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The Cost of Improving the Solvency Margin

Quota Share Reinsurance vs. Subordinated Debt

Dr. Stefan Sperlich, Advanced Solutions

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Improving the Solvency Margin

Quota Share Reinsurance vs. Subordinated Debt

$$Solvency\ Margin = \frac{Economic\ capital\ (EC)}{Required\ Capital\ (RC)}$$

How to improve the Solvency Margin by 10%?

Option 1: Subordinated Debt

⇔ Increase the EC by 10%

Cost of subordinated debt:

$$CoC * EC * 10\%$$

Option 2: Q/S Reinsurance*)

⇔ Cede away 23% of Premium**)

Cost of Q/S reinsurance:

$$23\% * P * m$$

*) For the entire example we consider a Whole Account Quota Share on occurrence year basis.
**) This premium cession factor is estimated according to Solvency II market average.
CoC = Cost of Capital, more specifically cost of new subordinated debt // P = underlying premium volume // m = reinsurer's margin

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Comparing the Cost of Improving the Solvency Margin

Quota Share Reinsurance vs. Subordinated Debt

When is Q/S reinsurance the more cost-effective solution?

⇔ If the costs for Q/S reinsurance are less than the costs of issuing new subordinated debt.

$$CoC * EC * 10\% \geq 23\% * P * m \text{ *)}$$

$$\Leftrightarrow \quad m \leq 44\% * CoC * \frac{EC}{P} \text{ **)}$$

*) See Appendix for more details.
**) The median of EC divided by P according to Solvency II market average is 132%.

SII median: Q/S outperforms costs for margins less than 60% of CoC

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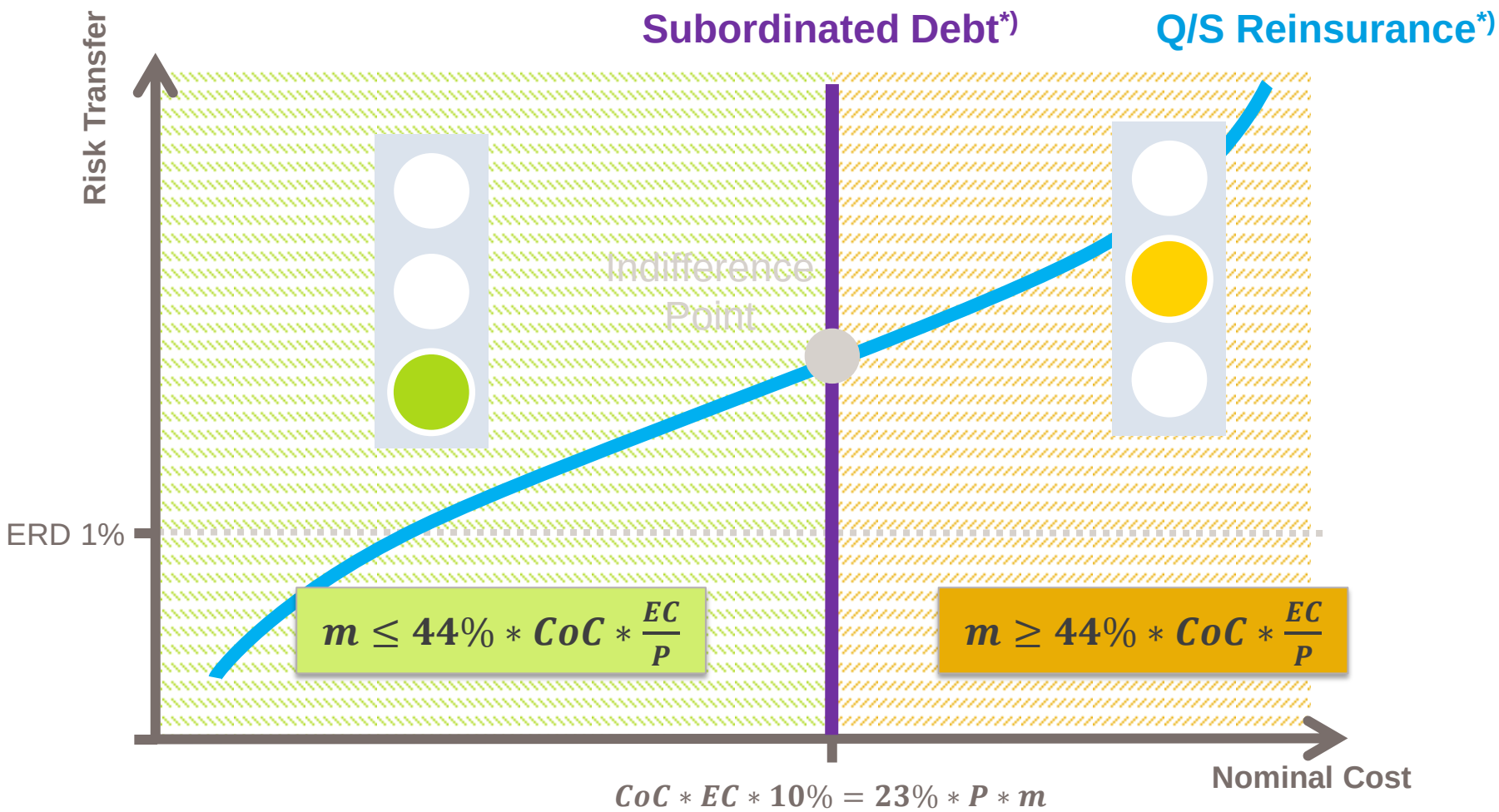
Comparing the Cost of Improving the Solvency Margin

Quota Share Reinsurance vs. Subordinated Debt



*) Required volume of debt resp. premium cession volume to improve the Solvency Margin by 10%.

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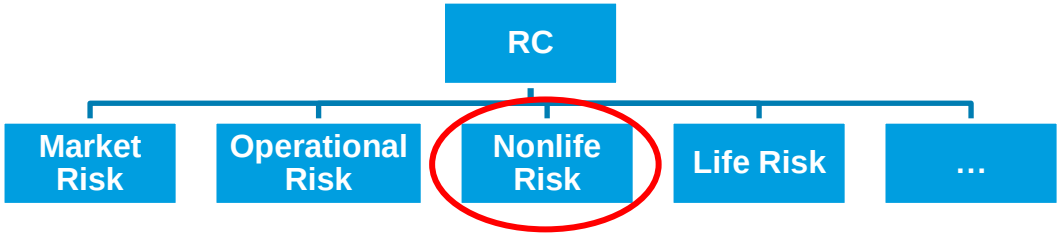
Striving for Efficiency

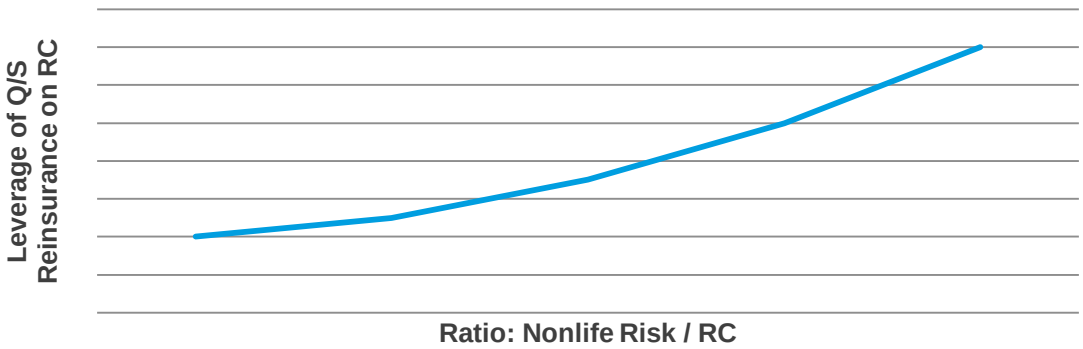
Quota Share Reinsurance at its most efficient use

$$Solvency\ Margin = \frac{Economic\ capital\ (EC)}{Required\ Capital\ (RC)}$$

When does Q/S reinsurance become most efficient?

⇔ The leverage of Q/S reinsurance on the RC depends on various factors.





The larger the ratio of Nonlife Risk to RC the higher the leverage

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Comparing Qualitative Factors - other than costs

Quota Share Reinsurance vs. Subordinated Debt

	Subordinated Debt	Quota Share Reinsurance
Risk Transfer	▶ **Increased financial leverage**	▶ **No increase in debt to capitalisation ratios:** loss absorbing character through transfer of insurance risk
Flexibility	▶ **No flexibility after issuance:** Nominal value, period and costs are fixed for several years (unlimited for Tier 1 and at least 10/5 years for Tier 2/3 capital, not considering exit options)	▶ **Full flexibility:** Annual or quarterly adjustments of cession, commission and risk transfer are possible; cancellation after one year is possible
Volume	▶ Often **only high volumes** are available	▶ **Large and small premium volumes** possible
Issuing Costs	▶ **Additional fixed costs** at issuance (legal costs, listing, road show, bank fees, …)	▶ **No additional costs** at issuance
Availability	▶ **Limited availability** depending on current capital market conditions and the individual access to capital markets	▶ **Fast and lean availability**
Others	▶ Negative rating implications possible ▶ Debt covenants	▶ Positive acknowledgement by rating agencies in general ▶ No debt covenants

Qualitative comparison: Subordinated debt outnumbered by Q/S

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Appendix
Assumptions and Remarks

$$Solvency\ Margin = \frac{Economic\ capital\ (EC)}{Required\ Capital\ (RC)}$$

- Assumptions:
  - According to Solvency II market average, the factor $\frac{1}{40\%} * (1 - \frac{1}{(1+x\%)})$ approximates the required cession for a Whole Account Quota Share to reduce RC by $1 - \frac{1}{1+x\%}$, improving the Solvency Margin by $x\%$.
  - This factor is a rough approximation for the average non-life insurance company and can vary substantially.

The exact factor for your company can be calculated individually and we are happy to assist you with this task!

- Remarks on Q/S reinsurance:
  - In contrast to subordinated debt, Q/S reinsurance additionally provides for insurance risk transfer.
  - The reinsurer's margin has two components:
    1) admin expenses and the reinsurer's allocated risk capital.
    2) expected loss and volatility from the assumed insurance risk.

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