MANAGING EXTREMES

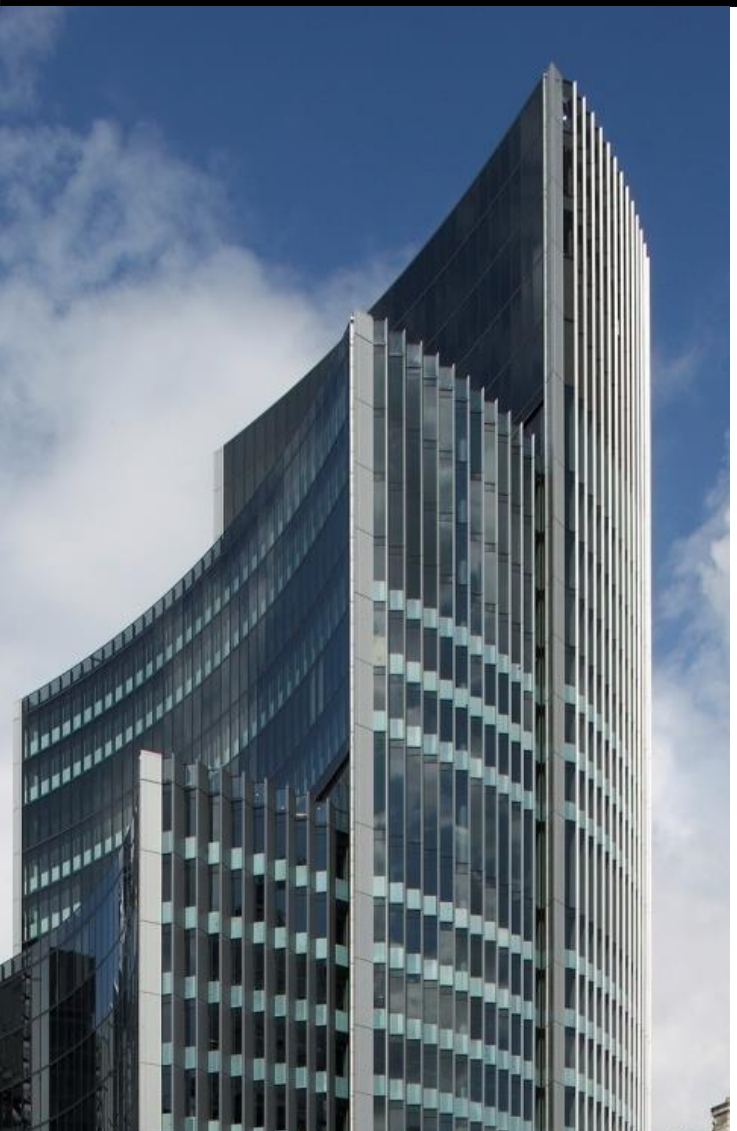
Willis Re

NEW WAYS OF BUYING REINSURANCE

Seminarium
Reasekuracyjnego 2014

Warsaw

Who we are…



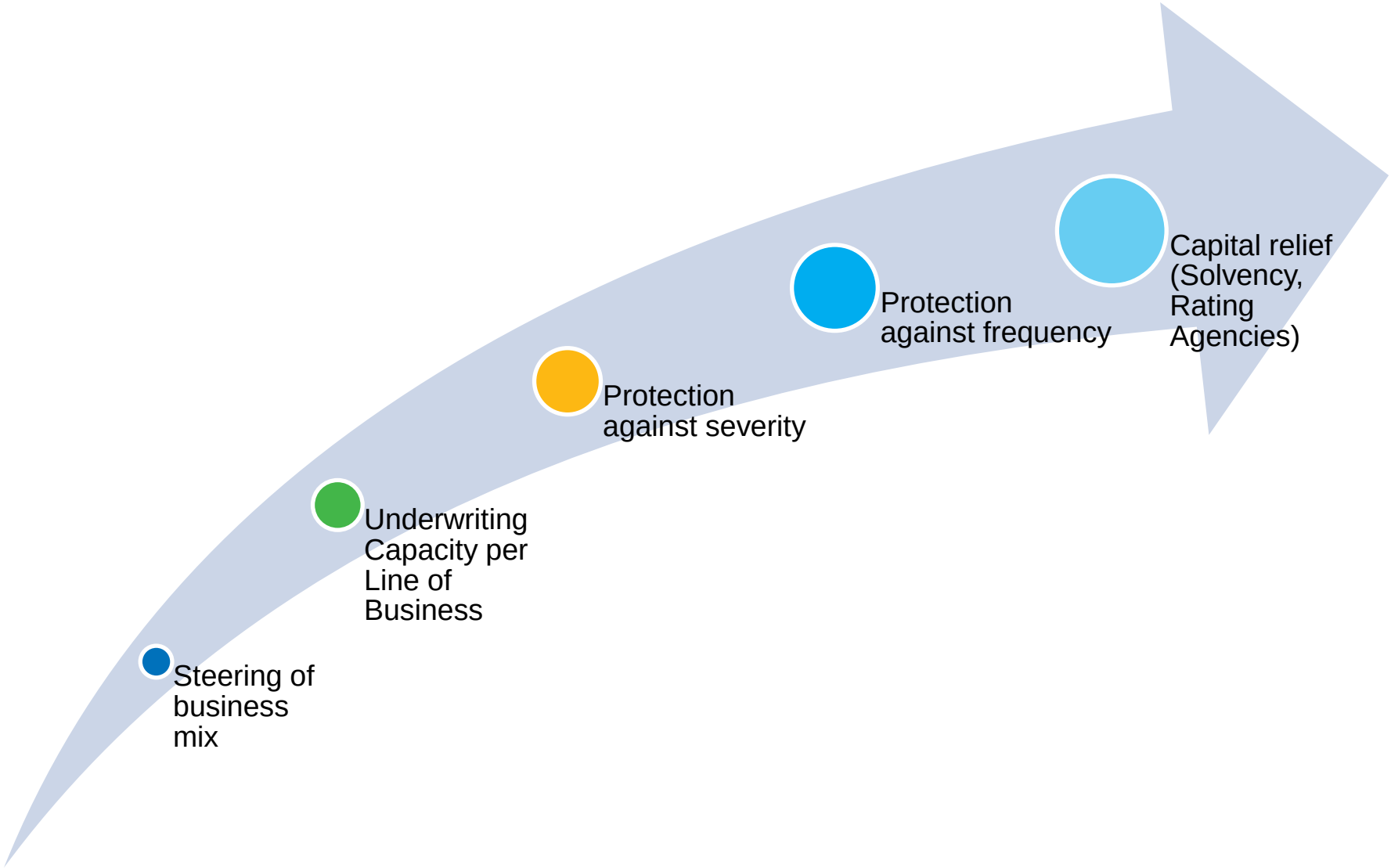
Willis Group

- Found in 1828 by Henry Willis
- About 17.000 employees in more than 400 offices
- Headquartered in London

Willis Re

- One profit centre (Willis Re Europe)
- Global knowledge, local expertise
- Integrated Analytics
- No outsourcing

Reasons of buying reinsurance



Old ways of buying reinsurance

- Bottom up approach:
  - Capacity required by underwriting team per line of business
  - Max SI/PML sets the limit of the per risk severity protection
- Top down approach:
  - Stop Loss/Aggregate covers to limit the overall loss
  - Capital relief mainly from NatCat programmes, based on Cat modelling
  - Bouquet placements in order to negotiate portfolio benefits

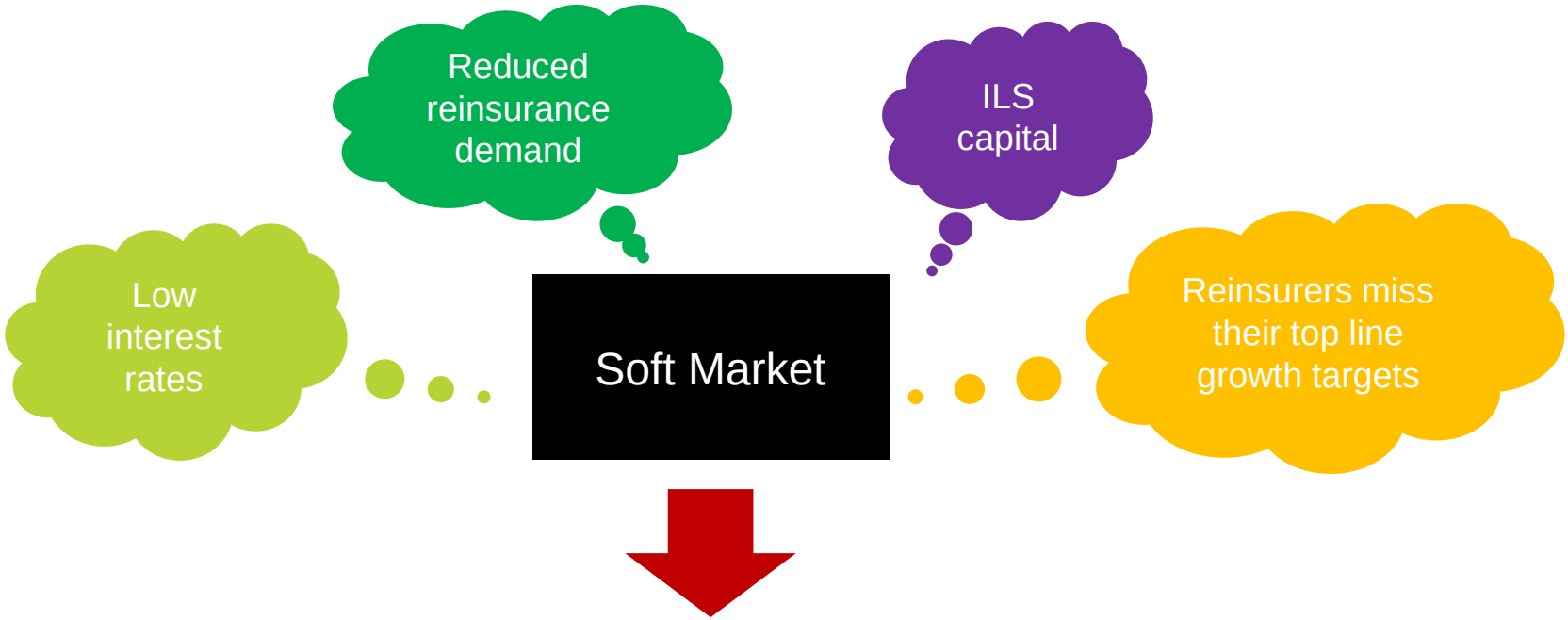
What has changed?

- Solvency II becomes (partly) effective at 1/1/2016
- ORSA/FLAOR requires a quantification of significant types of risk
- Many companies built internal models, even if they do not use them for Solvency reporting
- Companies became part of large groups, underwriting results and Solvency/Rating matters are no longer the only area of concern

European insurers created an ERM environment!

Value Based Management

What else?



The world is changing faster than ever…

What's the aim?

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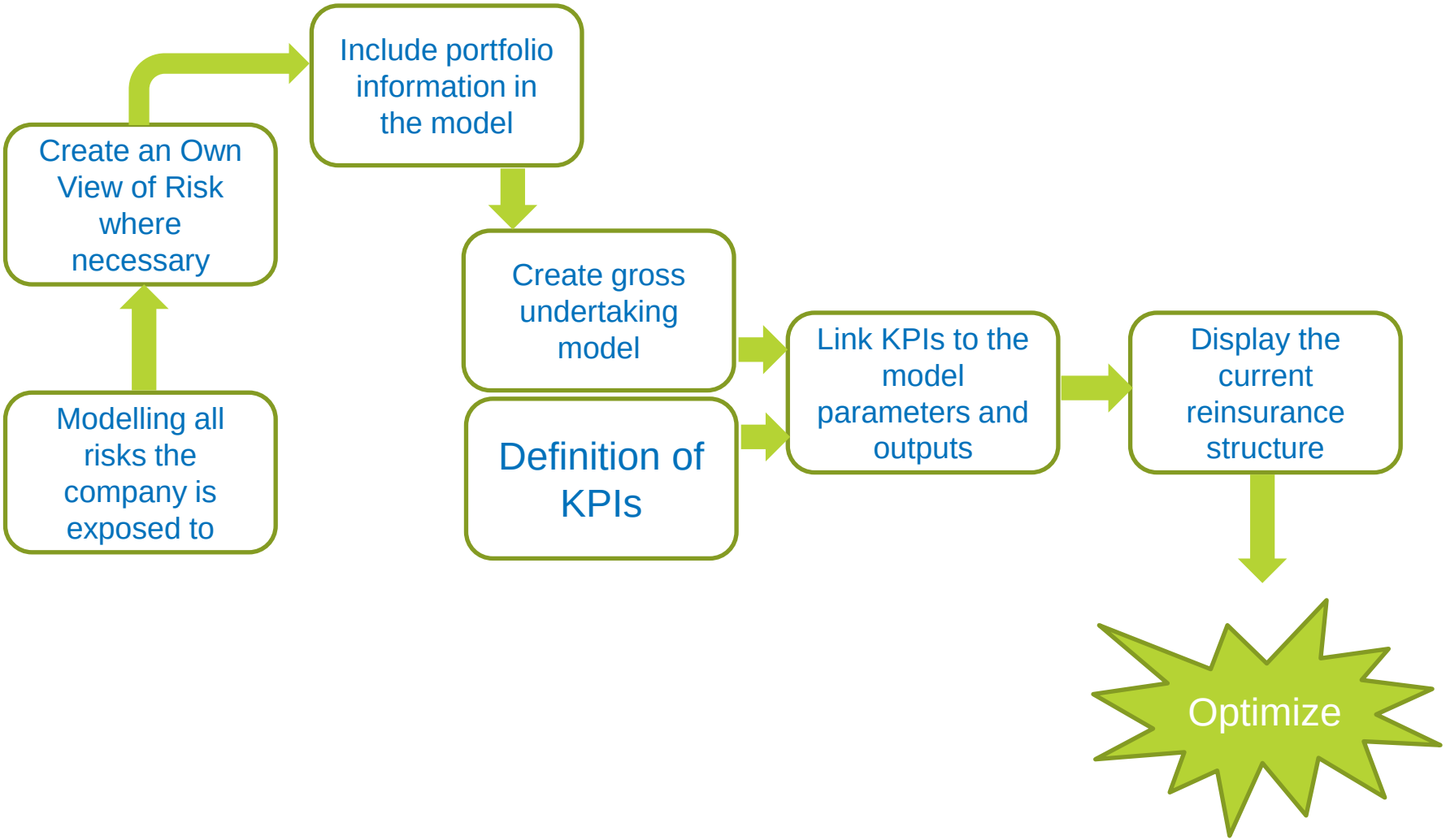
Existence

Result

Competition

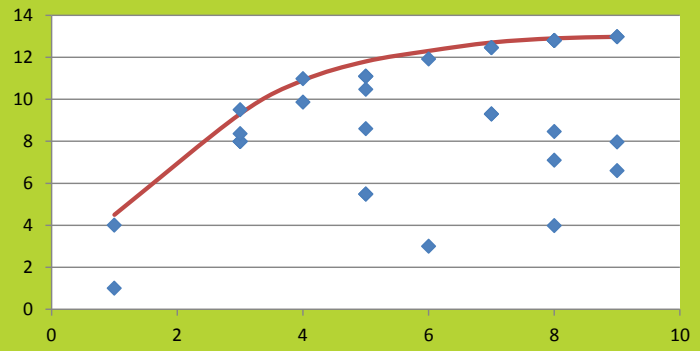
Definition of KPIs

How to select the reinsurance strategy?



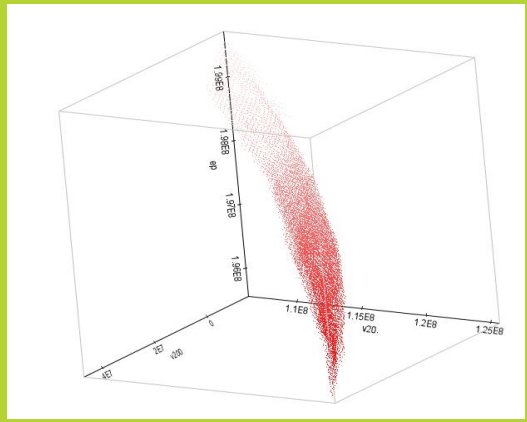
Optimize – but how?

Adding risk measures means adding dimensions!



Example: Maximize Underwriting result with 1 in 200 VaR not higher than xyz

3 KPIs



Example: Maximize Underwriting result, SCR-ratio not lower than 150%, Probability of RORAC per LoB lower 4% below 1%

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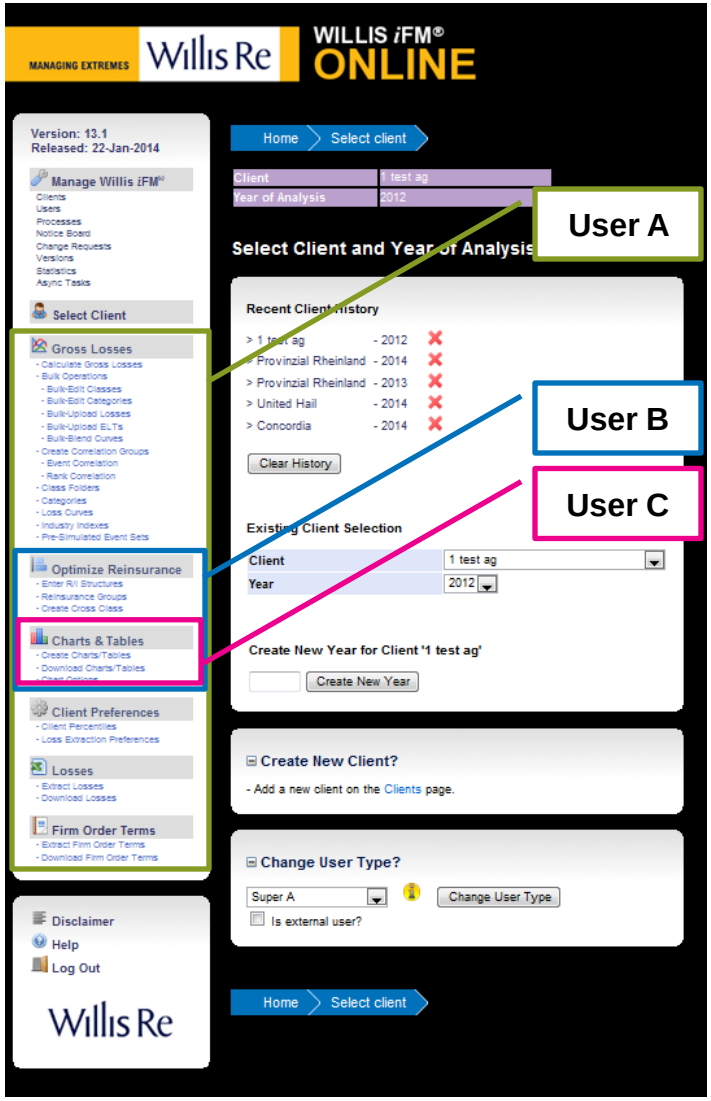

Key Facts

- Online-based R/I optimisation
- Developed by Willis Re
- No software distribution, internal tool
- Focus on R/I modelling, no platform for internal models

Building the model

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Gross model

Cat modelling
Large loss severity & frequency
Attricional losses
Premium
Expenses

Existing Reinsurance

Existing reinsurance structure (prop, non-prop incl. terms and commission)

Alternative Structures

Select structures that target the optimisation of KPIs and set them as basis

Pick efficient structures

Willis ReOptim8™

Placements																Risk Measures				
																Structure	MEAN	VAR (1 in 5 years)	VAR (1 in 200 years)	T_VAR (1 in 200 years)
																ents	13,844,385	2,803,505	82,258,963	321,227,333
0	100	100	0	0	100	1										1	13,858,627	2,764,863	82,258,963	321,136,010
0	100	100	0	0	100	1										2	13,755,168	2,719,380	80,582,951	319,545,487
0	100	100	0	0	100	1										3	13,651,710	2,593,995	78,967,688	317,988,960
0	100	100	0	0	100	100	100			10	30	100	100	100	100	4	13,845,914	2,746,944	82,312,075	321,143,648
0	100	100	0	0	100	100		0	10	40	100	100	100	100		5	13,742,456	2,701,918	80,647,022	319,552,092
0	100	100	0	0	100		100	0	0	10	50	100	100	100	100	6	13,638,997	2,598,631	78,920,660	317,996,901
0	100	100	0	0	100	100	100	0	100	40	10	100	100	100	100	7	13,984,117	2,945,301	86,971,798	324,415,947
0	100	100	0	0	100	100	100	0	100	50	40	100	100	100	100	8	13,661,029	2,671,561	80,645,144	319,602,405
0	100	100	0	0	100	100	100	0	10	0	30	100	100	100	100	9	13,855,569	2,749,765	82,293,461	321,138,012
0	100	100	0	0	100	100	100	0	10	0	40	100	100	100	100	10	13,752,111	2,716,656	80,617,449	319,547,547
0	100	100	0	0	100	100	100	0	10	0	50	100	100	100	100	11	13,648,652	2,593,843	79,002,186	317,992,173
0	100	1										100	100	100	100	12	13,842,857	2,732,083	82,346,572	321,145,650
0	100	1										100	100			13	13,749,053	2,706,400	80,651,946	319,549,606
0	100	1														14	13,632,882	2,585,637	78,989,655	318,003,327
0	100	1													100	15	13,090,165	2,239,286	69,981,003	310,600,292
0	100	1												100	100	16	13,193,623	2,357,871	72,491,342	312,034,879
0	100	1											100	100	100	17	13,180,911	2,349,535	72,475,955	312,039,925
0	100	1										100	100	100	100	18	13,168,198	2,358,048	72,460,569	312,044,970
0	100	1										100	100	100	100	19	13,087,107	2,244,388	69,912,344	310,605,355
0	100	1										100	100	100	100	20	13,190,566	2,354,265	72,525,840	312,039,341
0	100	1										100	100	100	100	21	13,061,682	2,236,095	70,062,385	310,614,736
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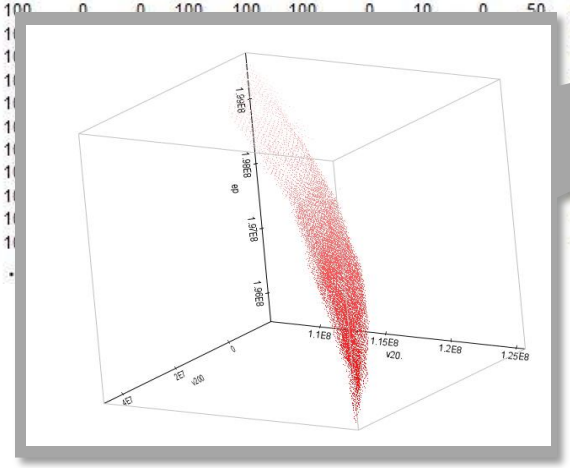
1,000,000,000,000,000,000,000,000
variations per structure



324,415,947 fulfills threshold requirement
319,602,405 below threshold

Solution: Action Strategies

Effect of strategy on KPIs						Probability of hitting target			
KPI	Gross	Net Var 1	Net Var 18	Net Var 32	Target	Gross	Net Var 1	Net Var 18	Net Var 32
Average ROE	36,00%	25,00%	30,00%	27,00%	ROE > 24%	99,00%	52,00%	94,00%	87,00%
Expected underwriting result									
1 in 5 years	68.169.199	63.194.233	61.668.651	62.978.956	U\W Result > 60m	80,00%	61,00%	53,00%	58,00%
1 in 10 years	25.214.617	41.815.787	28.098.995	36.961.114	U\W Result > 30m	30,00%	80,00%	42,00%	60,00%
SCR	132,30%	183,00%	154,00%	170,00%	SCR > 150%	0,00%	100,00%	100,00%	100,00%

Key Performance Indicator	Situation 1	Situation 2	Situation 3
Growth	Stable	Stable	Decreasing
Expected Underwriting Result	Stable	Stable	Stable
Expected Investment Result	Strong	Normal	Normal
Own Funds	Strong	Strong	Low
Rating Capital	Strong	Strong	Normal
Solvability	Good	Good	Okay
Goal	Less underwriting risk, increase excess capital	Increase retentions	Strenghtening of capital base, keep security (rating)

What do we get?

- Action plan for different scenarios in a fast changing economic environment.
- An optimized current reinsurance strategy, focussed on the aim of hitting multiple company targets (Plan A)
- Alternative reinsurance strategies, focussing on different scenarios with changed KPI weightings (Plan B, C, D…)
- Willis Re can help you developing these strategies…

…and we deliver!