RBC Regimes' Impact On Capital Motivated Reinsurance

Paul Sauvé, FSA FCIA Aktuar DAV
RGA International

About the speaker

- **Paul Sauvé**
- SVP EMEA Global Financial Solutions
- Canadian actuary working overseas for 20+ years

- **RGA (Reinsurance Group of America)**
- #3 Life reinsurance company in the world
- Offices in 27 countries worldwide
- Established in 1973

The Full Presentation Abstract

True RBC (Risk Based Capital) regimes will fundamentally change the commercial dynamics of the subset of reinsurance market where the buyer's primary motivation is capital management. Reinsurance serves three main purposes: risk transfer, capital management, and provision of ancillary services; the second of these is the category undergoing the most change due to countries moving to true RBC regimes. Part of the analysis highlights that some "RBC" regimes actually fall short of that label in key areas; a key part of a true modern regime is an intimate link between risk and capital and via an integrated economic value balance sheet which is subject to shocks. A primary driver for reinsurance prices is the reinsurer's total balance sheet requirement for the risks, so anything which narrows the current gap between insurer and reinsurer total balance sheet requirements will increase the relative cost of reinsurance and make it a less valuable capital management tool. Large reinsurance transactions are very sensitive to changes in conditions at the insurer and the reinsurer. The presentation examines some of the tensions observed in the EU under Solvency II related to this presentation's hypothesis, including equivalence, basis risk haircuts, sufficient risk transfer and "cherry picking".

Life and Health Reinsurance Roles

Insurance companies have traditionally used life and health reinsurance for three broad reasons:

All three generally present, but one is primary motivator.

- **Risk transfer** (e.g. to limit future income volatility)
- **Services** (e.g. product development, underwriting, admin)
- **Capital management** (e.g. to reduce required capital)

The needs and solutions related to all of these evolve continuously. The third case is the focus today and will be referred to as Capital Motivated Reinsurance („CMR").

Elements of Reinsurance Price

One way to conceptually breakdown a given price for a given reinsurance contract is into these three elements:

- **Expected claims payments**
- **Required margins for expenses**
- **Required margins to service reinsurer's capital**

Reasonable simplification for purpose of today's thesis.

The third item depends on a reinsurer's relevant capital regime(s) and global moves towards „RBC" will affect this (and possibly affect an insurer's perception of this).

Why do Insurers Transact Capital Motivated Reinsurance?

All reasons boil down to one core case:

- **Net cost to insurer of the reinsurance is <u>less than</u>…**
- **Margin that the insurer would have required to service its own capital.**

More simply… keep some of the margins in the business without needing to hold any of the capital. Generally improves ROC but reduces income.

When Does This Happen?

Reinsurance can be priced to satisfy that condition if the net of three differences is positive:

- **Insurer's expected claims > reinsurer's expected claims**
- **Insurer's expense reduction > reinsurer' expense margin**
- **Margin to service insurer's capital > Margin to service reinsurer's capital**

Moves to „RBC" will affect the third element, which is already a key factor in CMR.

Why „margins“ and not „cost of capital“?

Commercial decisions about reinsurance are about the total price (and other factors). Neither party necessarily knows the full capital requirements and alternatives of the other party.

Therefore, it doesn’t generally matter whether a price is due to:

- **Amount of Capital = A; Return on capital target = R%, or**
- **Amount of Capital = A/2; Return on capital target = 2R%**

Please therefore be careful about talking about differences in „costs of capital.“ Nonetheless, different capital regimes will affect „A“.

What if we had global unified pure RBC? (Part 1)

There would be less capital motivated reinsurance (CMR) because everybody would have the same basis for "A".

- **Is that good, bad or indifferent?**
- **It simply raises many interesting questions.**

What if we had global unified pure RBC? (Part 2)

There would, however, continue to be occurrences of CMR despite same basis for "A" because:

- **RBC's calculation of the actual value "A" should have, e.g., a correlation element (which will vary by (re)insurer)**
- **Other elements of price can also create value (slides 5+7)**
- **In some circumstances CMR is still the best capital alternative**

Degree to which CMR will continue depends partly on insurer's financial objectives and largely on its capital alternatives.

When is „RBC“ truly RBC?

Let’s use “RBC” to refer to an integrated system with an intimate link between risk and capital:

- **Economic Balance Sheet, and**
- **Capital Requirements based on shocks to that EBS**

Other uses of the RBC label are not fully worthy of the name. There are no perfect RBC systems in the world today.

Examples of „True RBC“?

There are remarkably few possible examples:

- **SAM (South Africa)**
- **Solvency II (EU/EEA)**
- **Swiss Solvency Test**

Are non-EU countries now „adopting SII“ really doing that?

Most other „RBC“ systems are just increasingly complicated sets of factors applied to a disconnected historical accounting balance sheet.

Observations from Transacting CMR under Solvency II, SST and SAM

Many themes have emerged and lead to very interesting discussions:

1. **Who says biometric risk isn't hedgeable?**
2. **Reinsurance versus derivative format**
3. **„Cherry picking"**
4. **Basis risk & "haircuts"**
5. **Arbitrage**
6. **Equivalence & collateral**

What is the market value of a liability??

Even before the arrival of global pure RBC, CMR will continue to be a field with great challenges and opportunities for actuaries, making full use of their mathematical, conceptual and communication skills.

Thank you very much for your attention!

Contact details:

Paul Sauvé

location: Cologne, Germany
phone: +49-173-521-1307
mail: psauve@rgare.com
web: www.rgare.com