Differences and Commonalities in Global Capital Requirements

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- **Update on Risk-Based Global Insurance Capital Standard (ICS)**

Intro

- **Very active time, at US and international level, in Group Capital:**
  - **NAIC developing group capital "calculation" based on an aggregation approach**
  - **Federal Reserve developing consolidated group level capital requirements –**
    - **Systemically Important Financial Institutions (SIFI's)**
    - **Thrift Holding Companies**
  - **International Association of Insurance Supervisors (IAIS) developing a set of capital standards for Globally Systemically Important Insurers (G-SII's) and Internationally Active Insurance Groups (IAIG's)**
- **Focus of these slides will be on the Insurance Capital Standard (ICS) being developed at IAIS for IAIGs.**
  - **Will focus on issues we have highlighted for this panel**

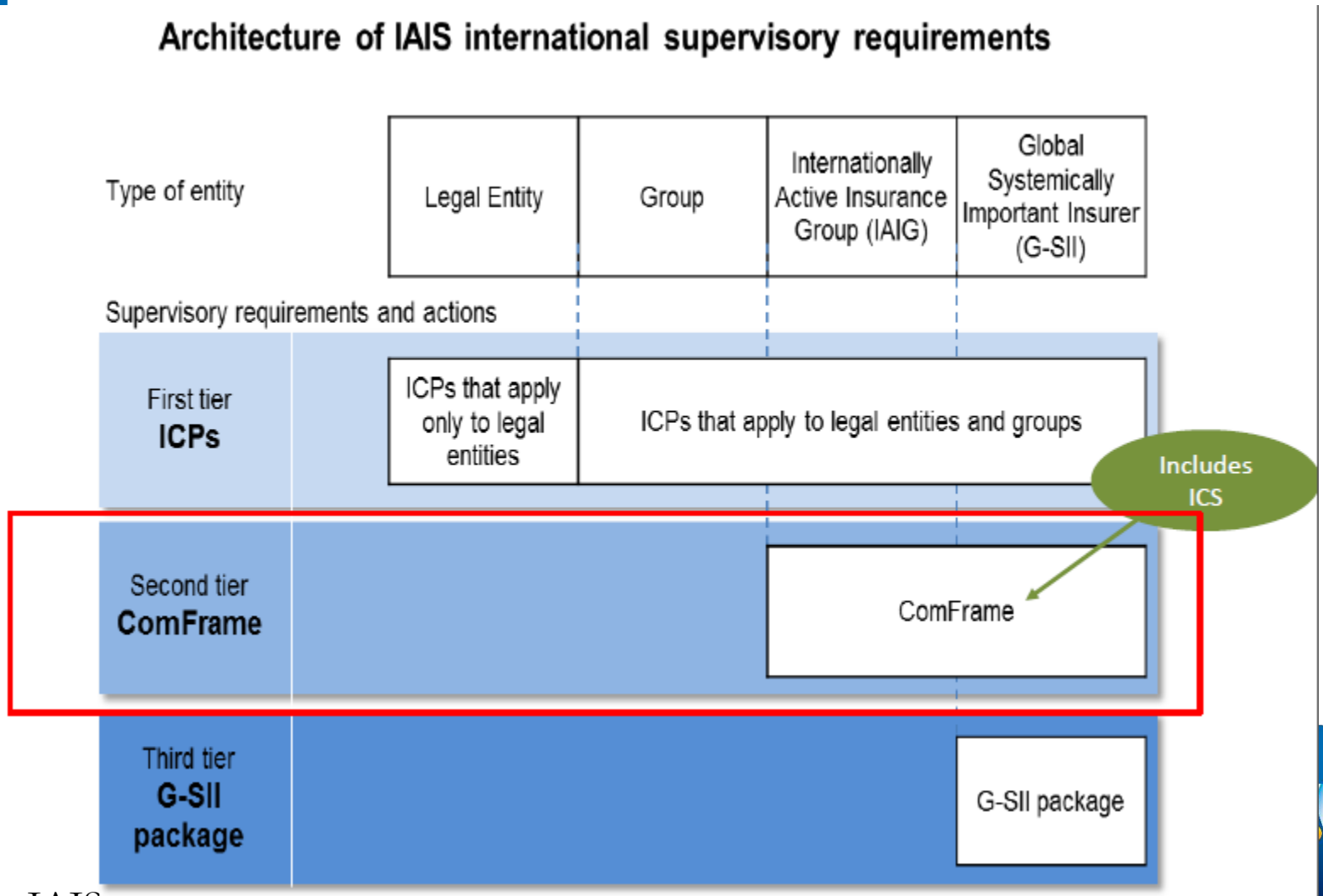
Some Caveats

- **The ICS is still a work in progress – some/all subject to change.**
- **I'm discussing a standard being developed by International Association of Insurance Supervisors (IAIS). How - and if- to implement this standard is up to individual jurisdictions.**
- **What follows is my attempt to describe ICS. I will provide different viewpoints on its design. Not all of these viewpoints are shared by state regulators (or, for that matter, me).**

What is the ICS?

- **ICS = Risk-based Global Insurance Capital Standard**
- **Consolidated quantitative capital standard**
  - **Includes non-insurance operations of the group**
  - **To extent risks are not quantified in ICS they are to be addressed in ComFrame**
- **Establishes minimum standard**
  - **Supervisors may set higher standards**
  - **Not intended to replace or affect capital standards for underlying legal entities**
- **Applies to "Internationally Active Insurance Groups" (IAIG's)**
  - **Write premium in at least 3 jurisdictions**
  - **Home jurisdiction account for less than 90% of total GWP**
  - **Assets of >$50B OR GWP >$10B (USD)**

ICS Context



Source: IAIS

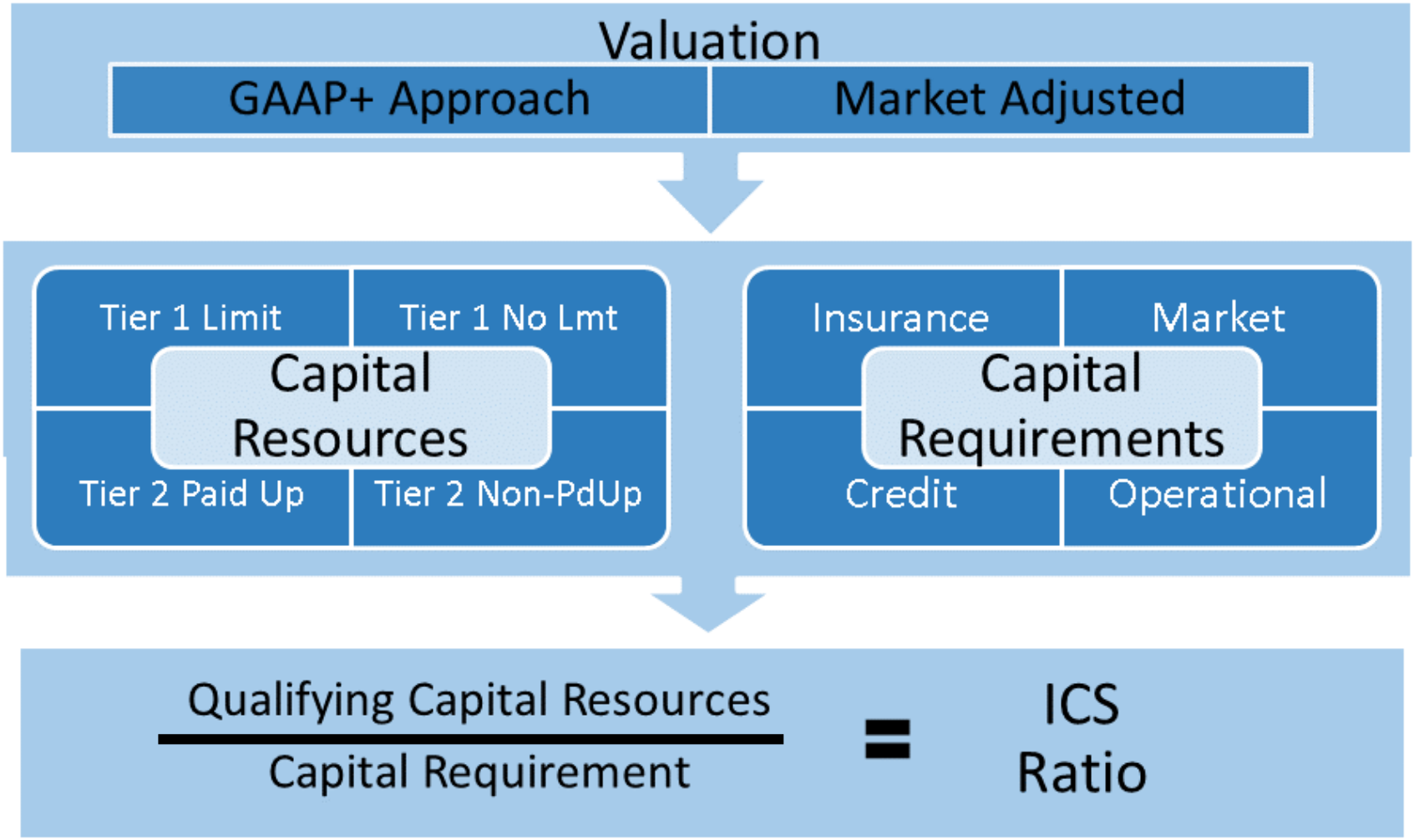
ICS Objectives

- **Main objectives are protection of policyholders and to contribute to financial stability.**
- **Ultimate goal is "comparability of outcomes" across jurisdictions.**
  - **Required capital and definition of capital resources are based on characteristics of risks held by IAIG irrespective of location of its headquarters.**
  - **Avoiding "regulatory arbitrage"**
  - **"Comparability" doesn't necessarily mean exact same numerator/denominator of capital ratio**
- **Strike an appropriate balance between risk sensitivity and simplicity.**

Highlights from ICS Timeline

2016	Launch of 2016 Field Testing Release of 2nd ICS Cons Document
2017	Adoption of ICS “Version 1.0” for confidential reporting
2018	Publication of ICS Version 2.0
2019	Adoption of ComFrame including ICS Version 2.0

ICS Schematic

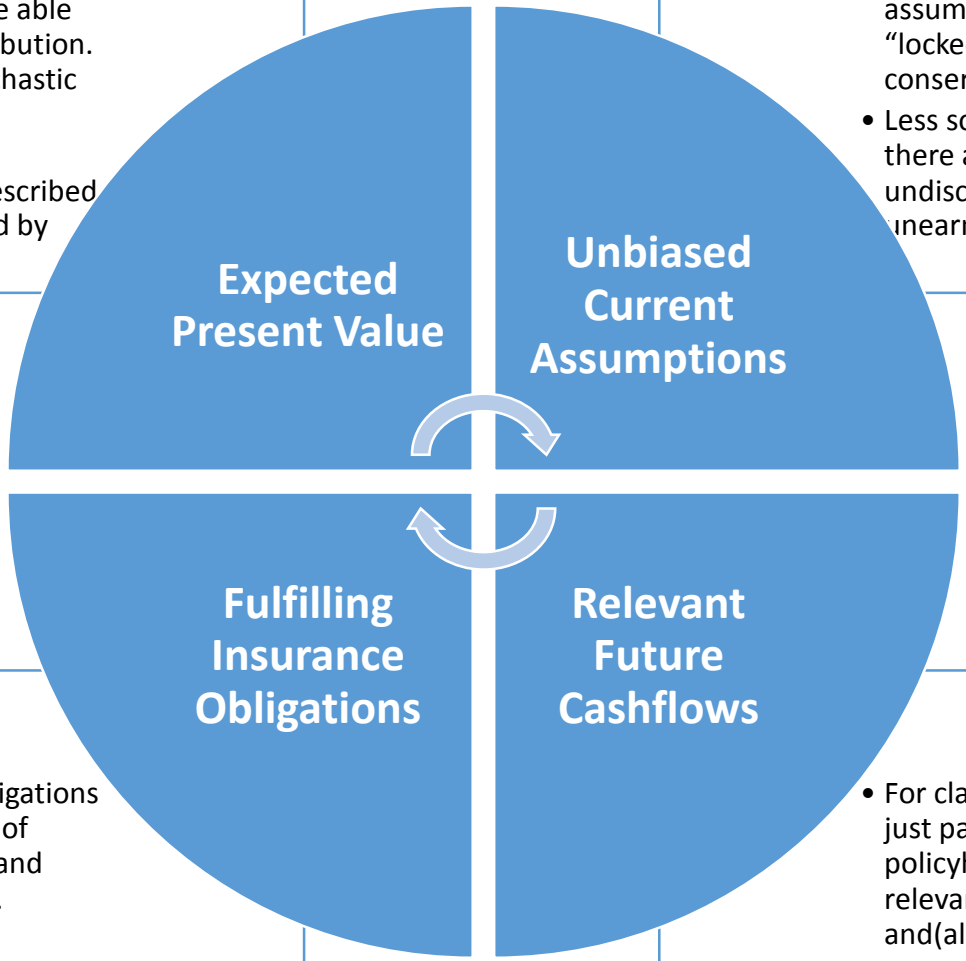


ICS Valuation

- **Two valuation approaches being tested for ICS:**
  - **GAAP w/ Adjustments (GAAP+)**
  - **Market-Adjusted Valuation (MAV)**
- **Valuation will be "going concern"**
  - **That is, "assumes the company will continue to operate and that future business will be written"**
- **Generally speaking, assets are marked-to-market**
- **Insurance liabilities defined as "current estimates" plus a "margin over current estimate"**
  - **Current Estimate: The expected present value of all relevant future cash flows that arise in fulfilling insurance obligations using unbiased, current assumptions**

Current Estimates (Breakdown)

- That does not (necessarily) mean you need to be able to describe full distribution. (i.e. no need for stochastic reserving).
- Under MAV, CE is discounted using prescribed yield curves provided by IAIS.



- Big issue in life where assumptions are often "locked in" and "margins for conservatism" are common.
- Less so for P&C, though there are implicit margins in undiscounted reserves and unearned premiums.

- Which insurance obligations to include? →Issues of Recognition criteria and contract boundaries.

- For claims, this includes not just payments to policyholders but all relevant expenses and(allocated, unalloc, etc.).
- There is ambiguity here around the treatment of general expenses.

ICS Capital Resources

- **ICS Capital Resources will be “tiered”.**
  - **Tier 1 will feature qualifying financial instruments, and capital elements other than financial instruments, that absorb losses on a ‘going concern basis’ and in ‘winding up’.**
  - **Tier 2 financial instruments and capital elements will only absorb losses in winding up.**
- **Criteria for tiering capital include subordination, availability, permanence, loss absorbing capacity, absence of emcumbrances and/or mandatory servicing costs.**

ICS Capital Requirements

- **Key aspects of quantifying a capital requirement (as proposed in ICS Consultation Document):**
  - **PCR vs MCR (Prescribed vs Minimum)**
  - **Risk Measure (e.g. 90% TVaR or 99.5% VaR)**
  - **Time Horizon (e.g. 1 year or runoff to ultimate)**
- **ICS, in form currently undergoing Field Testing, is PCR based on 99.5% VaR using a 1 year time horizon**

Risks In ICS

Insurance Risk

LIFE/HEALTH*** RISKS					NON-LIFE RISKS		
Mortality	Longevity	Morb/ Disability	Lapse	Expense	Premium	Claim Reserve	Cat

Market Risk

Equity	Real Estate	Interest Rate	Currency	Asset Concentration

Credit Risk | **Operational Risk**

Aggregation of requirements will reflect diversification

Except to extent (implicitly) included above, following are excluded:

Group	Liquidity	Reputational	Strategic

***Possibility that Life/Health risks will be split

PCR vs MCR

- **Prescribed Capital Requirement (PCR) – The level of solvency above which a supervisor does not intervene on capital adequacy grounds.**
  - **Defined such that assets will exceed technical provisions and other liabilities with a specified level of safety over a defined time horizon**
  - **PCR generally means focus is on insurer as "going concern"**
- **Minimum Capital Requirement (MCR) – a solvency control level at which, if breached, the supervisor would invoke its strongest actions, in the absence of appropriate corrective action by the insurance legal entity.**
  - **Subject to minimum bound below which no insurer is regarded to be viable to operate effectively**
- **PCR leads to more (but less disruptive) supervisory action than MCR**

ICS Risk Measurement

- ICS will involve a combination of risk measurement approaches, particularly:
  - **Factor Based Approach--** Factors applied to exposure measure (approach in most of RBC)
  - **Stress Based Approach--** Capital requirement is determined as the decrease between capital resources on unstressed balance sheet and those on stressed balance sheet
  - Modeling will be used for catastrophe losses
- There is a large effort underway to “calibrate” the non-life factors
  - Experience data similar to that found in Schedule P collected from supervisors and volunteer companies

What is a One Year Time Horizon?

- One Year 99.5% VaR in plain(ish) English –
  - If IAIG's capital resources today are greater than the required capital, then there is a < 0.5% probability that capital resources in one year's time will be negative.
- **Shock Period--** The period over which a shock is applied to a risk.
- **Effect Horizon--** The period over which the shock that is applied to a risk will impact the insurer.
- A one year time horizon does not mean that cash-flows beyond one year are ignored…
- …however there is a disconnect between the short horizon of capital requirement and the longer term nature of policyholder liabilities
  - Relationship to Margin Over Current Estimate

Goals of Capital Standards

- Policyholder Protection
- Financial Stability
- Pragmatic
- Flexible (?)

Capital Requirements

- Prescribed Capital Requirements (PCR)
- Minimum Capital Requirements (MCR)

Time Horizons

- One year
- Runoff to ultimate

Risk Measures

- Var
- TVar
- Percentile
- Expected Policyholder Deficit
- Others

Valuation

- Liquidation
- Going Concern
- Economic

Execution

- Standard Formula
- Internal Model

Stochastic Reserving

Strawman Definition of "Stochastic Reserving" (SR):
The use of "stochastic models" to estimate a probability distribution for insurance liabilities by allowing for random variation in one or more inputs over time.

- "Allowing for random variation" refers to inputs being random variables. Simulation is often used but simulation is neither necessary, nor sufficient, for SR.
- SR is common for certain life insurance products where stochastic inputs (e.g. interest rates, mortality rates) can be more easily identified.
- Stochastic methods produce not just expected value of reserves but a distribution.
- SR is one way (but not only way) to produce an expected value of reserves.

Discounting

- To discount, or not to discount?
- Discount Rate
  - Basis
  - Amount
  - Risk-adjusted

Liability Valuation

- Reasonable
- Adequate
- Point Estimate

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