



SINGAPORE
ACTUARIAL
SOCIETY

RBC2 Updates

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SAS RBC2 Taskforce



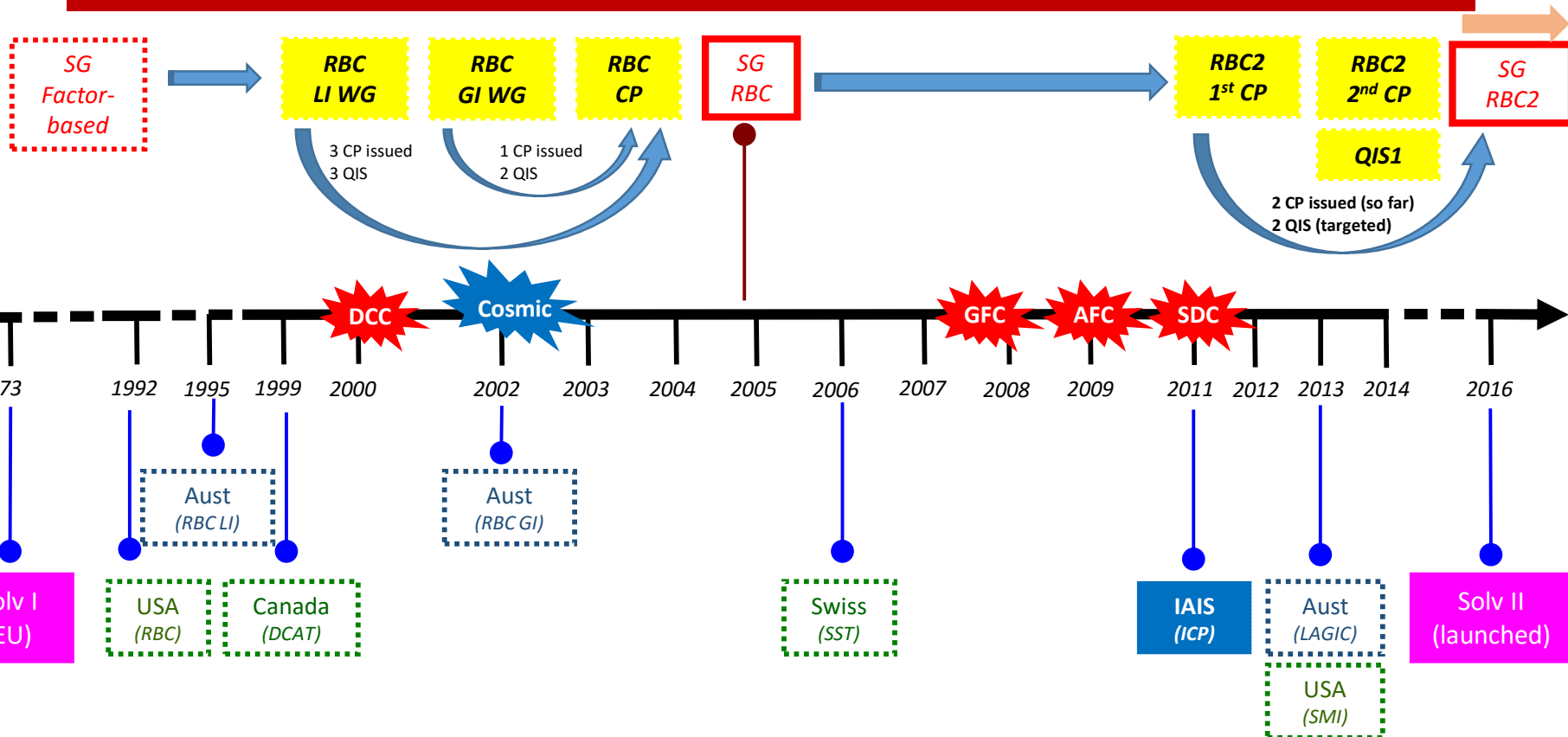
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Singapore RBC Development Process and Timeline

Singapore RBC framework has served the Singapore insurance industry well, with insurers largely weathered through major financial crises over time

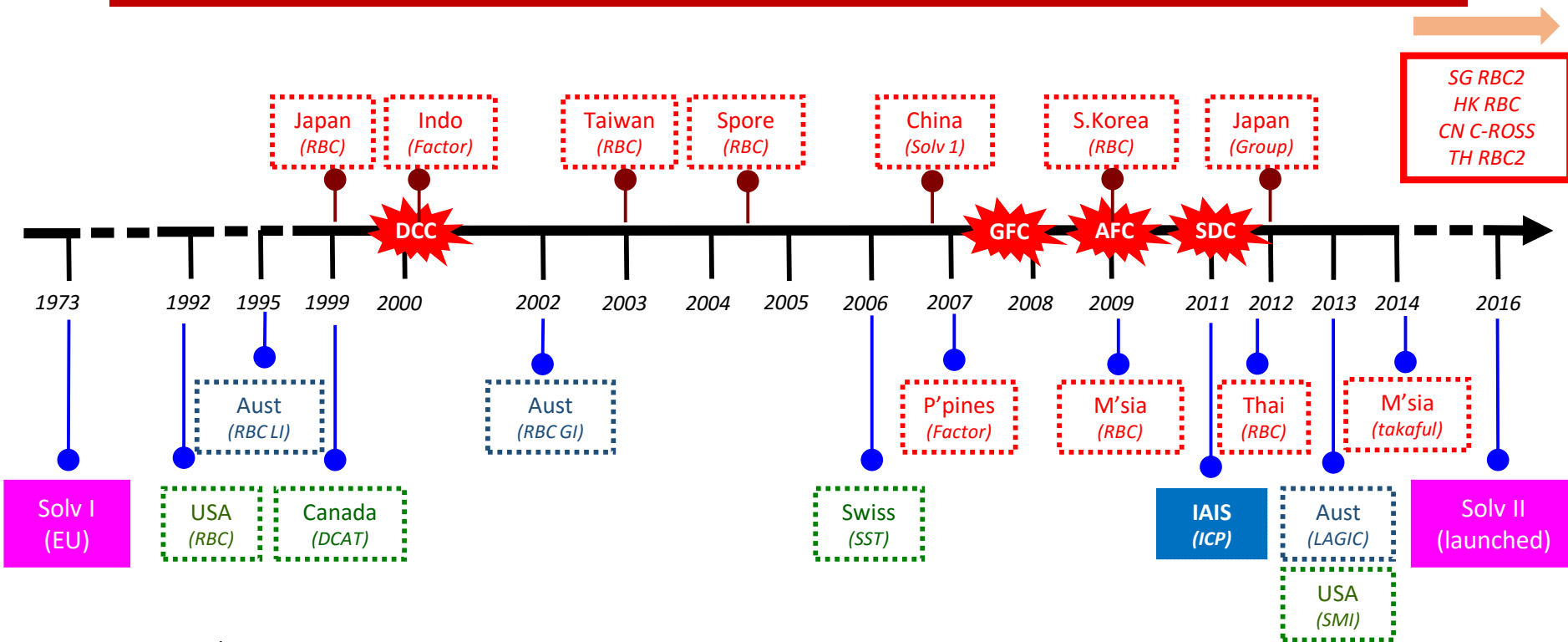




APAC Regulatory Environment

Progress Timeline

Some APAC countries have implemented RBC regime in recent years. These countries have different rules & requirements in their RBC regime...



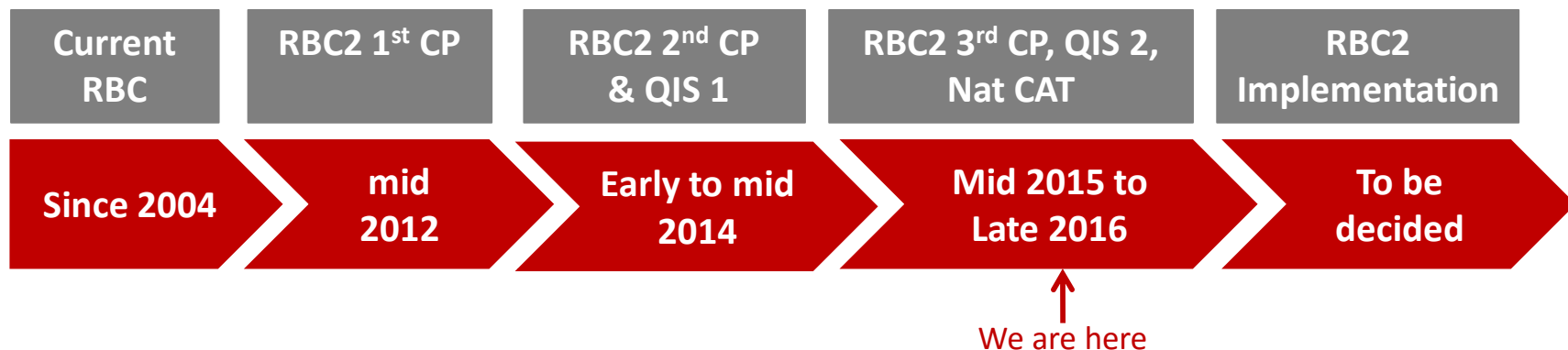
SG RBC2
HK RBC
CN C-ROSS
TH RBC2

Legend:

- APAC countries
- Other regions



RBC2 – Progress to date



- MAS conducted closed door consultation with industry associations (SAS, LIA, GIA, SRA) to fine-tune risk charges
- 3rd CP together with QIS2 is targeted **1H 2016**, with the implementation date to be decided later after finalisation of main features
- For GI insurers, another consultation on ‘CAT’ risk charge and calibration of GI risks will be undertaken at a later date
- MAS will issue formal sharing of ORSA observations in **2016**



Revisions in Proposals – Solvency Intervention Levels



MAS Revisions in Proposals

Solvency Intervention Level

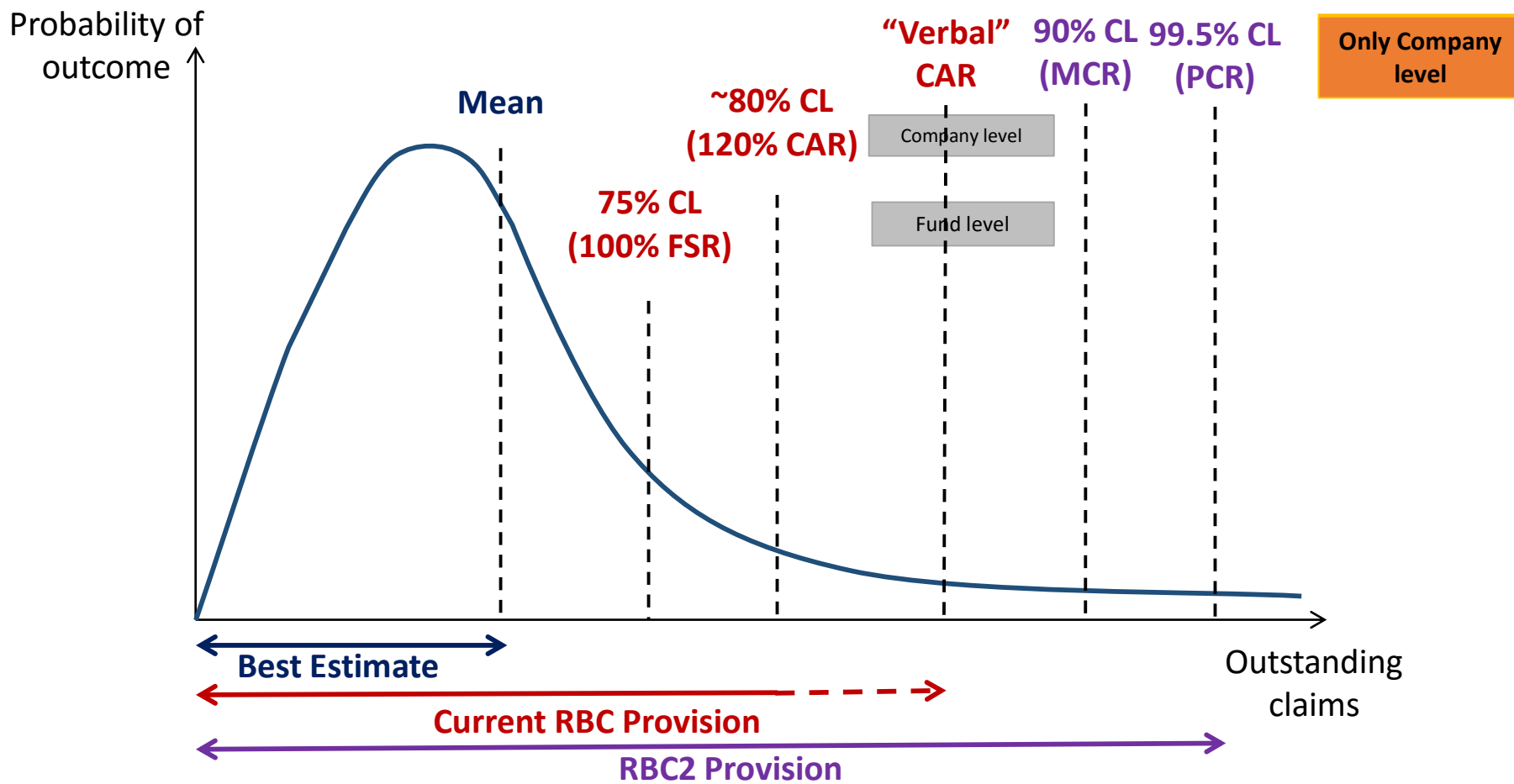
Proposals that we can now deem as finalised after two rounds of consultation:

- ✓ Having **two supervisory intervention levels** – Prescribed Capital Requirement (PCR) and Minimum Capital Requirement (MCR)
- ✓ For PCR, insurer must hold sufficient Financial Resources (Available Capital) to meet Total Risk Requirements (Required Capital) which correspond to Value at Risk (VaR) of **99.5% confidence level** over a one year period
- ✓ For MCR, insurer must hold sufficient Financial Resources, which correspond to VaR of **90% confidence level** over a one-year period
- ✓ MCR will be calibrated as a fixed percentage of PCR. Will work out the percentage based on the results of QIS 2
- ✓ MAS will take its strongest enforcement actions if the MCR is breached. Such actions include stopping new business, withdrawal of licence or directing transfer



Calibration: Current RBC vs RBC2

Best Estimate vs Provision under RBC vs RBC2 *



* Before consideration of diversification effects



Revisions in Proposals – Valuation of Liabilities



MAS Revisions in Proposals

Discounting Approach

Proposals that we can now deem as finalised after two rounds of consultation:

- ✓ For general insurance business, no discounting required for liability durations of >1 yr, if impact not material; For liability durations of ≤ 1 yr, discounting will not be necessary.
- ✓ Where discounting is carried out, approach will be same as for life business, for both SGD and non-SGD denominated liabilities

Revised Proposals Related to Discounting Approach

- For direct insurers and reinsurers writing life business, MAS have also widened eligibility criteria for Matching Adjustment (MA), and introduced a more generic Illiquidity Premium (IP) for insurers with illiquid liabilities which could not meet the criteria under MA or do not want to apply MA.
- Both the MA and IP are positive adjustments to the discount rate, hence giving rise to a lower liability value.
- **MA and IP would not be applicable for direct insurers and reinsurers writing general business, given the nature of such liabilities.**



SAS Responses

Discounting Approach

- For the discounting of general insurance liabilities for durations equal to or greater than 1 year, MAS indicated its intention to consult the Institute of Singapore Chartered Accountants (ISCA) on the materiality threshold. The SAS understands that auditors do not provide inputs as to the discounting factors that insurers should use. Hence, the SAS recommends to **rely on certifying actuaries** to decide on the discounting factors and the definition of “materiality”.
- SAS proposes to conduct a study of the **predictability of various types of general insurance liabilities** to ascertain if any products with long tailed liabilities should, in principle, be suitable to use MA and IP for the purpose of discounting, as well as the materiality of the application. However, we note that such study would require more time, and would not be able to be completed in time for QIS2.



Revisions in Proposals – Required Capital (Risk Requirements)



MAS Revisions in Proposals

C1 Insurance Risks for General

Moving Forward:

- After insurance catastrophe risk requirement is more advanced (**targeting to conduct closed door consultation by 1H 2016**), we can commence work on the calibration of premium and claim liability risk requirements.
- Consideration will be given to the **interactions** between insurance catastrophe risk requirement and the premium and claim liability risk requirements. As stated in Jun 2014 consultation paper, these will be phased in at later stages of RBC 2.
- Meanwhile, some consultation questions will be posed in the upcoming RBC 2 consultation, to seek **industry's feedback on the design of risk charges for general business**, taking into account of recent international developments e.g. on ICS design.



SAS Responses

C1 Insurance Risks for General

- General Insurance: In formulating the insurance catastrophe risk requirement, we should consider the **degree of correlation** between CAT risk and the claims and premium liabilities so that there will be no double counting.
- The more precise feedback can be provided in due course after the insurance catastrophe risk requirement is more firmed up.



MAS Revisions in Proposals

Countercyclical Adjustment

Revised Proposal:

- From SAS' CCA Working Party paper, we note that it is a challenge to derive a CCA mechanism that could meet the various stated objectives consistently and reliably.
- Given the revisions in MA and introduction of illiquidity premium, propose to focus on those and **deprioritise CCA for the time being**. We will continue working with the industry on the development of a CCA, to be **carried out in phases** throughout the RBC2 timeline.



SAS Responses

Countercyclical Adjustment

- Countercyclical Adjustment (CCA) is a **technically sound concept**, although there are mixed views on how high a priority it should be. SAS will be glad to continue working with MAS to study the CCA mechanism in more detail, including setting out the **circumstances when the CCA would be used** and what would be done, leveraging on the studies that have already been conducted so far.
- It may be preferable for there to be some **interim CCA provision** while waiting for the final provision to be enacted, which may be limited in value, but which will allow the MAS more time, after an asset shock event, before it is required to exercise its powers to prescribed deeper CCAs.



MAS Revisions in Proposals

Internal Credit Rating Models for unrated Bonds

Revised Proposal:

- To lower credit risk shock for unrated issuances by Singapore statutory boards and multilateral agencies by 50%.
- Temasek and GIC will continue to be risk-charged as AAA-rated bonds.
- Treatment for all other unrated bonds to remain status quo, i.e. they will have a risk charge of between “BBB” and “BB”.
- We will monitor the progress on **ICS work on the unrated bond issuances** as well as those rated by unrecognised rating agencies as well.
- Preliminary assessment of the insurers’ internal rating models – MAS views that most still rely on the **model provided by their fund managers** with limited ownership or understanding. We are open to the idea of specifying the criteria for an admissible internal rating process so that insurers can gradually build up their capabilities by the time RBC 2 is officially implemented.



SAS Responses

Internal Credit Rating Models for unrated Bonds

- The development of **internal credit rating models should be encouraged** as it promotes good risk management of insurers' corporate bond portfolios, and aligns with the “spirit” of ORSA.
- SAS would like to work closely with the MAS on **developing the criteria for an admissible internal credit rating process** for insurers. Some considerations could include:
 - model governance
 - periodicity of regulatory review
 - qualifications required of industry personnel in respect of the persons who develop, validate and approve the model



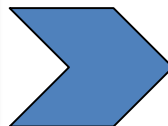
MAS Revisions in Proposals

C4 Operational Risk

Previous formula:

- x% of the higher of the past 3 years' averages of
 - a) Gross written premium income; and
 - b) Gross (of reinsurance) policy liabilitieswhere $x = 4\%$ (except for investment-linked business, where $x = 0.25\%$)

Subject to cap of 10% of the total risk requirements (after applying diversification benefits but excluding the operation risk requirement itself to avoid circularity in computation)



Revised formula:

- The higher of :
 - a) 4% of $GP_1 + \text{Max}(0, 4\% * ((GP_1 - GP_0) - 20\% * GP_0))$
 - b) 0.5% of gross (of reinsurance) policy liabilities

where GP_1 refers to the gross written premium income for the most recent financial year up to the valuation date; and GP_0 refers to the gross written premium income for the preceding 12 months

Subject to the same cap of 10% as under QIS1



SAS Responses

C4 Operational Risk

- This formula still **penalizes the size of the insurance company** and does not influence risk management practices.
 - % total C1 – C3 risk requirement (excl. CAT risk requirement) can be considered
- Industry operational risk database – SAS can work with MAS on the details. Some examples of operational losses (or near misses) include:
 - Excess claims at early durations (indicating underwriting weaknesses)
 - Ex-gratia claim payments (indicating weaknesses in contract design)
 - Legal costs
 - Credit defaults
 - Regulatory sanctions
 - Repairs
 - Abandoned projects, etc.
- **Gross liability is not auditable** and **not in current statutory reporting requirement** so some GI companies do not collect these information on a regular basis and therefore difficult to ensure accuracy and consistency.



SAS Responses

C1/C2 vs C4 Diversification

- C1/C2 and C4 Diversification: Diversification does exist between C4 and C1/C2. For example,
 - Breaching of underwriting limits (C4) can result in increase in liability risk (C1)
 - Operational losses/failure (C4) can result in higher lapses and expenses (C1) and/or increase in asset risk (C2)
- However, the SAS agrees that there is currently insufficient data for proper assessment of the diversification between these components. The SAS can work with MAS on this aspect when more data is collected.



Revisions in Proposals – Available Capital (Financial Resources)



MAS Revisions in Proposals

Reinsurance with HO & Downstream Entities

RBC 2 Proposal:

- Current RBC framework gives recognition to a branch's reinsurance arrangement with its HO as long as there is a written agreement between them.
- MAS proposed to **remove such recognition** given the views that reinsurance ceded from a branch to its HO **does not results in effective risk transfer** since the branch and HO are considered as a single legal entity. This would also be **in line with practices of other jurisdictions**.
- MAS also proposed to **remove recognition of reinsurance arrangements with downstream entity**. This was proposed as such an arrangement would not constitute effective risk transfer since the risk continues to be retained in the consolidated accounts of the insurer.



MAS Revisions in Proposals

Reinsurance with HO & Downstream Entities

To be discussed:

- MAS is assessing the feasibility of the suggestions given in previous consultation. What is industry's views on the suggestions listed by respondents?
- What would be a reasonable length of transitional period needed?
- For reinsurance with downstream entities, we noted that other jurisdictions do not have such constraints. We are reviewing the scope of downstream entities, including the possibility of allowing reinsurance with downstream entities in the case where the downstream entity is a subsidiary (separate legal entity) of the HO (meaning not a branch), regardless of whether there is any subsequent transfer of risks to third party reinsurer.



SAS Responses

Reinsurance with HO & Downstream Entities(1/2)

- Argument for recognition of reinsurance between branch and head office:
 - It is not reasonable to have 100% credit recognised for reinsuring with a post office box reinsurer in some offshore countries with no credit rating, but 0% credit if reinsuring with your HO which might be AA rated, well capitalised and regulated by a credible authority.
 - Where the HO is well capitalised enough to accept inwards reinsurance at attractive (arms length) terms, it makes commercial and technical sense. Both from a geographical diversification point of view as well as a financial one.
 - To the extent whether the parent company is appropriately capitalized/ well regulated, that is the question that should determine the appropriate risk charge or haircut to be applied (similar to third party reinsurance).



SAS Responses

Reinsurance with HO & Downstream Entities(2/2)

- The issue for a branch reinsuring with head office is that they are the same entity. So the branch is **effectively reinsuring with itself**. As the parent is not regulated locally, MAS has no control over the capital adequacy of the branch.
- This seems **more of a liquidity issue** than a solvency issue. If a company meets the solvency requirements of an approved country, then it should meet the local solvency requirements. However, the local regulator may require assets backing a certain proportion of the liabilities/risk charge to be kept locally (“**ring-fence**”), with reasonable compromise between local security and global asset pooling.
- **How to overcome the conflict of recognising reinsurance with yourself, with Head Office under a different regulator and wanting to protect local policy holders against contagion from the parent, is a technical issue.**
- **The General Insurance Committee requests to have more time to discuss this closely before we provide our proposal.**



Updates on Industry-Wide Stress Testing



MAS Revisions in Proposals

Industry-wide Stress Testing

Changes to Scope:

- Currently all direct insurers are required to conduct annual industry-wide stress testing exercises.
- **For the year ending 31 Dec 2016 and beyond, such exercises will be confined to more significant insurers (criteria based on size, impact to the Singapore financial market etc).** For the rest of the insurers, we will rely mainly on the ORSA.
- In aggregate, we target to cover **more than 80% of the industry market share** (by total gross written premium). MAS to retain the flexibility to include insurers not caught by the selection criteria to conduct industry-wide stress test, if deemed necessary.
- Last year, MAS consulted SRA on the proposal to extend the annual industry-wide stress testing exercises to major reinsurers.



MAS Revisions in Proposals

Industry-wide Stress Testing

Changes to Scope (cont'd):

- MAS is prepared to defer the implementation of the industry-wide stress testing exercises to the selected reinsurers (this would include larger, and more systemic locally incorporated reinsurers as well as reinsurance branches) till RBC 2 is implemented.
- This would allow sufficient time for the affected reinsurers to prepare as well as to decide on the scenarios that should be chosen to avoid duplication with ORSA.
- **Would like to seek industry's views on what factors should MAS consider in deciding which insurers should be included in the exercise? Any other views on limiting the scope of the annual industry-wide stress testing to more significant insurers?**



SAS Responses

Industry-wide Stress Testing

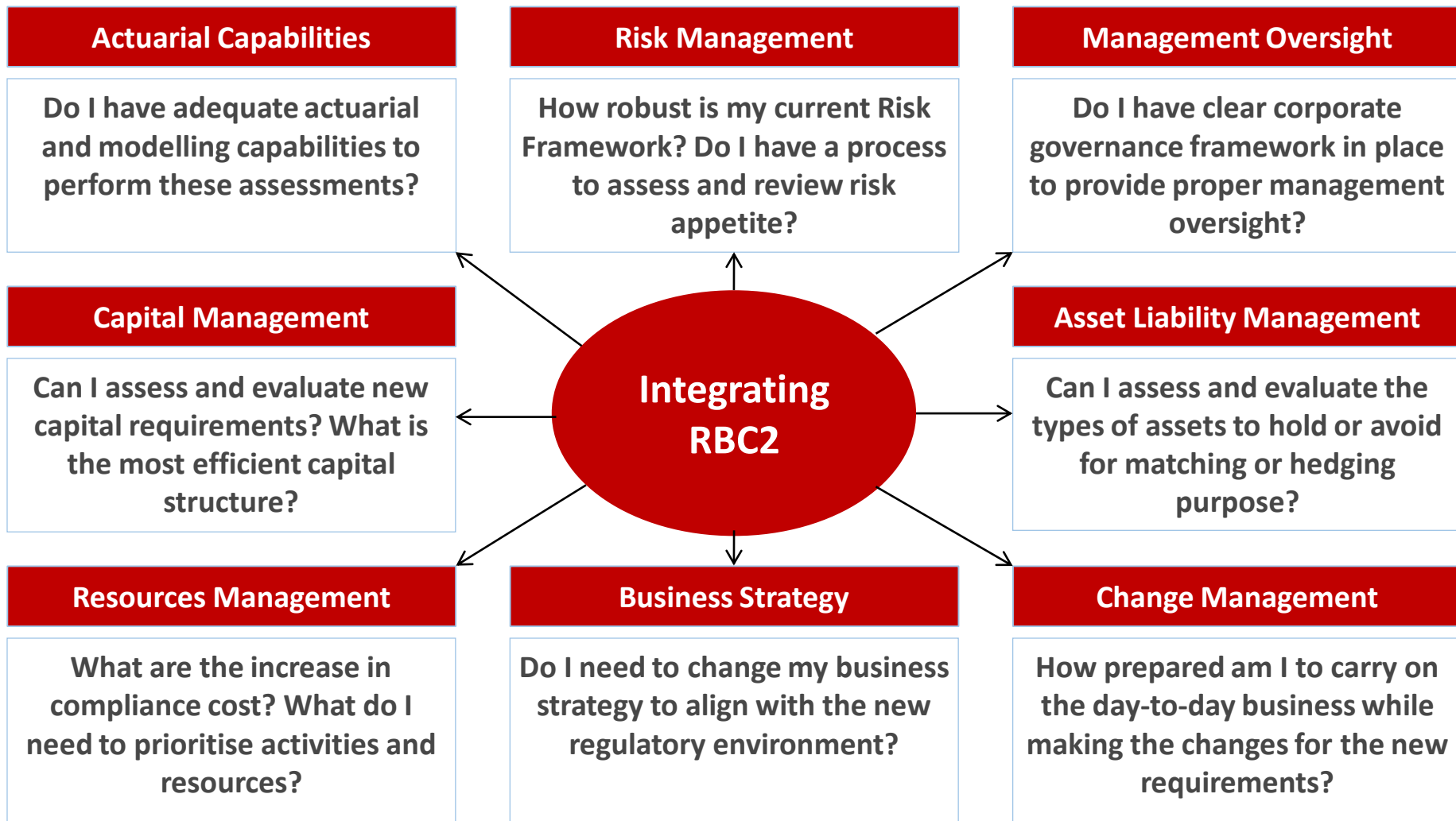
- We feel that it would be useful for MAS to **continue sharing stress test scenarios** that are related to the macroeconomic and financial risks to the Singapore economy. This could be used by insurers for their ORSA stress tests, and would be particularly useful for insurers that may not have sufficient expertise or resources to design such scenarios.
- Some members are of the view that MAS could **re-introduce the Insurance-Related scenario** for the industry-wide stress testing exercise.



Concluding Remarks



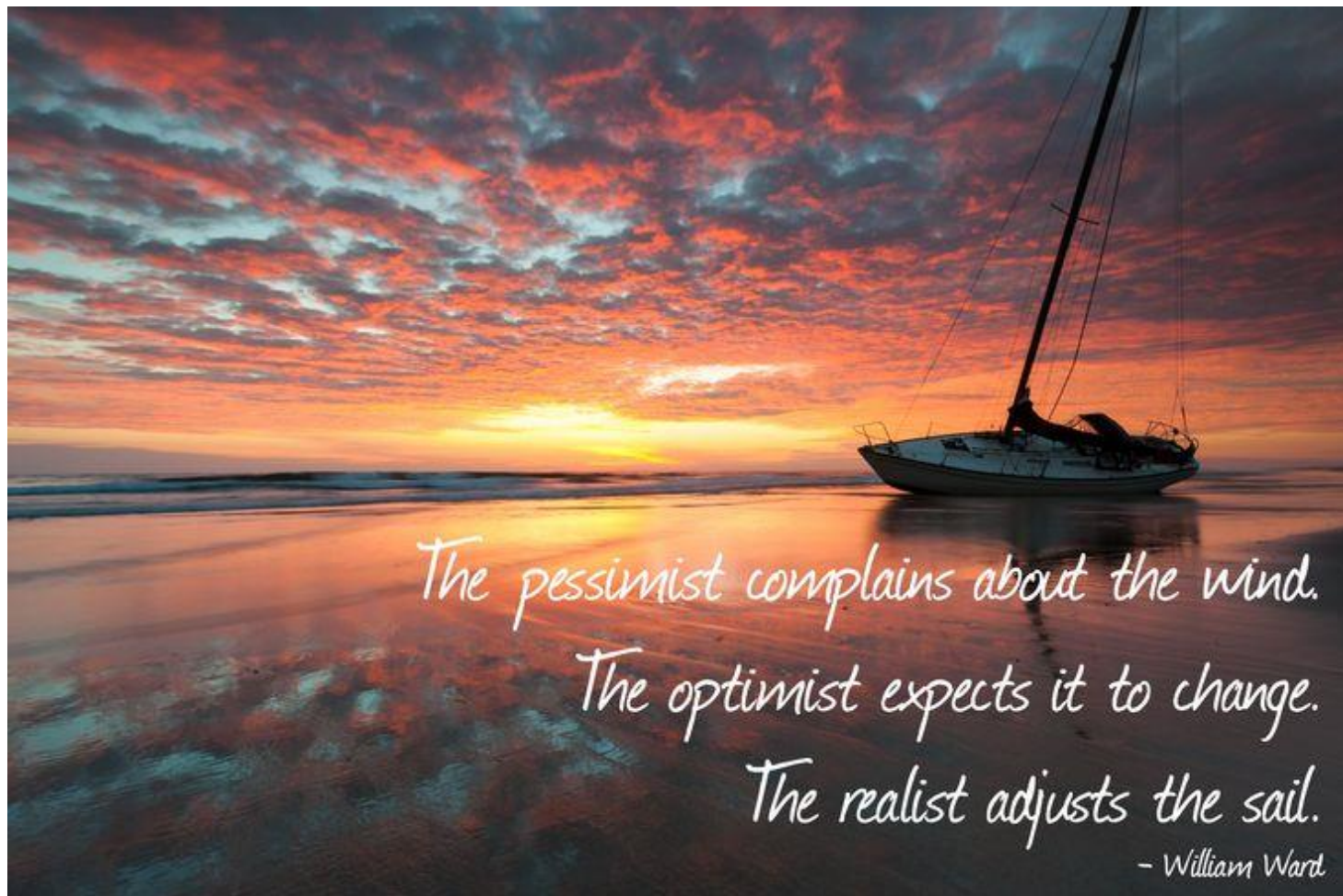
RBC2 questions worth thinking about...





Concluding Remarks

RBC2 is like the wind of life...





Thank you for contribution

- Raymond Cheung
- Lim Siang Thnia
- Bruno Pinson
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