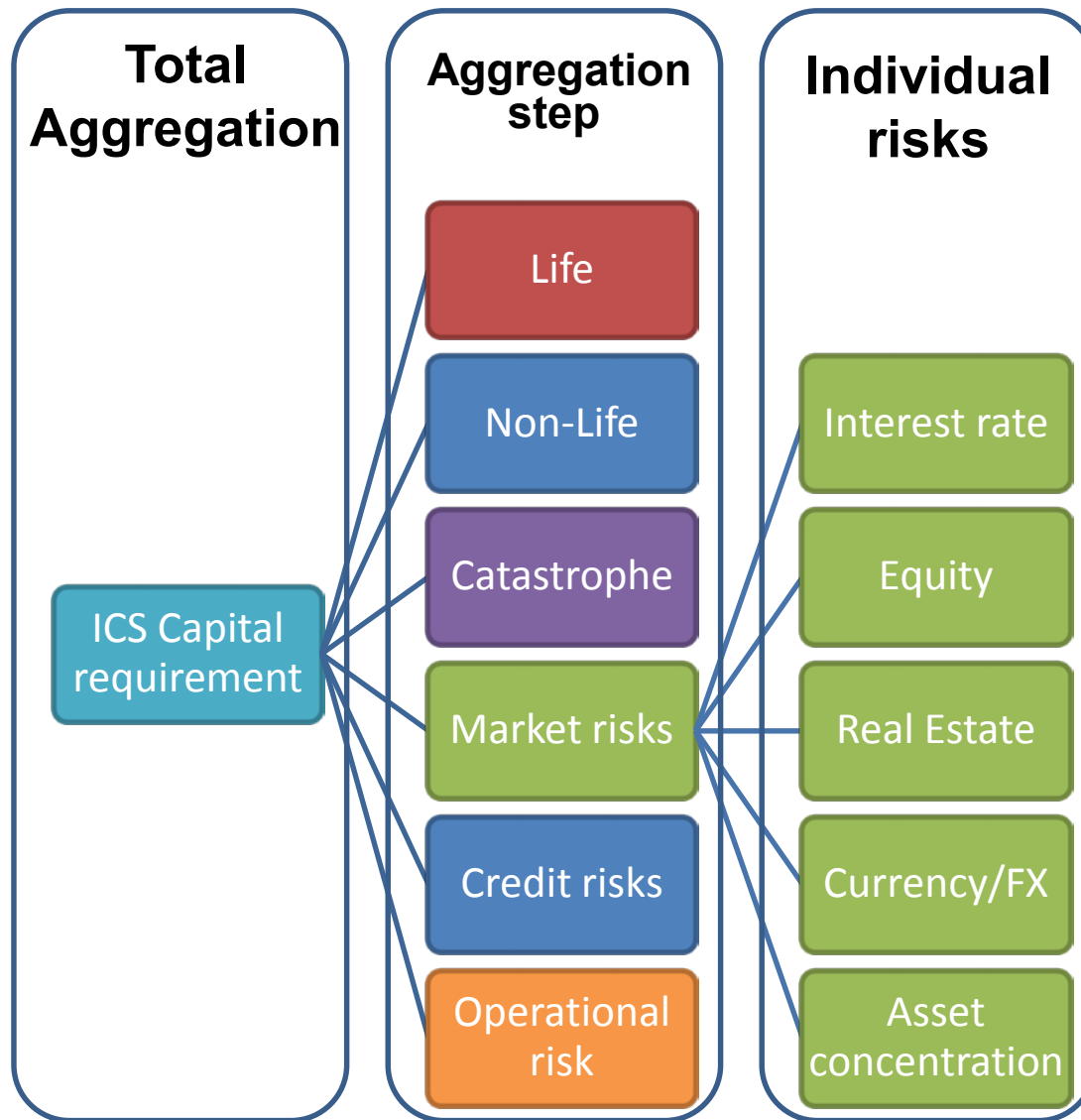
- 2014 Consultation and 2015 Field Testing supported the use of
 - A Variance / Covariance approach, and
 - The use of multiple steps in this approach
- In 2016 the IAIS will continue to explore the use of Variance / Covariance approach with multiple steps
 - Specifics vary by the nature of the risks being addressed
- The approach will be extended to include the new Health Risk
- Work on calibration will also continue
 - Between risks
 - In aggregate

Diversification in the ICS

- Multistep approach
 - Diversification within ICS risk
 - Diversification between ICS risks
- Different approaches to diversification within risks
 - Not all include geographic diversification
 - Some are more complex than others – e.g. 3 step diversification within non-life
- Diversification structure and factors for the ICS standard method are:
 - prescribed by the IAIS: it is a component of a standard method
 - their initial calibration is based on supervisory judgement
 - To avoid spurious accuracy – only 25% increments used in correlation matrices

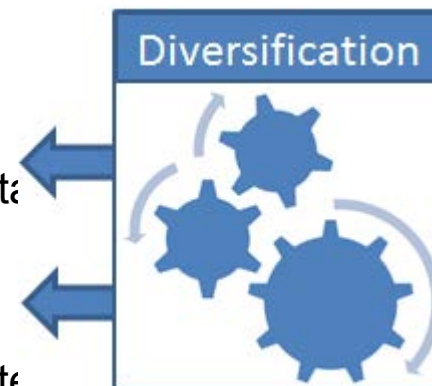
ICS Diversification: Variance/Covariance tiered matrix approach

Multiple-step



Diversification in the ICS

- A granular approach to risks
 - 850 individual risks components modelled (calibrated individually at a notional VaR 99.5%)
- Combined using various techniques
 - Simple sum
 - e.g.: life risks in different geographic areas
 - Using linear (tail) correlation assumptions
 - e.g.: 50% correlation between Equity and Real estate
 - e.g.: -25% between Mortality and Longevity
 - Maximum of multiple results
 - e.g.: upward or downward change in exchange rate
- With an allowance for risk sharing
 - with policyholders (participating products)
 - with tax authorities (loss event impact on deferred taxes)
- To produce the final ICS



12. TAX ISSUES

Current Deferred Tax Treatment - ICS Field Testing

Valuation

- Both GAAP+ and MAV balance sheets presented on an after tax basis with the exception of MOCE which is not tax-effected. Specifications do not prescribe the level of granularity of adjustment.

Capital Resources

- Deferred Tax Assets (DTAs) are deducted from Tier 1 capital resources and added back as Tier 2 capital resources if considered realisable. Specific criteria to adjust DTAs for realisability, uncertainty or place limits on DTAs based on their loss absorbing characteristics have not yet been proposed.

Capital Requirements

- The ICS capital requirement is subject to an overall tax effect. Specifications provided for the application of a global effective tax rate to the post-diversification, pre-tax capital requirement (a top-down approach) which materially reduces the ICS capital requirement. Specific criteria to adjust DTAs for realisability as a result of the 'post-stress' adjustment have not yet been proposed.

Deferred Taxes – Open Questions and Considerations

Valuation

- Whether, and if so, how, the impact of taxes should be further adjusted in the ICS balance sheet (GAAP+ and MAV)
- Evaluate options related to level of aggregation, top down vs. bottom up, effective tax rate determination, discounting, etc.
- Consider the tax impact on MOCE

Capital Resources

- Consideration of prudential deduction or limits, assigned tier of capital
- Evaluate options for assessing realisability of DTAs

Capital Requirements

- Whether, and if so, how, the impact of taxes should be reflected in the ICS capital requirement
- Address issues that arise related to realisability - level of granularity, determining post stress income projections, impact of management actions, tax strategies, diversification.

Deferred Tax – Developing a Holistic Approach

2016 Field Testing

- Understand current approaches being used by Volunteers to reflect tax impact in GAAP+ and MAV
- Collecting data to begin to assess the impact of DTAs on capital resources
- No changes for MOCE or capital requirements proposed for 2016 Field Test exercise

2016 Consultation Document

- Seeking input on developing approaches for reflecting deferred taxes in the GAAP+ and MAV balance sheet, capital resources and capital requirements
- Specific questions posed related to discussion items in previous slide, with an aim to balance accuracy, transparency and simplicity

Outreach

- Discussions or roundtables with Volunteers/Stakeholders planned for later in year to gather additional input and follow up on responses to questions posed in the 2016 ICS Consultation Document

13. OPEN SESSION FOR QUESTIONS

14. WRAP UP AND NEXT STEPS

Next Steps

- 2016 ICS CD will be published in mid-July 2016 (3-months response period)
- Public background call will be organised shortly after launch of 2016 ICS CD (details will be posted on the IAIS webpage)
- From July 2016 to early 2017 the IAIS will be rigorously analysing 2016 Field Testing data and responses to the 2016 ICS CD in order to inform ICS Version 1.0.
- Next capital-focused stakeholder meeting will be in early 2017 (details to be announced).

For a comprehensive overview of planned IAIS stakeholder meetings, please check the IAIS Stakeholder Meetings webpage for details and updates.

(<http://www.iaisweb.org/page/events/stakeholder-meetings>)