Public

IAIS
INTERNATIONAL ASSOCIATION OF INSURANCE SUPERVISORS

ICS Version 1.0 for extended field testing

ICS Stakeholder Meeting
5 December 2017, Basel

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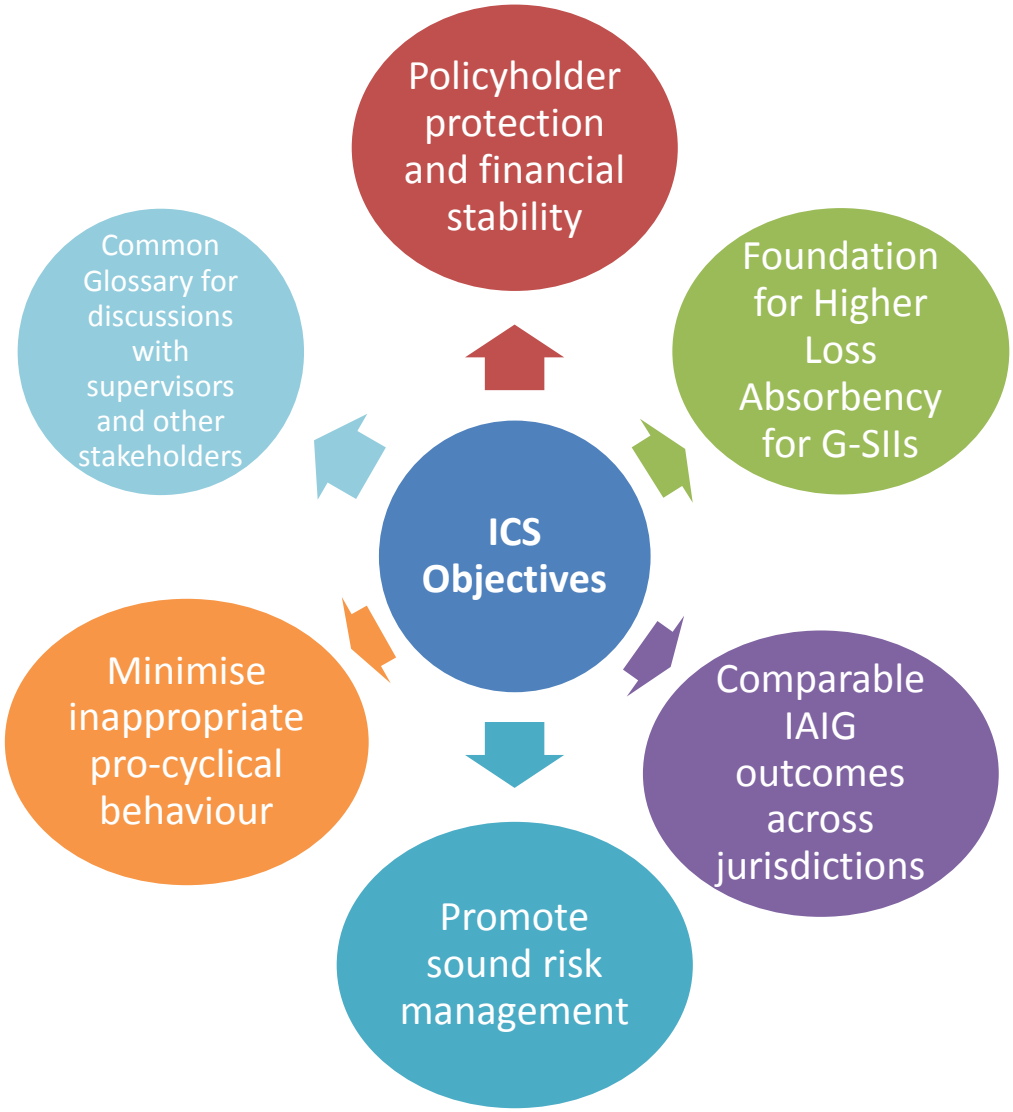
SIMPLIFIED OVERVIEW OF ICS – TECHNICAL ISSUES

Why this presentation

- Stakeholders who are not volunteers find it difficult to follow how the ICS calculation works, particularly in the capital requirement
- This leads to incorrect, uninformed statements in the press about the ICS
- The sort of statements made are ‘you cannot have one-size fits all like the same treatment of motor vehicle insurance across different countries’. This is not the case because the ICS does not have the same treatment of motor vehicle insurance as we shall see.
- This part of the presentation attempts to debunk some myths about the ICS

ICS Objectives



ULTIMATE GOAL

A single ICS with a common methodology that achieves comparable, i.e. substantially the same, outcomes across jurisdictions

Key Elements of the ICS

Group-wide, consolidated standard for IAIGs

- Minimum standard – all IAIS members should propose for adoption in their jurisdictions
- Measure of capital adequacy for IAIGs
- **Not** legal entity requirement

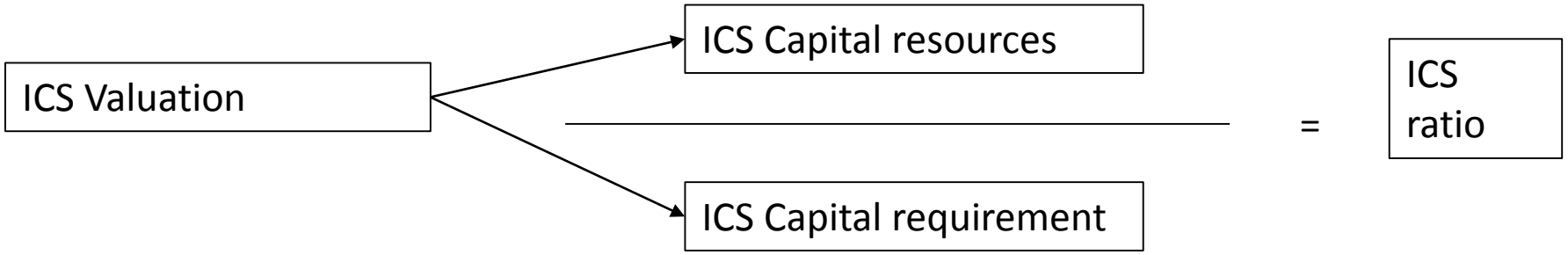
Main Components

- Valuation
- Qualifying capital resources
- Capital requirement

Risk Coverage

- Takes account of all material risks (insurance, market, credit, operational) – does not explicitly cover group and liquidity risks
- More risk sensitive than the Basic Capital Requirements (for G-SIIs) – ICS will replace the BCR as basis for Higher Loss Absorbency requirements

The components of ICS



ICS VALUATION BASES

ICS Valuation

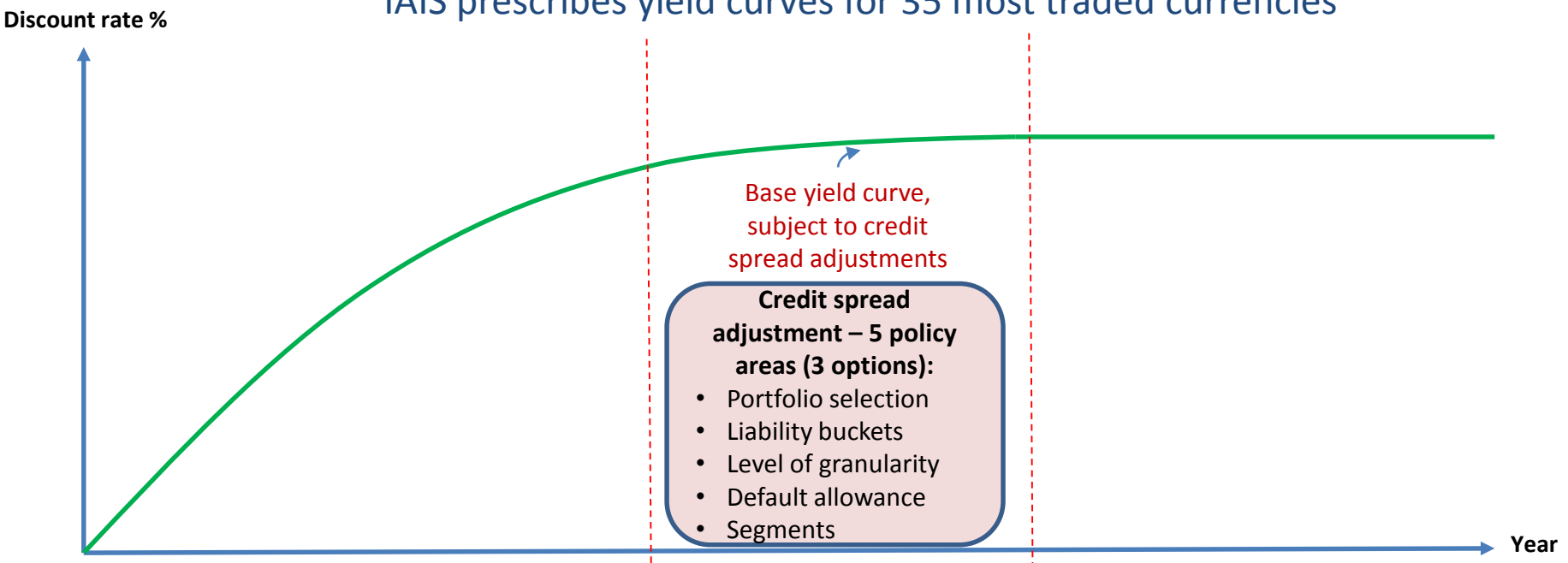
- Both MAV and GAAP Plus start with GAAP
- MAV specifies market value for investments and specifies how insurance liabilities are to be calculated to arrive at a current estimate in a way that is consistent with the valuation of assets.
  - The key specification is the approach to discounting with the IAIS providing the yield curves to be used to create greater comparability and address volatility.
- GAAP Plus makes adjustments to insurance liabilities using existing audited systems to arrive at a current estimate. Discounting is that applied in the relevant GAAP.
  - An AOCI adjustment is applicable under GAAP Plus for jurisdictions where insurance liabilities are measured based on an asset book yield, and fixed income investments backing those liabilities are reported at fair value.
- MOCE – eventually the aim is to have a consistent and comparable MOCE which can be added to current estimates derived from MAV or GAAP Plus

Market-Adjusted Valuation Approach (MAV)

- Focus on comparability of assets and liability valuations regardless of location of an IAIG's head office
- Should be transparent and verifiable to supervisors
- Adjust the most significant jurisdictional GAAP/IFRS balance sheet items

MAV Discounting Approaches

IAIS prescribes yield curves for 35 most traded currencies



Segment 1

- Liquid segment
- Based on observed market prices of government bonds or swaps (subject to 10 bps credit risk adjustment)

Segment 2

- Extrapolation between segments 1 and 3

Segment 3

- Long Term Forward Rate
- Set at 60 years for all currencies
- Based on long-term expectations of economic growth and inflation in each country (OECD study)

GAAP with adjustments (GAAP+)

- Based on jurisdictional GAAP
- Rationale is because GAAP amounts, processes and/or systems are subject to audit
- Should be transparent and verifiable to supervisors, internal auditors and independent external auditors
- Differences of results between MAV and GAAP Plus are mainly due to the different discounting approaches - 2017 Field Testing will further examine drivers of differences
- There are GAAP Plus-specific risk charges for interest rate and credit risks
- GAAP Plus approach will be reviewed following changes in accounting rules for insurance contracts and financial instruments under IFRS and US GAAP

MARGIN OVER CURRENT ESTIMATE

(MOCE)

Margin Over Current Estimate (MOCE)

- The development of a comparable and consistent MOCE requires a few iterations of field testing.

Cost of Capital Approach

- Based on 'arms-length' transfer of liabilities (market value)
- Implemented as measure of cost of capital

Prudence Approach

- Life: percentile of insurance liabilities
- Non-life: avoid recognition of future profits

Consistent and Comparable Margin Over Current Estimate

Item	Cost of Capital MOCE (C-MOCE)	Prudence MOCE (P-MOCE)
Purpose	• Risk-adjusted valuation of insurance liabilities – consistent with valuation of assets • Allow transfer of insurance liabilities to a willing third party • Allow own fulfilment of insurance obligations	• Simple and comparable way to calculate MOCE for policyholder protection • Non-life: avoid recognition of future profits

Interaction between MOCE, capital requirements and capital resources – Options

- Full/partial/no deduction from capital requirement
- Full/partial/no inclusion in capital resources
- MOCE added to capital requirement to determine supervisory action trigger
- Reduce calibration of MOCE

ICS CAPITAL REQUIREMENT

ICS Capital Requirement

- Currently only calculated on a standard method specified by the IAIS
- Aim of the ICS capital requirement is to reflect actual risk rather than proxies – this means that the ICS capital requirement is flexible depending on the nature of the risks inherent in the products sold by the IAIG and the investments held to support liabilities
- This is what is referred to as risk-sensitivity and makes the ICS risk-based. Full name of the ICS is global, risk-based insurance capital standard.
- Nature of a standard method is that it is a trade-off between comparability and risk-sensitivity. Not as tailored to the nature of risks of a particular entity as an internal model would be. However, it is still risk-sensitive to a significant degree.

ICS Capital Requirement (standard method)

- 3 ways in which risk charges are calculated:
  - Model-based: Only used for natural catastrophe – only way to measure
  - Factor-based: Exposure measure (e.g. current estimate) multiplied by x% - for some risks this is the best way to measure an underlying risk in a standard method.
  - Stress-based: Defined stress (e.g. change in mortality assumption). Most used methodology – gives a direct view of the impact of a risk on the balance sheet. So the risk charge is worked out this way

Risk charge	=	Net asset value of the Balance Sheet prior to application of the stress	-	Net asset value of the Balance Sheet after applying the stress (takes into account impact on assets and liabilities)	-	Management actions (i.e. how much of loss can be passed to policyholders through reduced bonuses)

Capital Requirement – Overview of Standard Method

Risk	Factor-based	Stress	Other
Insurance risks			
• Mortality		✓	
• Longevity		✓	
• Morbidity/Disability		✓	
• Lapse		✓	
• Expense		✓	
• Premium	✓		
• Claims reserve	✓		
• Catastrophe			✓ (model)
Market risks			
• Interest rate		✓	
• Equity		✓	
• Real estate		✓	
• Currency/FX		✓	
• Asset concentration	✓		
Credit risk	✓		
Operational risk	✓		

Risk knowledge/ development

Insurance product characteristics

Practicality vs. materiality

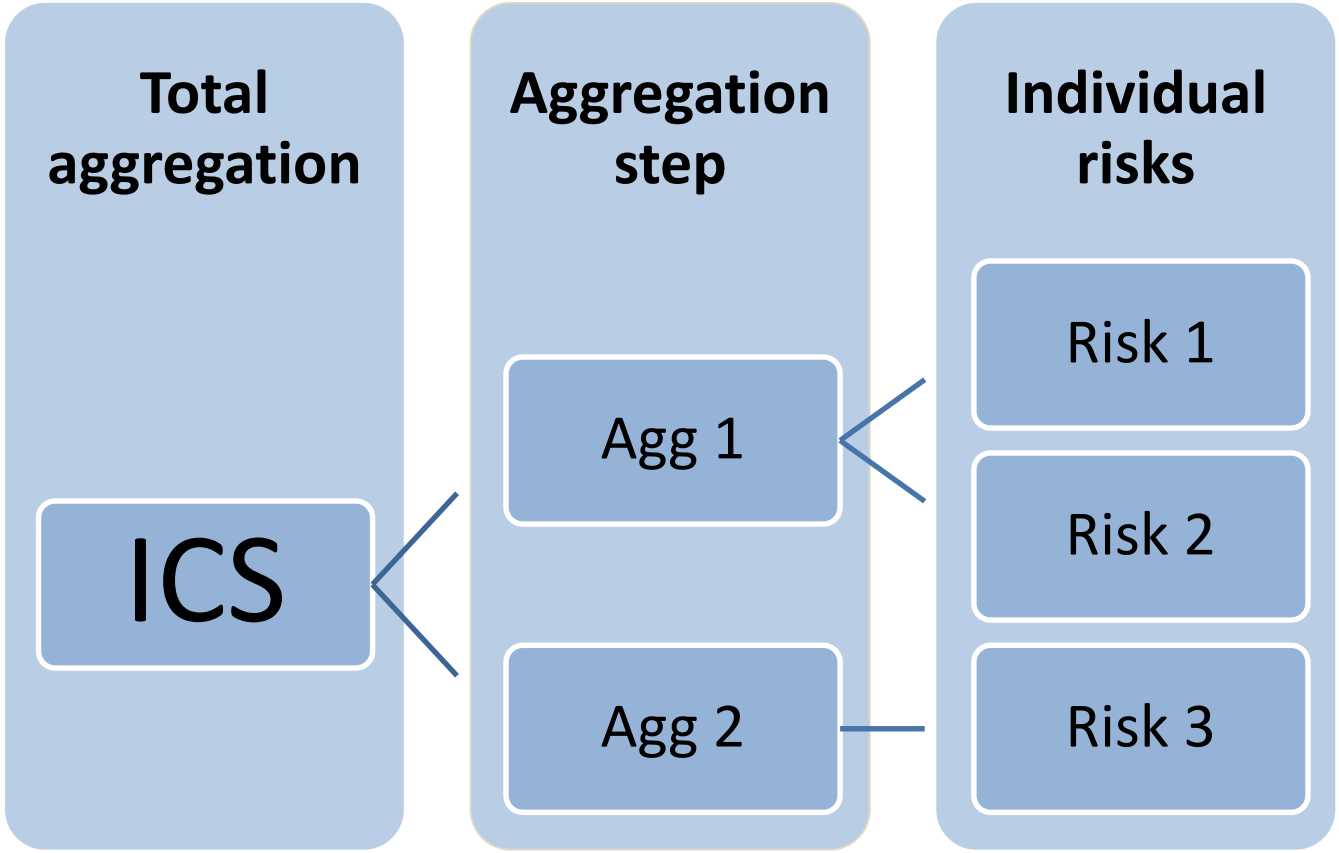
Calibration target = 99.5% 1-year VaR + supervisory judgement

Field Testing

- **2015**: interim calibration – more supervisory judgement
- **2016**: refined calibration based on more data
- **2017**: refine design and calibration based on data + volunteer feedback + improved methodology

Risk aggregation / Diversification

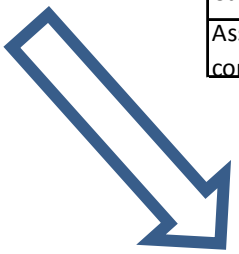
Multiple-step: through different sets of variance/covariance matrices



ICS Capital Charge Aggregation / diversification - illustration

Life risk	Mortality	Longevity	Morbidity/ disability	Lapse	Expenses
Mortality	1	-25%	25%	0%	25%
Longevity	-0.25	1	0%	25%	25%
Morbidity/ disability	0.25	0	1	0%	50%
Lapse	0	0.25	0	1	50%
Expenses	0.25	0.25	0.5	0.5	1

Market risks	Interest rate1	Equity	Real estate	currency	Asset concentration
Interest rate1	1	25%	25%	100%	25%
Equity	0	1	0%	0%	0%
Real estate	0	0	1	0%	0%
Currency	0	0	0	1	0%
Asset concentratio	0	0	0	0	1



ICS Global	Non-life	Catastrophe	Life	Market	Credit
Non-life	1	25%	0%	25%	25%
Catastrophe	0.25	1	25%	25%	25%
Life	0	0.25	1	25%	25%
Market	0.25	0.25	0.25	1	25%
Credit	0.25	0.25	0.25	0.25	1

Some examples – how does this work

Non-life

- Start with jurisdictional lines of business as defined in the regulatory framework of the home jurisdiction in which the business is written
  - E.g. if a European insurer writes business in the US the starting point is the US lines of business defined in statutory reporting in the US
- For each line of business factors have been determined, at a 99.5% VAR over 1 year time horizon so that there is:
  - a factor that should be applied to the greater of net earned premium and net premium to be earned over the next year to determine the premium risk charge
  - the factor that should be applied to the net current estimate

Non-life example continued

Jurisdiction	Factors for	Premium	Reserve
EEA & Switzerland	Motor vehicle liability - Motor third pa	20%	15%
EEA & Switzerland	Motor, other classes	20%	15%
US	Auto physical damage	13%	10%
US	Private passenger auto liability/med	15%	15%
Canada	Automobile - liability/personal accide	35%	20%
Canada	Automobile - other	35%	20%
Japan	Automobile	10%	10%
China	Motor	10%	20%
Australia & New Zealand	Commercial Motor	25%	20%
Australia & New Zealand	Domestic Motor	25%	20%
Hong Kong SAR	Motor vehicle, damage and liability	25%	20%
Korea	Private vehicle(personal injury)	15%	30%
Korea	Private vehicle(property, vehicles da	25%	35%
Korea	Vehicle for commercial or business	25%	20%
Korea	Vehicle for commercial or business	25%	20%
Korea	Other motor	15%	20%
Singapore	Motor	30%	25%
Chinese Taipei	Motor - personal vehicle	25%	25%
Chinese Taipei	Motor - commercial vehicle	25%	25%
Chinese Taipei	Motor - personal liability	25%	25%
Chinese Taipei	Motor - commercial liability	25%	25%
Other developed markets	Motor	30%	20%
Other emerging markets	Motor	35%	25%

Differences reflect differences in risks are based on market factors and usual product designs – all intended to reflect 99.5% VAR over 1 year time horizon

Equity risk example

Equity risk should capture all direct and indirect impacts on the financial situation of the Volunteer Group of a stress on the value of equities. Equity risk exposures refer to all financial resources with values sensitive to changes in the level or volatility of market prices for equities.

One Scenario – prices down, volatility up

Security	Price down scenario
Listed shares developed markets	-35%
Listed shared emerging markets	-48%
Hybrid rated AAA/AA	-4%
Hybrid rated A	-6%
Hybrid rated BBB	-11%
Hybrid rated BB	-21%
Hybrid rated B or below	-35%

Equity risk example continued

Increase in implied volatilities	Maturity in months
210%	1
137%	3
112%	6
92%	12
80%	24
74%	36
70%	48
66%	60
60%	84
55%	120
49%	144
45%	180+

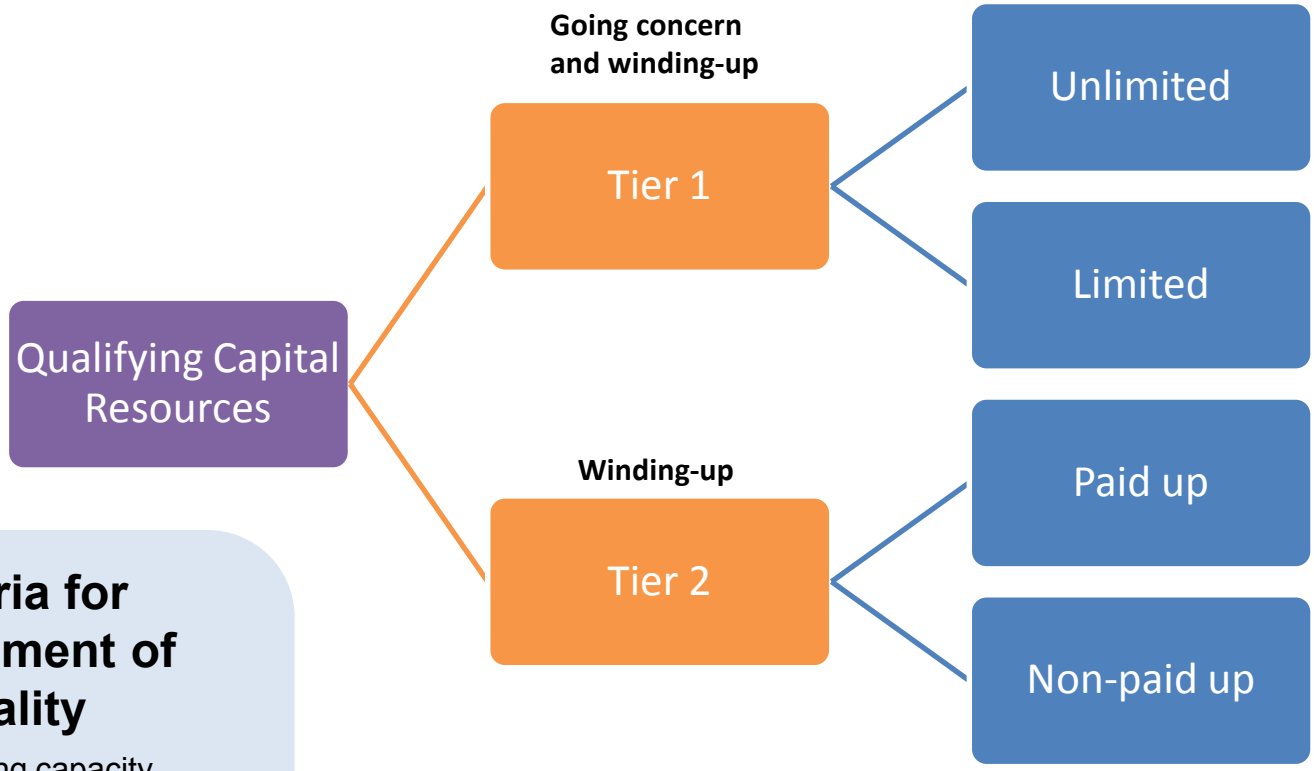
ICS CAPITAL RESOURCES

ICS Capital Resources

- Field testing results show us that 85% of capital resources come from balance sheet items such as retained earnings
- Issued financial instruments including common shares are only about 15%
- A simplified view of capital resources in the ICS is:

Total ICS Capital resources	=	Tier 1 = B/S Equity including issued financial instruments like common shares and preference shares – instruments not meeting Tier 1 criteria – certain assets with little prudential value (e.g. goodwill)	+	Tier 2 = qualifying debt instruments (debt on B/S) + add backs of some Tier 1 deductions (e.g. realisable DTA)

Capital Resources



Criteria for Assessment of Quality

- Loss absorbing capacity
- Level of subordination
- Availability to absorb losses
- Permanence
- Absence of encumbrances and mandatory servicing costs

PRESENTATIONS FROM STAKEHOLDERS

Presentations from Stakeholders

- CRO Forum
- Lutz Wilhelmy, Swiss Re and Swiss Association of Actuaries
- International Actuarial Association

PUBLIC CONSULTATION ON ICPs 15 & 16 AND RELATED COMFRAME MATERIAL

Overview

- Revised draft ICPs 15 & 16, the ComFrame material integrated with these two ICPs and the proposed definitions of ERM-related terms were released for public consultation on 8 November 2017

- Deadline for comments: 31 January 2018

- Public background session held on 22 November 207

Revision of ICPs 15 & 16

- Revisions built on the current ICPs 15 (Investment) & 16 (Enterprise Risk Management for Solvency Purposes) which were last revised in October 2011
- Considered feedback received from Self Assessment and Peer Review
- Aimed to ensure consistency and remove overlaps and duplication between ICP 8 (Risk Management and Internal Controls) and ICP 16
- Material related to risk management in general moved from ICP 16 to ICP 8, while the specifics of ERM framework for solvency purposes are addressed in ICP 16:
  - Risk identification
  - Quantitative techniques to measure risk
  - Inter-relationship of risk appetite, risk limits and capital adequacy
  - Risk appetite statement
  - Asset-liability management, investment and underwriting policies
  - Own risk and solvency assessment (ORSA)
- Comparison of Standards in current and revised ICP 16 provided as a reference document for the public consultation
- Proposed definitions of ERM-related terms

ComFrame material in ICPs 15 & 16

- Follows the thematic approach adopted by the IAIS in September 2015
- Integration of ComFrame M2E3 (ERM) and M2E4 (group-wide ERM policies) (2014 version) with ICPs 15 & 16
- Considered feedback received from ComFrame Qualitative Field Testing
- Questions on the topics of actuarial policy and the interaction between the Insurance Capital Standard (ICS) and ERM / ORSA

IMPLEMENTATION OF ICS VERSION 2.0

Implementation of ICS Version 2.0

ICS Version 2.0 will be adopted by the IAIS at its General Meeting in 2019

The IAIS has agreed that implementation of ICS Version 2.0 will be conducted in **two phases**:

1. In the first phase, referred to as the **"monitoring period",** ICS Version 2.0 will be used for confidential reporting to group-wide supervisors and discussion in supervisory colleges. ICS will not be used as a PCR in this phase (i.e. the ICS results will not be used as a basis to trigger supervisory action). This will allow group-wide supervisors and host supervisors to discuss and assess the ICS in comparison with existing group capital standards or calculations that are in development. The monitoring period will last for five years.
2. The second phase will be "implementation of the ICS as a **group-wide PCR**".

ICS Version 2.0

Implementation of **ICS Version 2.0** will have two equally important components:

- **Mandatory confidential reporting** by all IAIGs of a **reference ICS** which is based on market-adjusted valuation (MAV), the standard method for capital requirements and converged criteria for qualifying capital resources; and

- **Additional reporting, at the option of the group-wide supervisor**, of ICS based on GAAP Plus valuation and/or an internal model-based capital requirement calculation

ICS Version 2.0 mandatory confidential reporting

- Confidential reporting of the ICS to the group-wide supervisor will include for all IAIGs a converged approach to valuation, capital requirements and capital resources referred to as the **reference ICS**, which includes:
  - **Valuation** - market-adjusted valuation (MAV) (no optionality on discounting – a single approach should be agreed);
  - The **capital requirement** determined according to the standard method; and
  - Agreed criteria for the determination of **qualifying capital resources**.

- The choice of MAV for the reference ICS is due to its construction as a stable, comparable IAIS developed valuation basis.

ICS Version 2.0 optional additional reporting

- Optional supplementary reporting during the monitoring period for consideration as part of further developing the ICS

- To be reported to group-wide supervisors for discussion in supervisory colleges along with the reference ICS.

- Results obtained by applying covers **internal models for the calculation of the ICS capital requirement** and results calculated using a **GAAP Plus valuation approach**

- Both GAAP Plus and internal models are viable options that will be considered for inclusion in the ICS by the end of the monitoring period

Aggregation method

- The NAIC and Federal Reserve Board are both developing an aggregation method
- The IAIS recognises that the aggregation method is still at an early stage of development
- The IAIS has agreed to collect data from interested jurisdictions relevant to the development of the aggregation method; this data collection will be separate from field testing
- Not part of ICS Version 2.0
- The IAIS aims to be in a position by the end of the monitoring period to assess whether the aggregation method provides comparable, i.e. substantially the same (in the sense of the ultimate goal), outcomes to the ICS. If so, it will be considered an outcome-equivalent approach for implementation of ICS as a PCR

PRESENTATIONS FROM STAKEHOLDERS

General Comments from Stakeholders

- Geneva Association and Institute of International Finance

IAIS

INTERNATIONAL ASSOCIATION OF INSURANCE SUPERVISORS

Thank you