6th Seminar on Enterprise Risk Management
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Risk Based Capital regimes in Asia and lessons for India

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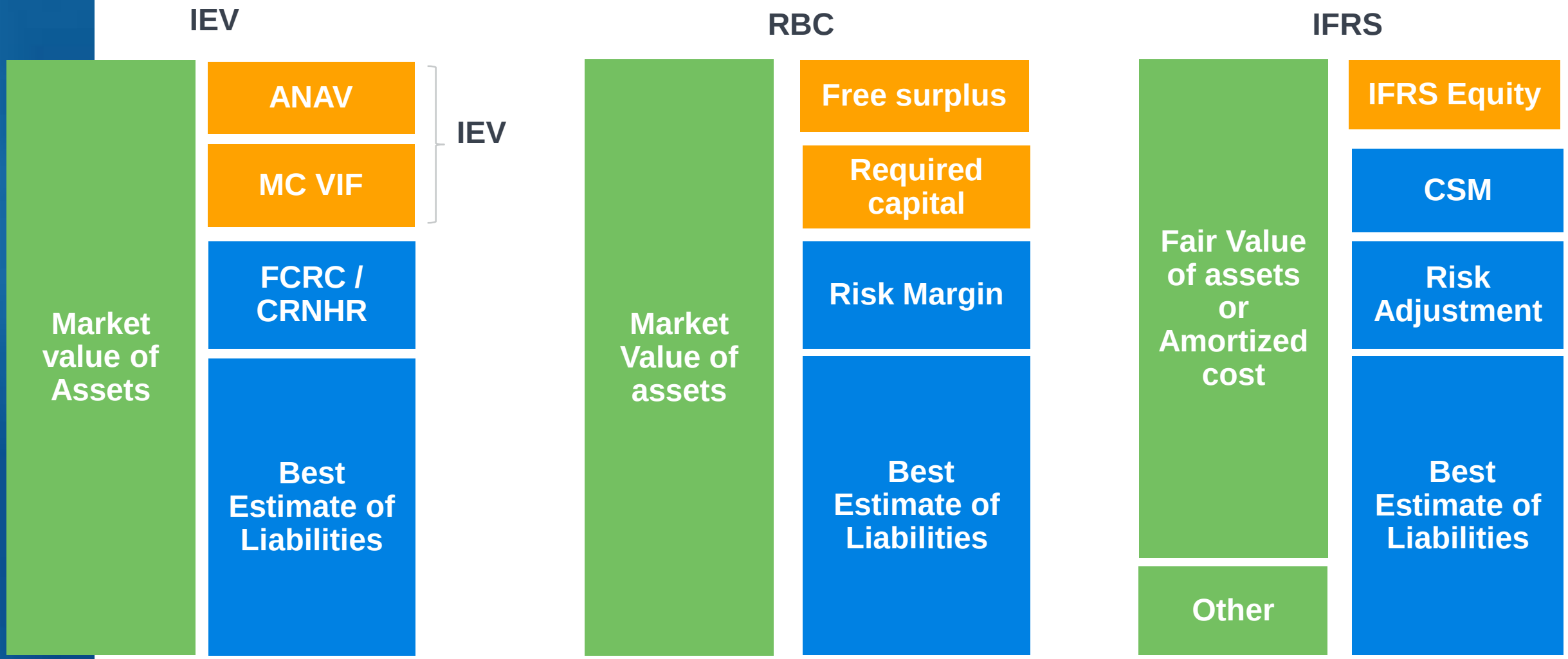
Where does RBC fit into our world?

Similar concepts – different objectives



Different variants of solvency assessment

Even those that have moved to RBC are looking at developments

Japan

Hong Kong

S. Korea

Taiwan

Indonesia

Malaysia

Singapore & Thailand

China

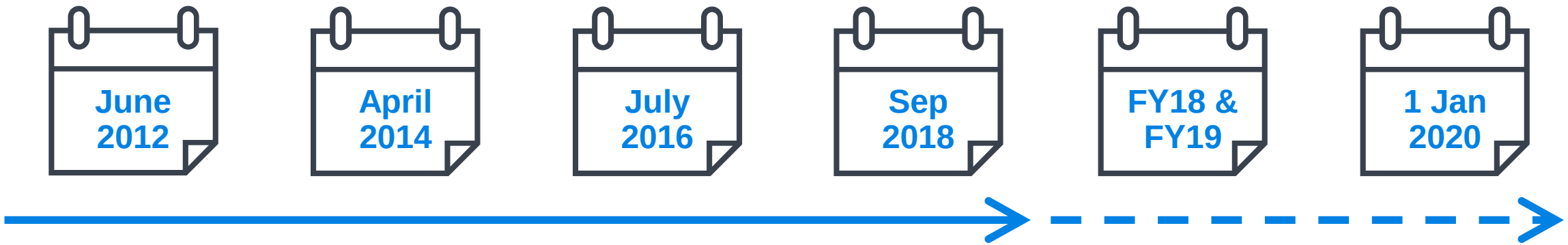
Factor-based "Solvency I"

RBC - I

RBC–II / ICS

Implementation time a key consideration

Evolution of Singapore RBC2



First consultation

- Road-map for RBC 2 review

Second consultation

- Initial technical specs
- QIS 1
- Plan to finalise specs by end-2014
- Target implementation from 1 January 2017

Third consultation

- Updated technical specs
- QIS 2
- Target implementation date unknown

Final features

- "Final specifications" issued
- "QIS 3" / projections based on YE2017
- Results submitted on different bases
- Target implementation from 1 January 2020

Parallel runs

Legislative preparations also to take place

RBC 2 implemented

Where do we want to land?

Pull from many directions!

What are the key flavours?

Asset valuation

Capital tiers

Contract boundaries

Discount rates

Risk margins / MADs

TVFOG

Risk charges

Diversification

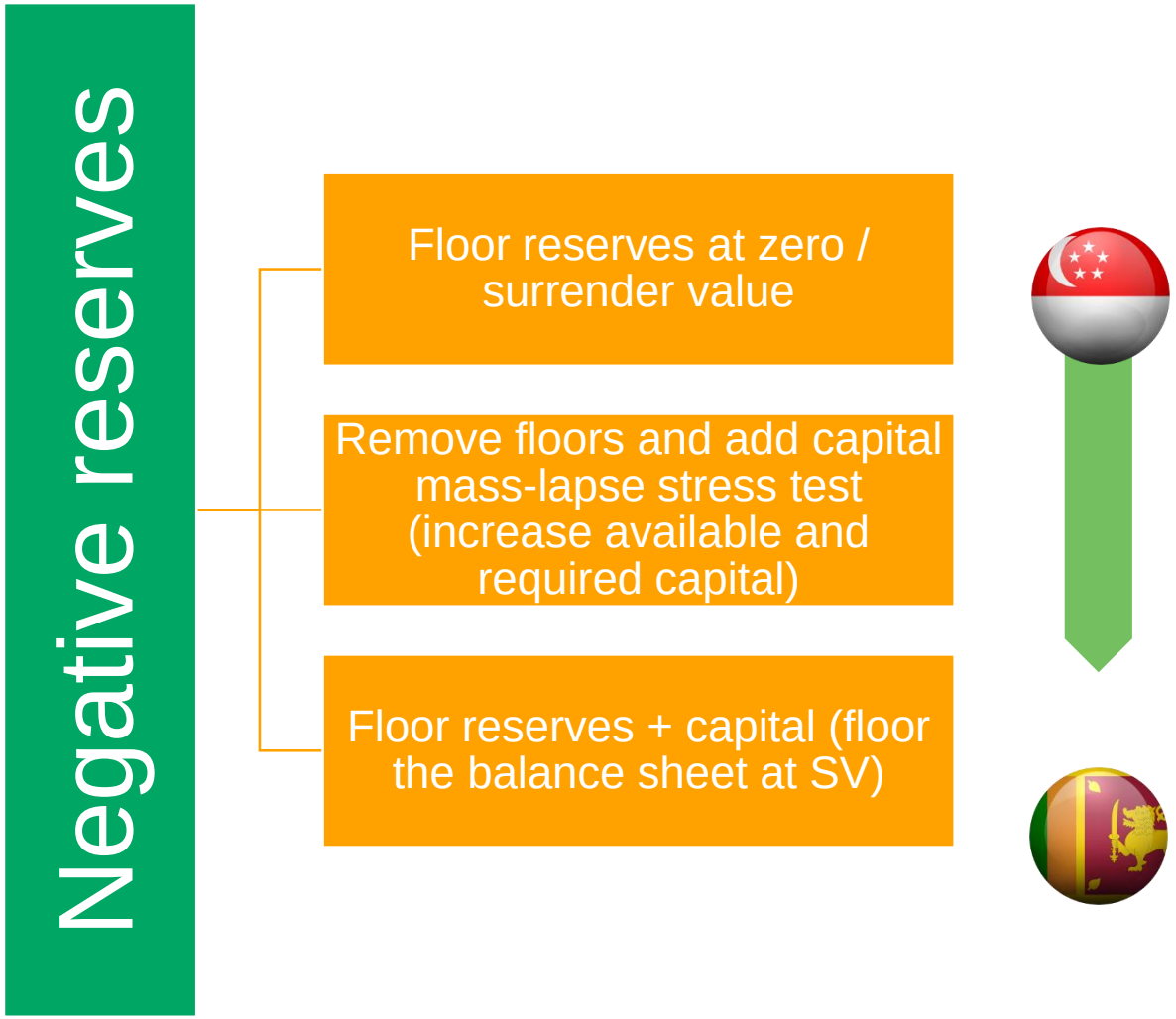
Negative reserves / mass lapse

Policyholder behaviour

Allowance for taxation

Financial resource adjustments

Approach to surrender value floors and participating business varies



Insurance risk charges

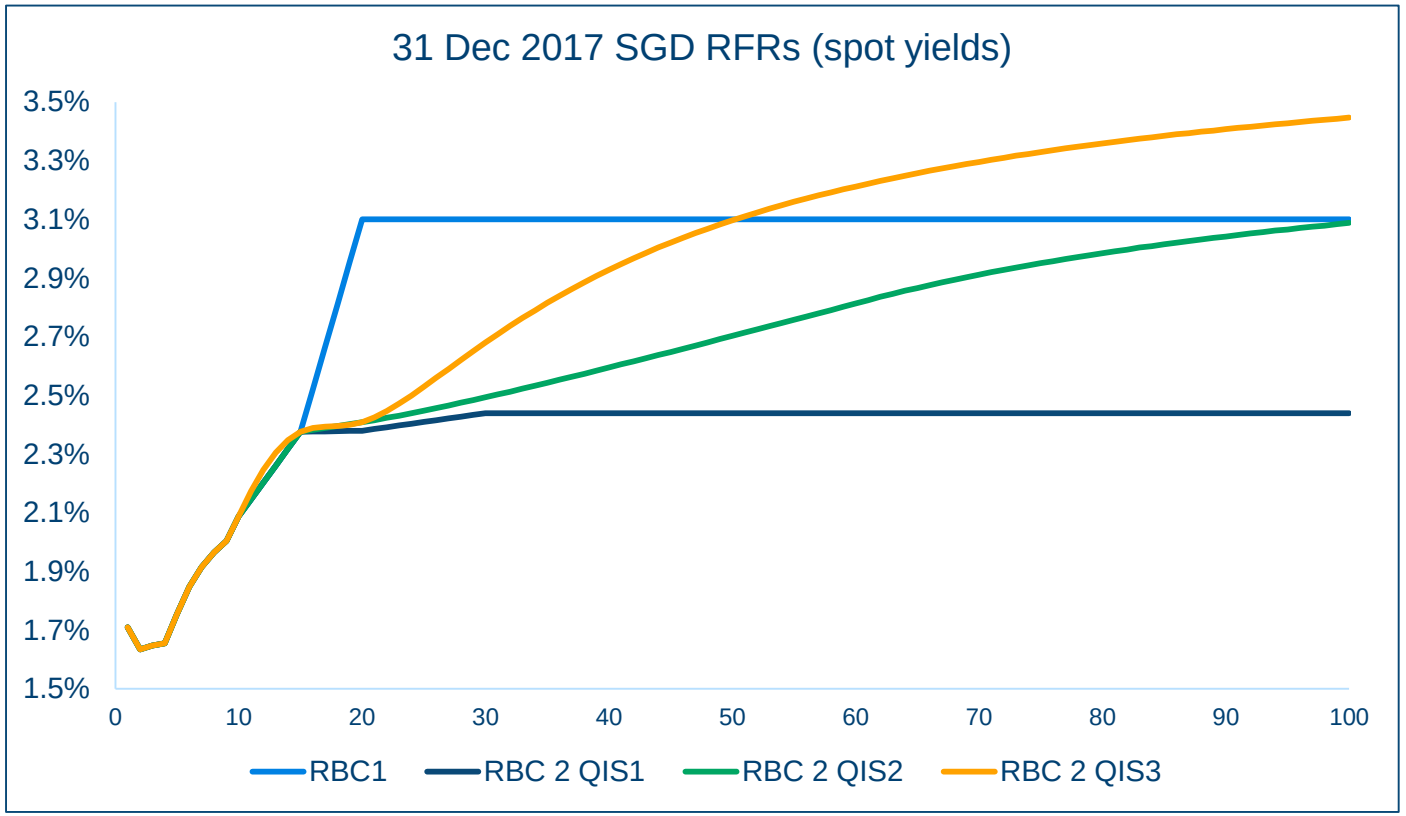
Significant consistency emerging

Risk	SG RBC1	SG RBC2 QIS3	MALAYSIA	THAILAND (95th percentile)
Mortality	25% / 12.5%	20%	40% / 20% (+	18%
Longevity	- 5 age rating	-25%	- 5 age rat	-18%
Disability	25% / 12.5%	20%	45% / 2	7% / 18%
Dread disease	40% / 20%	40% / 30%		
Lapse	25% (+/-)	+/-50% OR 30% mass-lapse	5	/-)
Option conversion	10% (+/-)	+/-50%		
Expense	10%	Yr1: 20%; Yr2+: 10%	(+/-)	5%
Catastrophe	n/a	Mort: 1‰	n/a	n/a

Level of diversification allowed can have a large impact

Discount rates

Extrapolation not easy in Asian markets, and can have a huge impact on long-term liabilities



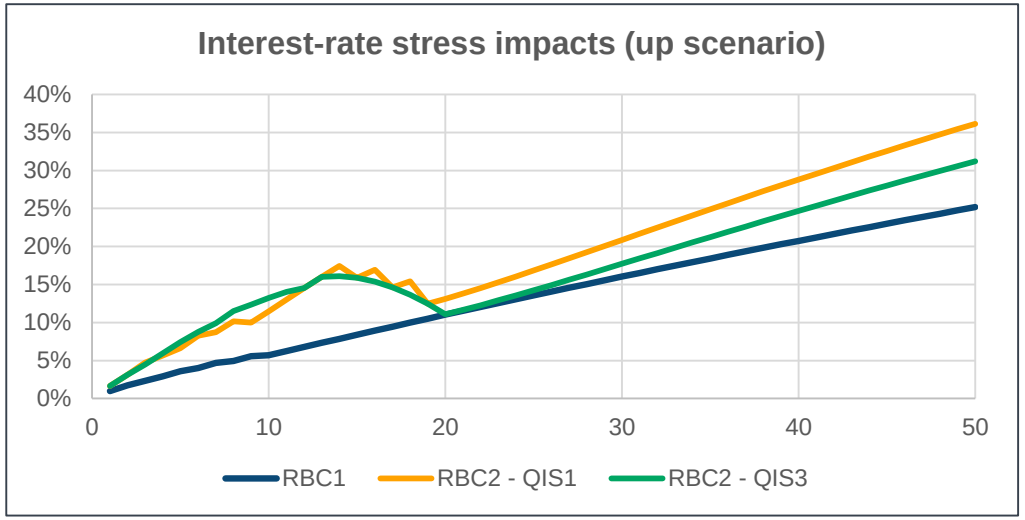
- Basically the same for first 15 years
- RBC1 uses LTRFR from year 20 onwards, based on historical averages
- For QIS1, plan was to use market yields up to 30 years with a phased implementation
- QIS2 moved to a UFR method, using linear extrapolation of forward rates from year 20 to UFR of 3.5% at year 60
- QIS3 adopts Smith-Wilson extrapolation of curve from year 20, with UFR of 3.8%

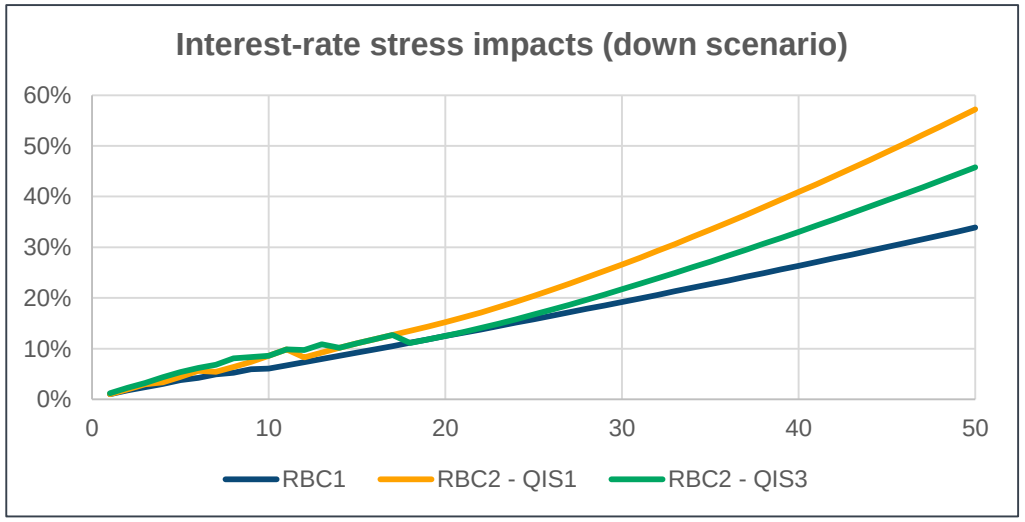
Also important to consider:

- **illiquidity premium/matching adjustment considerations.**
- **Whether the curve should be smoothed or not?**

Interest rate risk capital

‘How’ to create stress capital also can vary





- Singapore RBC1 stresses based on specified additions to yield curve (same for up and down)
- RBC2 stresses based on factors applied to yield curve (different for up and down)
- In all cases, risk charge is based on net impact to liabilities and interest sensitive assets

Asset risk charges

Important to calibrate this properly for India and try to be future-proof

- Singapore RBC1 “debt specific” risk charge: 0% for government bonds; 1.6%* for BBB- and above; and 8% for BB+ and below.
- Malaysia RBC IRCC is similar, but with more credit rating bands, and higher charges
- Singapore RBC2 uses a credit spread stress approach, so duration of debt has significant impact

Singapore RBC2 QIS1

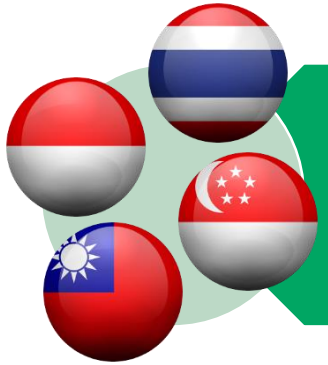
Term	AAA	AA	A	BBB	BB	B
2.5 years	3.3%	3.7%	4.4%	5.7%	9.1%	12.0%
5 years	6.2%	7.0%	8.2%	10.6%	16.7%	21.6%
7.5 years	8.2%	9.4%	11.1%	14.3%	21.0%	27.4%
10 years	10.4%	11.8%	13.9%	17.9%	25.7%	32.8%
12.5 years	9.6%	11.4%	13.9%	17.8%	26.9%	34.1%
15 years	11.0%	13.0%	15.8%	20.1%	29.7%	36.7%
RBC1	1.6%	1.6%	1.6%	1.6%	8%	8%
MY RBC	1.6%	2.8%	4.0%	6.0%	12.0%	12.0%

Singapore RBC2 QIS3

Term	AAA	AA	A	BBB	BB	B
2.5 years	2.5%	2.8%	3.8%	5.6%	8.8%	11.3%
5 years	4.7%	5.3%	7.2%	10.4%	16.2%	20.3%
7.5 years	6.1%	7.3%	9.0%	13.8%	20.3%	25.7%
10 years	7.7%	9.2%	11.4%	17.2%	24.9%	30.9%
12.5 years	8.7%	9.1%	11.8%	19.0%	27.9%	33.3%
15 years	10.0%	10.5%	13.4%	21.4%	30.7%	35.9%
RBC1	1.6%	1.6%	1.6%	1.6%	8.0%	8.0%
MY RBC	1.6%	2.8%	4.0%	6.0%	12.0%	12.0%

Time value of options and guarantees

Approaches vary across jurisdictions



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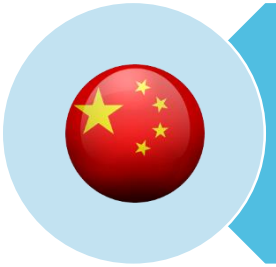
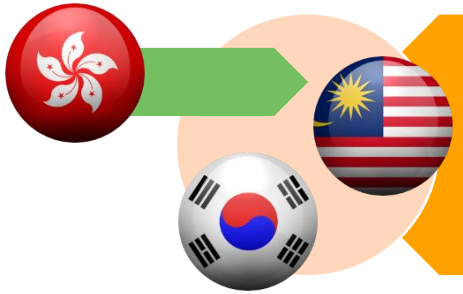


Prescribed allowance (factor based)



Stochastic allowance (or proxy thereof)

Potential India heat-map

What might be the implications for the various product types compared to today?

	Products	Positive impacts	Negative impacts	
Life	ULIP	Potential release of 'VIF'	Guarantees	
	Participating	Additional financial resources? Fungibility enhancements?	Potentially higher capital requirements?	
	Non-participating savings	Potential release of negative reserves Release of prudence in valuation basis Recognition of ALM	Liabilities past liquid point of the yield curve? Interest-rate risk capital charges may be severe (current MADs vs stressed risk free)	
	Protection-oriented	Potential release of negative reserves Risk-based charges	Risk-based charges	
Non-life & Health		Removal of prudence? More company specific factors Discounting?	Currently un-identified risks e.g. legal risks? Asset-side risks? Company specifics