

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 risk-based 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

Insurance Risk

LIFE RISKS

Mortality

Longevity

Morb/
Disability

Lapse

Expense

NON-LIFE RISKS

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

Risk Measurement

Capital Requirements

Deterministic

Factor Based

Stress Based

Stochastic

Stochastic
Modeling

Structural
Modeling

- 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 – 99.5th 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