



Institute
and Faculty
of Actuaries

A review of the risk margin – Solvency II and beyond

Report by the Risk Margin Working Party

Presentation by:
Andy Pelkiewicz
Paul Fulcher

Staple Inn, 9 September 2019

The Risk Margin Working Party

- Set up following criticisms of the Risk Margin in the Treasury Committee Inquiry into EU Insurance Regulation
- Two main strands:
 - What can be done to fix known issues with the RM, either within Solvency II or using potential post-Brexit flexibility?
 - What should be the purpose of the RM, and how can that purpose best be fulfilled?
- Members:
 - Andy Pelkiewicz (Chair), Waqar Ahmed, Paul Fulcher, Katie Johnson, Stuart Reynolds, Richard Schneider*, Andy Scott

* Also acts as the Life Research Committee shadow



Institute
and Faculty
of Actuaries

Development of the risk margin



Institute
and Faculty
of Actuaries

Development of the risk margin



Development of the risk margin



Institute
and Faculty
of Actuaries

Transfer to the Reference Undertaking

- No assets or liabilities before the transfer
- Remains closed after the transfer
- De-risks assets so as to minimise market risk
- Subject to Solvency II on an ongoing basis. It therefore raises sufficient capital to cover its SCR
- Reinsurance transfers with business
- Adopts management actions consistent with original insurer



The Solvency II risk margin formula

Risks included

- Underwriting risks
- Residual market risk
- Counterparty default risk
- Operational risk

$$RM = CoC \cdot \sum_{t \geq 0} \frac{SCR(t)}{(1 + r(t+1))^{t+1}}$$

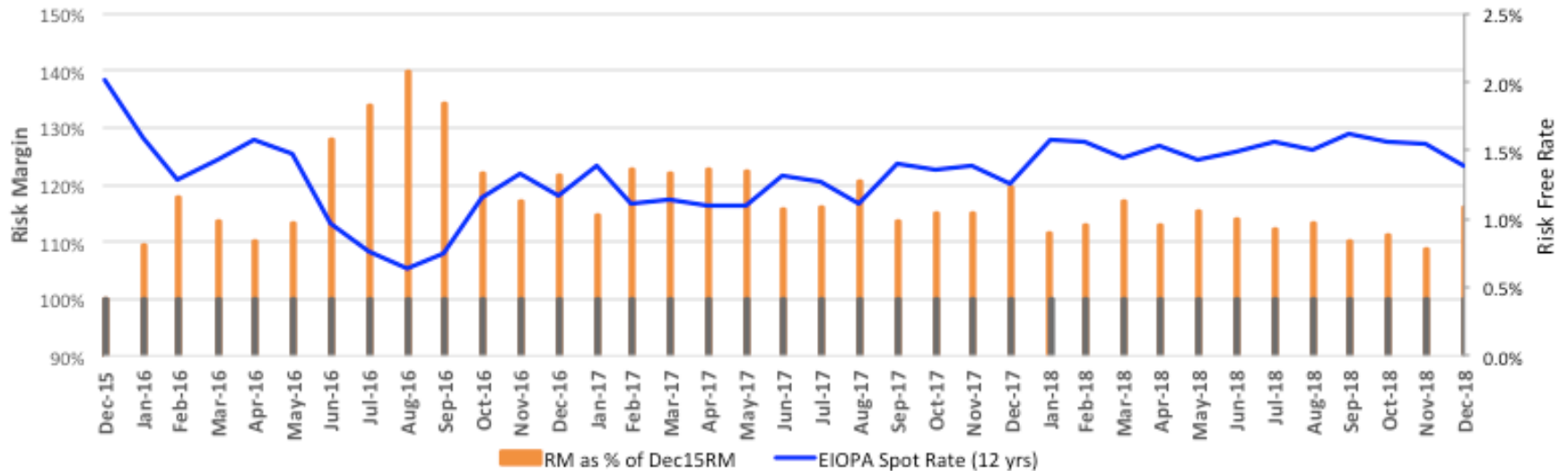
6%

Risk-free rate



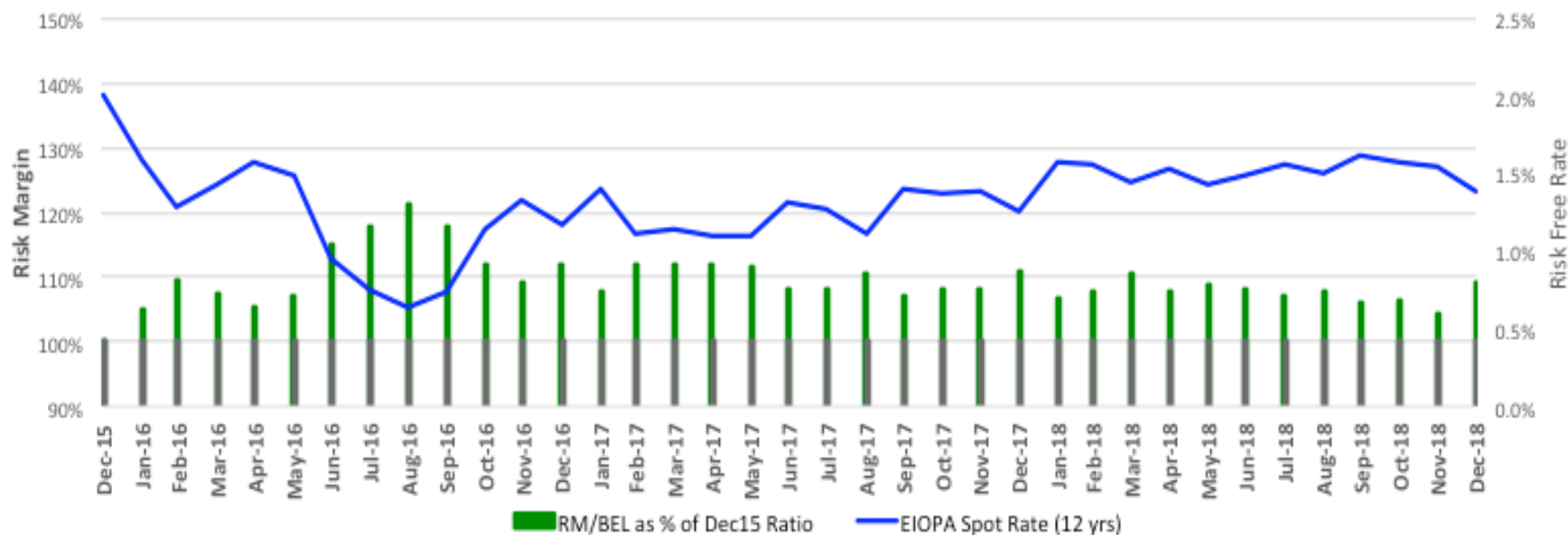
Institute
and Faculty
of Actuaries

Variation of risk margin with risk-free rates



Institute
and Faculty
of Actuaries

Variation of risk margin as proportion of BEL with risk-free rates



The RM / BEL ratio for Dec 2015 is 7.7%. This is shown as 100% in the graph.



Institute
and Faculty
of Actuaries

Extracts from the Treasury Committee report

- ... the Committee considers that the PRA, working in close collaboration with the industry, should ... provide a solution for the risk margin to improve its calibration ...
- A Risk Margin ... makes conceptual sense. ... It should continue to form part of the UK's solvency regime. However, the previous Committee heard widespread criticism of the Solvency II Risk Margin as it is currently formulated. The regulator has acknowledged these criticisms. There is widespread grasp of the problem among regulators and the issue is being reviewed by EIOPA and the European Commission. But in the meantime UK business is being reinsured overseas. ... For these reasons, many respondents and technical experts are advocating that the PRA take action now, irrespective of the Commission review process. The Committee concurs ...



Qualities of a desirable risk margin

Policyholder protection	✓
Market consistency	✓ x
Objectivity	✓
Applicability to different risks	x
Practicality (ease of implementing change)	✓ ✓ (now)
Avoiding pro-cyclicality	x ?
Consistency with IFRS17	✓
Consistency with ICS	✓
Solvency II equivalence post Brexit	✓ ✓
Creating appropriate incentives	x x ?
Theoretically sound	✓ ?



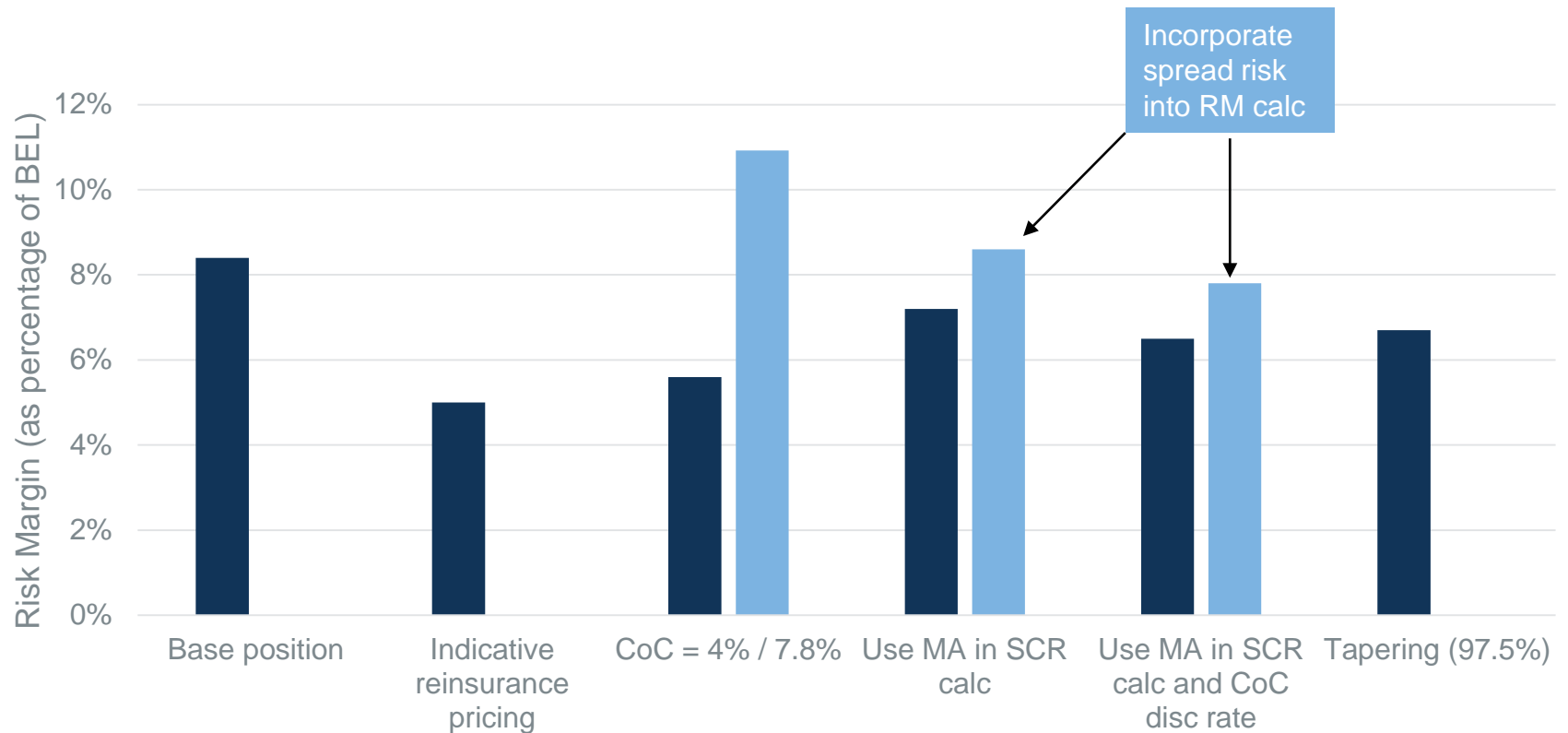
Institute
and Faculty
of Actuaries

Options for change – within Directive

Proposal	Justification	What needs to change
Lower cost of capital from 6%	Simplest change to reduce magnitude of issue	Level II Delegated Acts
Vary cost of capital with interest rates	Reduces (artificial) volatility and <u>some</u> theoretical evidence	Level II Delegated Acts
MA or VA used for SCR	Consistent with BEL (but market risk was assumed to be derisked)	EIOPA Guidelines
MA or VA used to discount cost of capital	Insurer should be able to earn illiquidity premium on capital held	Level II Delegated Acts
Tapering of lifetime risks	Lifetime risks are not independent	Level II Delegated Acts or Internal Model
Link to reinsurance pricing	Market consistent and removes artificial incentives to transfer	Level II Delegated Acts or PRA acceptance of management action

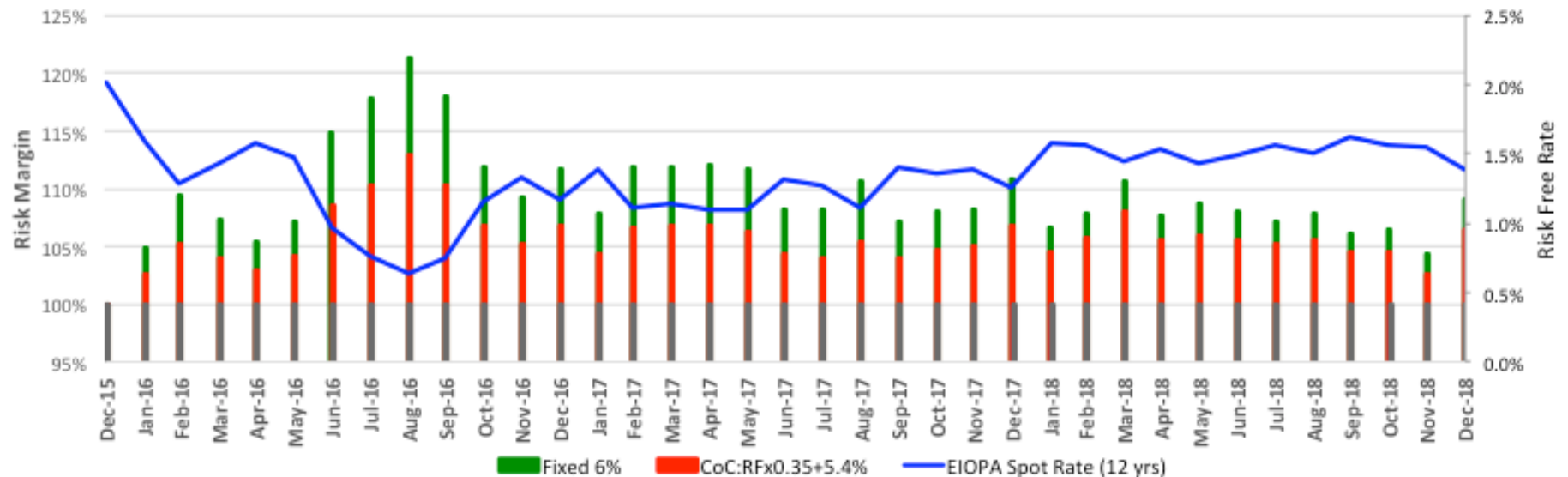


Comparing options - Magnitude



Institute
and Faculty
of Actuaries

Comparing options - Volatility



Institute
and Faculty
of Actuaries

Assessing the alternatives (1)

	Reduce CoC	CoC varies with rates	Allow for MA or VA	Cost of reinsurance
Policyholder protection	✗	?	✗	✓?
Market consistency	?	✓?	?	✓✓
Objectivity	-	-	-	✗?
Applicability to different risks	-	-	-	✗✗
Ease of implementing change	✓✓	✗	-	?
Avoid pro-cyclicality	✓?	✓✓	✓	✓✗
Consistency with IFRS17	-	-	✓	✗
Consistency with ICS	✗?	✓	✓?	✗
Solvency II equivalence	✗?	?	✓	✓?
Appropriate incentives	✓	✓	-	✓✓
Theoretically sound	?	✓?	✓✗	✓✓

Options for change: more fundamental

Proposal	Justification and precedents
Run-off percentile	Own fulfilment value rather than exit value <u>Precedent:</u> Original option in Solvency II (75%ile), Australia non-life, IFRS
Provisions for Adverse Deviation	Prudent margin on BEL assumptions <u>Precedent:</u> Traditional actuarial approach, China C-ROSS
“Value-at-risk”	75%ile (2/3rds standard deviation) for risks <u>Precedent:</u> ICS P-MOCE, Hong Kong and other Asian RBC regimes
Replace RM + SCR with “run-off” capitalisation	Align total capital with the long-term ability to meet liabilities as fall due <u>Precedent:</u> Superfunds, Lloyds market 2 nd test
No Risk Margin	Still 50% probability of meeting benefits post “1-in-200 year” SCR shock <u>Precedent:</u> Solvency I Pillar II (ICAS) regime



Assessing the alternatives (2)

	Run-off %ile	VaR (P-MOCE)	Run-off capitalisation	No risk margin
Policyholder protection	-	-	✓	xx
Market consistency	?	?	?	x
Objectivity	-	-	x	✓
Applicability to different risks	-	-	-	✓
Ease of implementing change	x	✓	xx	✓✓
Avoid pro-cyclicality	-	-	✓✓	-
Consistency with IFRS17	✓	✓?	x	xx
Consistency with ICS	x	✓	xx	xx
Solvency II equivalence	-	✓?	x?	xx
Appropriate incentives	?	?	?	x
Theoretically sound	✓?	x?	-	x

Working Party Conclusions: possible options for change

- allow for an automatic change in the assumed cost-of-capital rate when risk-free rates change;
- allow a prudent illiquidity premium to be used in the calculations of the projected future SCRs and in the risk-free rate used in discounting the future costs-of-capital;
- allow certain longevity risk to be treated as hedgeable and the relevant part of the risk margin to be replaced by the cost of the hedge; or
- move to, or to allow as an alternative, the Percentile-MOCE, which is being considered under ICS.



Questions

Comments

The views expressed in this presentation are those of invited contributors and not necessarily those of the IFoA. The IFoA do not endorse any of the views stated, nor any claims or representations made in this presentation and accept no responsibility or liability to any person for loss or damage suffered as a consequence of their placing reliance upon any view, claim or representation made in this presentation.

The information and expressions of opinion contained in this publication are not intended to be a comprehensive study, nor to provide actuarial advice or advice of any nature and should not be treated as a substitute for specific advice concerning individual situations. On no account may any part of this presentation] be reproduced without the written permission of the IFoA



Institute
and Faculty
of Actuaries