November 16, 2015

### A NEW ERA IN CAPITAL STANDARDS

INTRODUCTORY COMMENTS



### Disclaimer

The views presented by the speaker are as an individual professional and are not the opinion of the NAIC or Casualty Actuarial Society.

# What We'll Be Discussing

- Focus of this panel is on the technical side of capital standards for property/casualty insurance
- Context will be new capital standards that are under development
  - Will not be detailed overview of exactly what capital standards are out there
  - That said, we'll give some introductions to ourselves and our work related to capital. Within these introductions, we'll touch on the capital standards that are out there
- Afterwards, will have panel discussion and then questions from the audience
  - Feel free to ask clarifying questions along the way

# First Some "Key Issues"

- Here is informal list of the "key issues" in development of International Capital Standard (ICS)
- Not definitive, just to give sense of where conversation is
- Many "key issues" are more relevant for life than P&C insurance

- "Key Issues" for All ICS
  - GAAP w/ Adjustments vs Market Valuation
  - Margin Over Current Estimate (MOCE)
  - Choice of Discount Rate
  - Senior Debt / Capital Resources
  - Time Horizon (1 yr vs Runoff)
  - Target Criteria (eg 99.5% VaR)
  - PCR vs MCR
  - Internal Models

### "Key Issues" for P&C Actuaries

- Here is an informal list of big issues from a P&C actuarial perspective
- Don't take as definitive – from our discussion beforehand
- Ideas on changing this list welcome

- Key Issues
  - Catastrophes
  - Reinsurance
  - Proper Segmentation by LOB
  - Industry vs company data
  - Correlations/Dependencies
  - How/if to discount losses?
  - Time Horizon (1 yr vs Runoff)
  - Calibration of factors to Target Criteria (eg 99.5% VaR)
  - Internal Models
  - More?

# **Today's Goal**

- Let's discuss "key issues" from a US P&C perspective
- Coming at this from three directions
  - Developing a new capital standard
    - Ned Tyrrell will discuss new developments in group capital at domestic and international level
  - Maintaining and refining a capital standard
    - Lauren Cavanaugh will discuss her involvement with Academy's P&C RBC Committee and its use of work by CAS Dependencies and Calibration Working Party
  - Comparing capital standards
    - David Payne on capital requirements around the world (Solvency II, SST, etc.)

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### **GROUP CAPITAL DEVELOPMENTS**



# Some Background

- In 2013, Financial Stability Board (FSB) indicates that a sound capital and solvency framework is essential for supporting financial stability.
  - Requested straightforward backstop for Globally Systemic Important Insurers (G-SIIs) to serve as a common base for capital surcharge
  - Requested IAIS to develop capital standard for Internationally Active Insurance Groups (IAIGs)
- Later that year, International Association of Insurance Supervisors (IAIS) agreed to develop a global riskbased insurance capital standard (ICS).
  - Sound capital and supervisory framework is essential for supporting financial stability and protecting policyholders.
  - Component of ComFrame: Applies to IAIGs and G-SIIs
  - Developed by 2017 for implementation in 2019

### **Moving Parts**

#### IAIS

 Work being driven by Capital Development and Field Testing Working Groups

# State Regulators & NAIC

 ComFrame Development and Analysis Working Group (CDAWG)

#### Federal Reserve Board

- QIS launched in Sept 2014
- Clarification to Collins Amendment in Dec 2014

#### Federal Ins Office

- Created by Dodd-Frank; within Treasury Dept
- Together with NAIC and Fed makes up "Team USA"

# What's Being Developed?

#### International Association of Insurance Supervisors

- Basic Capital Requirement (BCR) and Higher Loss Absorbency (HLA) for Globally Systematically Important Insurers (G-SII's)
- International Capital Standard (ICS) for Internationally Active Insurance Groups

#### National Assoc of Insurance Commissioners

- NAIC Group Capital Calculation for US based insurance groups
- A solvency tool and not a capital standard
- Concept paper underway for an "aggregated RBC methodology"

#### Federal Reserve Board

- Group capital standard for groups over which it has authority
- Thrift Holding Companies

### What is the ICS?

#### Consolidated quantitative capital standard

Includes non-insurance operations of the group

#### Establishes minimum standard

- Supervisors may set higher standards
- Not intended to replace or affect capital standards for underlying legal entities

In December 2014, IAIS released "Consultation Document" to solicit comment on a detailed proposal for the ICS.

### How ICS will be calculated

Valuation

**GAAP+ Approach** 

**Market Adjusted** 

Tier 1 Limit Tier 1 No Lmt

Capital Resources

Tier 2 Paid Up

Tier 2 Non-PdUp

Insurance Market
Capital
Requirements
Credit Operational

**Qualifying Capital Resources** 

Capital Requirement

ICS Ratio

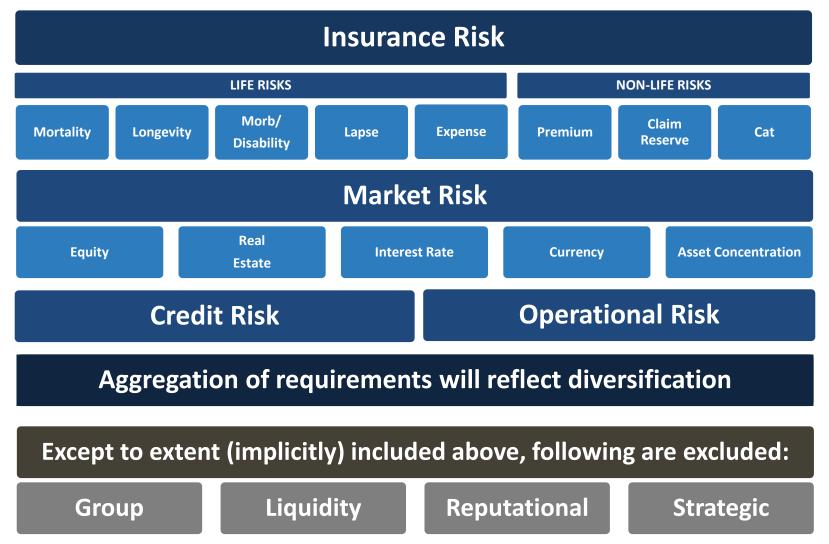
### Valuation and Capital Resources (ICS)

- Two valuation approaches being tested for ICS: GAAP w/ Adjustments (GAAP+) and Market-Adjusted Valuation (MAV)
  - Differences considerably bigger for life than P&C
  - Current Estimate: The expected present value of all relevant future cash flows that arise in fulfilling insurance obligations using unbiased, current assumptions
- Capital resources are tiered
  - Tier 1 higher quality, more going concern capital; Tier 2 is more gone concern
  - Important topic but not within the scope of this talk

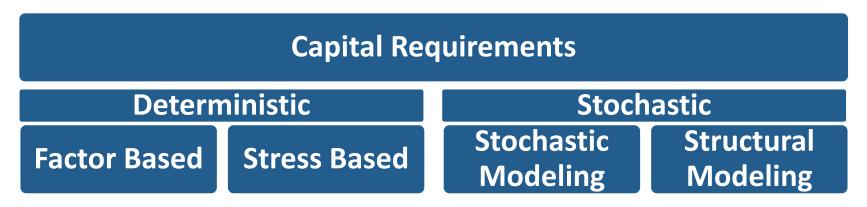
# **Capital Requirements**

- Key aspects of quantifying a capital requirement (as proposed in ICS CD):
  - 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 current form, is PCR based on 99.5% VaR using a 1 year time horizon

### ICS Covered Risks



### 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

# "Key Issues" Under ICS

- Here is a rundown of the informal list of "key issues for P&C actuaries" as they are proposed to be handled under ICS
- Catastrophe: Includes traditional natural catastrophes (e.g. earthquake), but also aviation, marine, terrorism, credit/surety, pandemic and a "liability cat".
- Reinsurance: Premium/reserve factors are applied to net exposures. Cat risk reflects specific reinsurance terms. Credit risk for reinsurance grouped with credit risk on investments. (Reinsurer treated similar to other financial counterparties.)
- Segmentation: At present, segments are based on jurisdictional reporting classes.
- Industry vs Company Data: Some use of US industry data. For other countries industry data is very limited.

# "Key Issues" Cont'd

- Correlations / Dependencies: Diversification is nested

   first between premium/reserve, then between
   segments, then between regions and finally with other risks (e.g. market, credit, etc).
- **Time Horizon:** One year time horizon used. One area (among many) that needs to be resolved is how does one define a "liability cat" on a one-year time horizon.
- Calibration of Factors to 99.5%: Current jurisdictional factors are starting point and then adjustments made. Fairly judgmental process (even, or especially, where jurisdictions' factors are officially at 99.5%).
- Internal Models: At present, only standard formula with models used only for catastrophe risk. Other models will be considered for a Version 2.0 of ICS.

# What are we talking about when we talk about a 99.5% VaR?

- Was my working title for this panel
  - Literal meaning is straightforward 99.5<sup>th</sup> percentile of a distribution
  - Interpretation is necessary what judgments are used to determine that distribution?
  - If two actuaries are given same data and work independently, come up with similar estimates of a 99.5% VaR?
  - Not, at least directly, observable even in retrospect not clear if estimate is correct
- Some somewhat odd observations—
  - Frequently hear phrases "notional 99.5" or "judgmental 99.5"
  - Discussions of 99.5% VaR often make no distinction between 'best estimate' and 'expected value'
  - Few would claim methods used to estimate 99.5% VaR of reserves are appropriate for estimating booked reserves
  - Methods that work to mean or standard deviation of distribution can be less reliable way out in tail; there's a reason it's called the 'central limit' theorem