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What keeps management awake under multiple risk based capital (“RBC”) regimes?

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Agenda

1. Regulatory benchmarking:

- Ø Asia
- Ø Europe
- Ø International

2. RBC framework:

- Ø Hong Kong (“HK”) RBC
- Ø QIS 1 practical experience

3. Case studies:

- Ø Strategic asset allocation
- Ø Product design/mix

4. Conclusion:

- Ø Capital optimization under multiple regimes

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Regulatory benchmarking



Regulatory benchmarking*

Let us compare different RBC regimes

	HK RBC QIS 1	SII	ICS	SG RBC 2	Bermuda SCR	C-ROSS	Thailand RBC
Insurance Risk							
Mortality & Longevity Risk	✓	✓	✓	✓	✓	✓	✓
Morbidity Risk	✓	✓	✓	✓	✓	✓	✓
Expense Risk	✓	✓	✓	✓	Included in Other Insurance Risk	✓	✓
Lapse Risk	✓	✓	✓	✓		✓	✓
Mass Lapse Risk	✓	✓	✓	✓		✓	✗
Catastrophic Risk	✓	✓	✓	✓		✓	✗
Market Risk							
Interest Rate Risk	✓	✓	✓	✓	✓	✓	✓
Credit Spread Risk	✓	✓	To be considered in future consultation	✓	Included in Fixed Income Investment Risk	✓	✓
Equity Risk	✓	✓	✓	✓	✓	✓	✓
Property Risk	✓	✓	✓	✓	✓	✓	✓
Currency Risk	✓	✓	✓	✓	✓	✓	✓
Credit Default Risk	✓	✓	✓	✓	✓	✓	✓
Other Risk							
Operational Risk	✗	✓	✓	✓	✓	✓	✗
Other Risks	✗	✓	✓	✓	✓	✓	✓
Miscellaneous							
Asset Hypothecation	✓	✓	✓	✓	✓	✓	✗
VA/MA/OAG	OAG/VA	VA/MA	OAG/VA/MA	VA (IP)/MA	VA/MA	VA	MA
Negative Reserve Zeroisation/ Cash Surrender Value Flooring	✗	✗	✗	Negative Reserve Zeroisation	✗	CSV Flooring	CSV Flooring

*The regulatory requirements are still being designed for a few regulatory regimes and the market practice is still emerging.

*Please contact the presenters for further benchmarking of other regulatory regimes

Regulatory benchmarking (continued)

Observations

- Ø HKRBC QIS 1 was broadly similar to other regulatory regimes
- Ø Level of stress parameters and level of biting scenarios differ across regulatory regimes
- Ø A few regulatory regimes have other requirements. For example:
 - Ø Matching Adjustment (“MA”)
 - Ø Volatility Adjustment (“VA”)
 - Ø Own Assets with Guardrails (“OAG”)



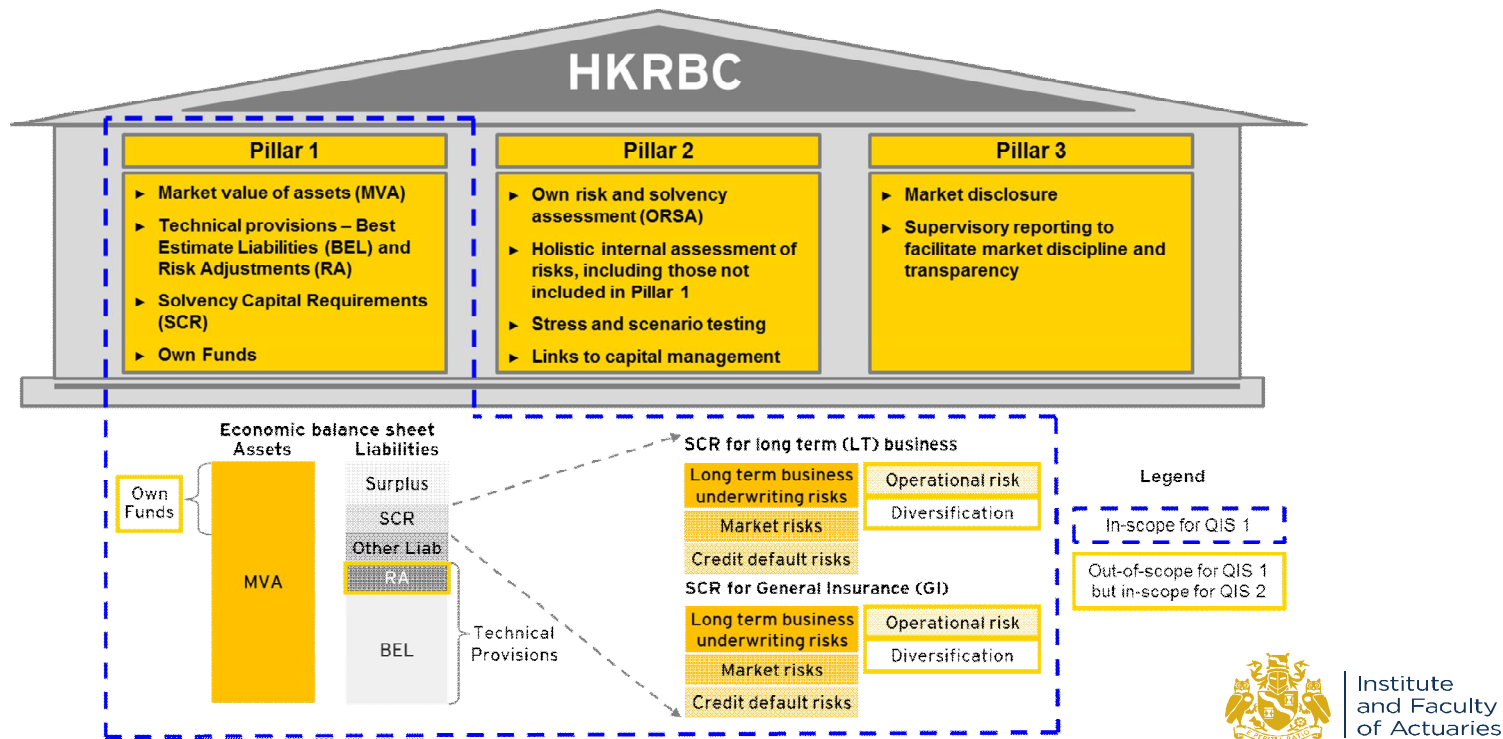
RBC framework

Overview of HKRBC



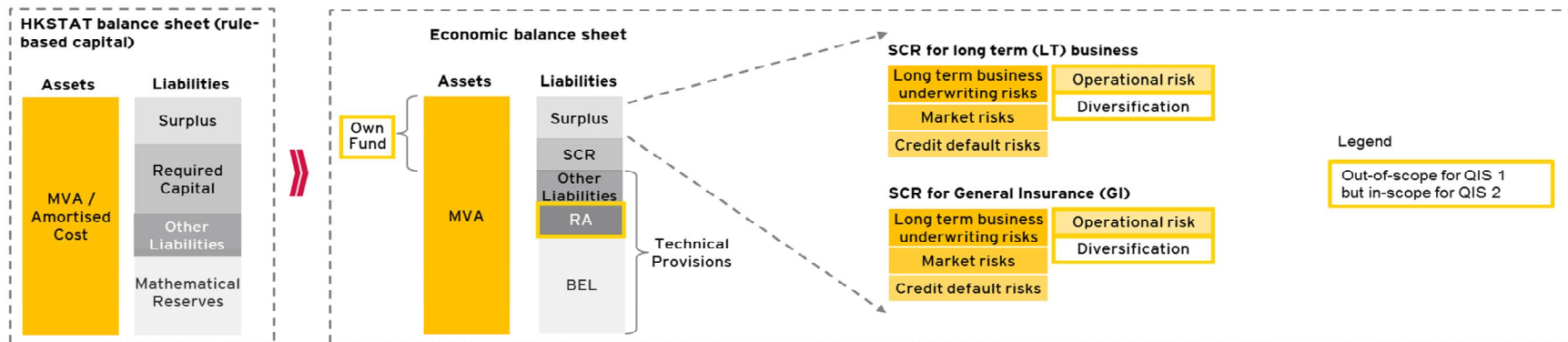
HKRBC framework

The proposed framework comprises a three-pillar framework



HKRBC economic balance sheet

Key changes from HK statutory (“HKSTAT”) basis to HKRBC basis



Key changes from HKSTAT balance sheet to HKRBC balance sheet



Observations from HKRBC QIS 1

Solvency ratio generally dropped under HKRBC basis

- Ø Our observations and case studies are based on our industry benchmarking of the HKRBC QIS 1 results
 - Ø Average solvency ratio under the current capital regime was high
 - Ø The estimated average solvency ratio based on HKRBC QIS 1 results dropped by over 300%
 - Ø This was mainly because of a significant increase in required capital
 - Ø Using OAG would help improve the solvency ratio



Observations from HKRBC QIS 1 (cont'd)

Available capital was affected differently

Ø Available capital:

Ø Liabilities tended to decrease for:

Ø Non-participating business

Ø Unit-linked business

Ø Term business

Ø Reasons for the decrease:

Ø No surrender value flooring

Ø No reserve zeroisation



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Observations from HKRBC QIS 1 (cont'd)

Four main drivers for PCR

1. Credit spread risk

- Ø Asset hypothecation
- Ø Bonds with better credit rating

3. Equity risk

- Ø Asset hypothecation
- Ø Equity type held
- Ø Look-through of collective investment schemes (CIS)

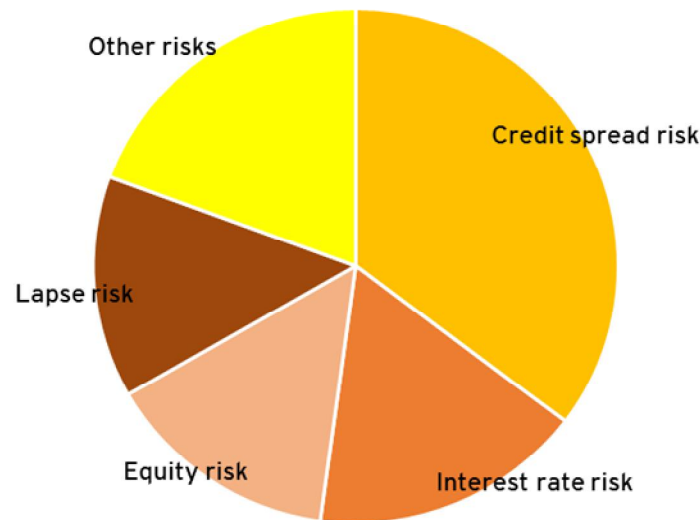
2. Interest rate risk

- Ø Asset hypothecation
- Ø Duration mismatch
- Ø Downward scenario

4. Lapse risk

- Ø Product designs
- Ø (Additional) management actions

Undiversified SCR Composition



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Case studies

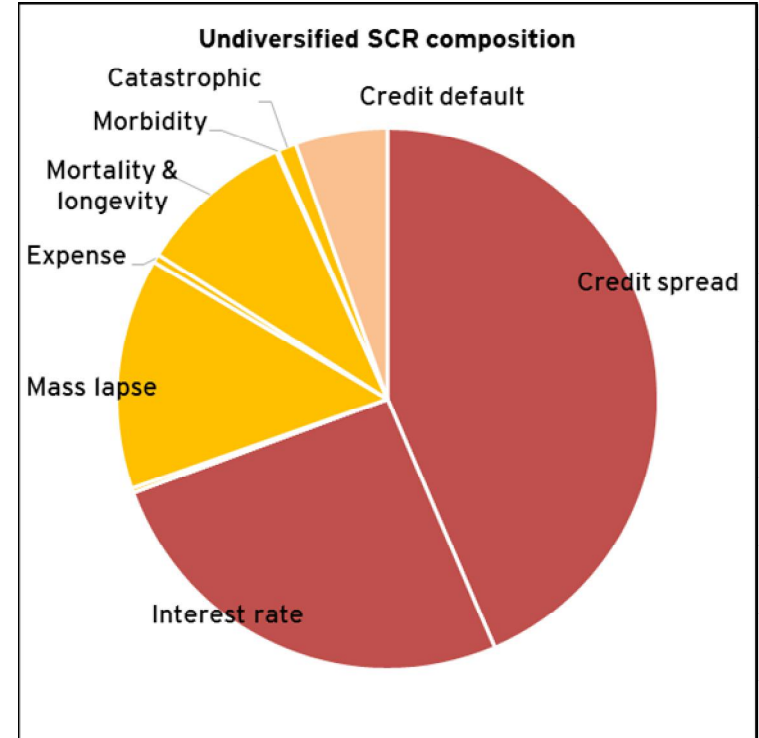


Case study 1

A company selling only universal life products

Ø Key statistics

- Ø 100% universal life business
- Ø 100% invested in fixed income securities
 - Ø 60% and 25% invested in rating 3 and 4 corporate bonds respectively
 - Ø 70% and 20% invested in rating 1 and 3 sovereign bonds respectively
- Ø Solvency ratio dropped by 190%
- Ø $(BEL + TVOG) = 100\%$ of HKSTAT reserve
- Ø $SCR = 40\%$ of $(BEL + TVOG)$

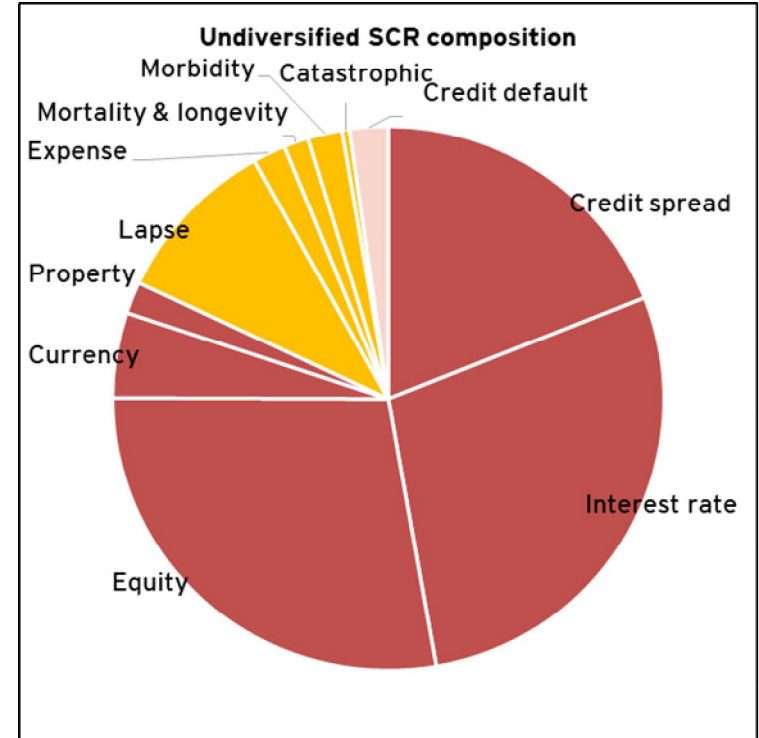


Case study 2

A company selling only participating products

Ø Key statistics

- Ø 100% participating business
- Ø 65% invested in fixed income securities, 15% invested in equities and 15% invested in CIS and 5% in properties
- Ø 60% and 25% invested in rating 3 and 4 corporate bonds respectively
- Ø 75% and 25% invested in rating 1 and unrated sovereign bonds respectively
- Ø Solvency ratio dropped by 300%
- Ø $(BEL + TVOG) = 100\%$ of HKSTAT reserve
- Ø $SCR = 25\%$ of $(BEL + TVOG)$

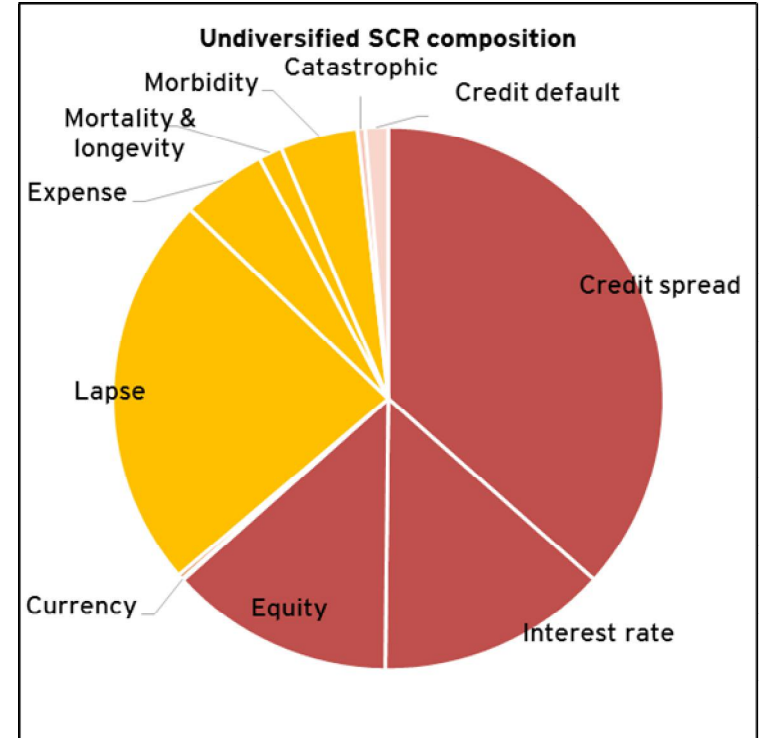


Case study 3

A company selling participating, universal life & unit linked products

Ø Key statistics

- Ø 60% participating business, 20% universal life and 20% unit linked business
- Ø 90% invested in fixed income securities and 10% invested in CIS
- Ø 30% and 60% invested in rating 3 and 4 corporate bonds respectively
- Ø 60% and 20% invested in rating 2 and 4 sovereign bonds respectively
- Ø Solvency ratio dropped by 130%
- Ø (BEL + TVOG) to HKSTAT reserve ratio – 100% (participating), 110% (universal life), 80% (unit linked)
- Ø SCR = 40% of (BEL + TVOG)



Conclusion



Lessons learnt

What keeps management awake under multiple RBC regimes?

- Ø Competing interest between key stakeholders (e.g. Group vs Entity)
- Ø Multiple capital regimes across different jurisdictions with similarities and dissimilarities
 - Ø Pillar 1 quantitative impact (e.g. biting scenario granularity)
 - Ø Pillar 2 own risk and solvency assessment (e.g. management actions)
 - Ø Pillar 3 market disclosure and supervisory reporting (e.g. equivalence)
- Ø Management focus on capital optimisation under different regimes:
 - Ø Strategic asset allocation (e.g. OAG)
 - Ø Product design / mix (e.g. negative reserves zeroisation)
 - Ø Reinsurance (e.g. longevity reinsurance/derivative)
 - Ø Restructuring (e.g. merger & acquisition)



Conclusion

Questions

Comments

The views expressed in this presentation are those of the presenter.



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