

Putting models to work – practical connections

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Institute
and Faculty
of Actuaries



Part I

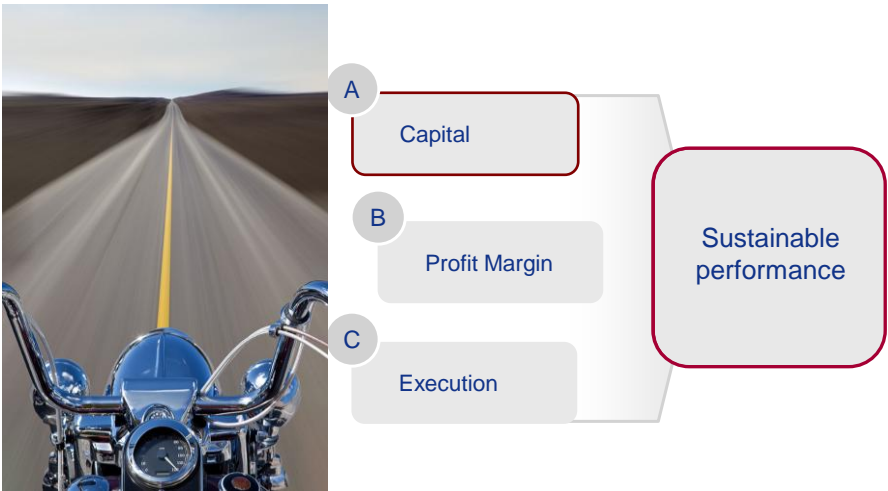


Part I – Putting models into context

Part II – Practical examples of model use

1. Focus on exposure
2. Effective links to established business activities
3. Analytical agility

It is essential to have a good understanding of capital consumption in order to steer the business



➔ At the end of the day, what really matters is that we manage all levers to deliver sustainable performance ...

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The need for effective capital management is even more pronounced in a difficult business environment



➔ Active capital management will be key differentiator going forward

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Part II

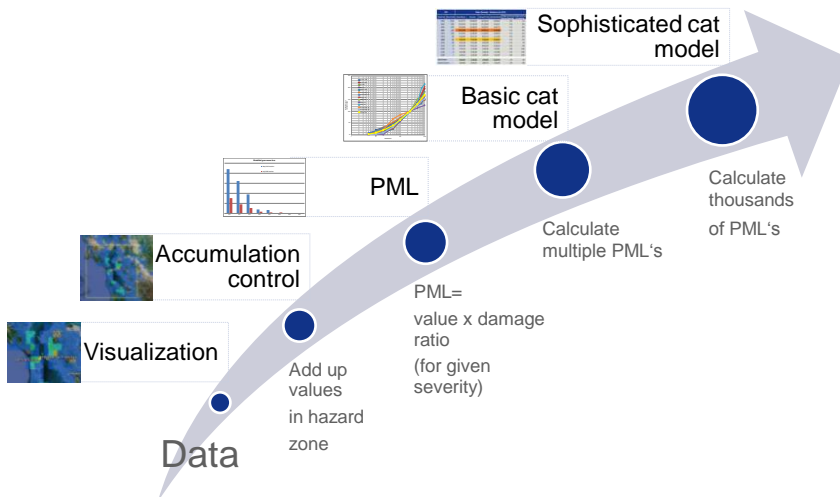
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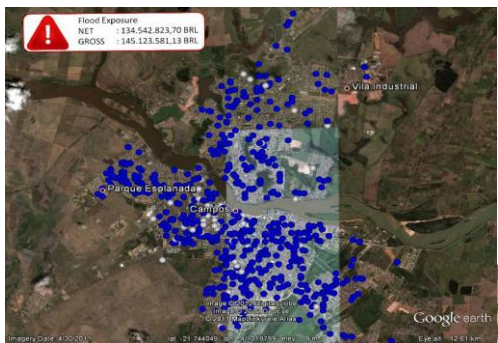
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Solid data is the necessary condition for reliable risk quantification and portfolio management



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Our aim is to bring reliable and efficient portfolio analytics into key business decisions ...



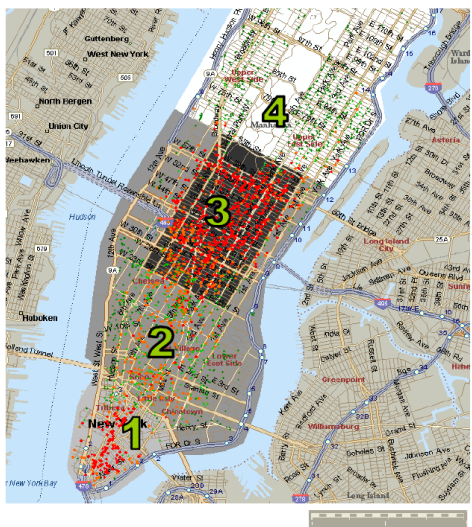
- Geo-coded portfolio (all LoBs)
- Emphasis on info quality
- Main historic events (flood) already integrated for as-if analysis
- Adequate protection under consideration

- The tool achieves a good level of accuracy and granularity
- Possible to analyze specific situations (actual example)



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For example, we have deployed these tools to adapt our portfolio and moderate the need for reinsurance



- Portfolio cleaning efforts were steered by careful analysis. Cancellation of a few exposures reduced Terror treaty costs
- We convinced reinsurers to include terror in their per risk treaty, which provided us with capacity to maintain and grow a key market segment
- Ultimately, our entity was able to steer its business activity in a manner that balanced commercial and risk considerations

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Furthermore, the application of controls on our data enables us to identify operational issues



Operational issues identified:

- 1. AZ risk definition was not properly applied
- 2. Accumulation risk was not correctly considered
- 3. The information requested from inspectors was incomplete

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Part II

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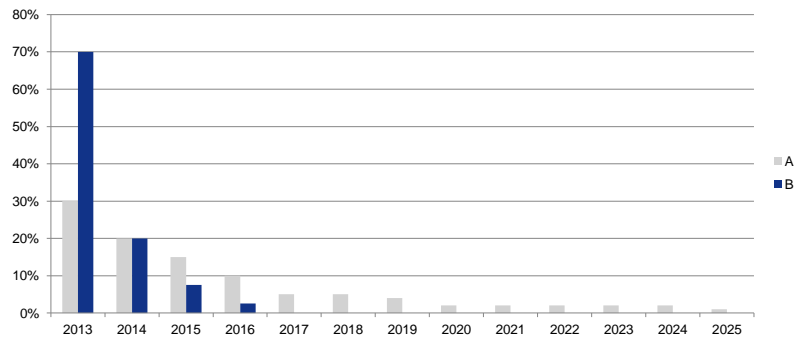
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We have implemented a Group wide RoRC measure to better understand the profitability of our entities



Entity	NEP	CoR	Risk capital	CIR	ECR	RoRC	LOB split		
							Motor	Prop Com	Other Com
A	1,500	97%	330	22%	98%	15%	~45%	~25%	~10%
B	1,500	97%	135	9%	96%	38%	~65%	~10%	~5%

Risk capital run-off pattern



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The resulting dialogue has helped us approach other topics that are very important for the Group



- ➔ How do we reflect the Group diversification benefit in our return metrics?
- ➔ To what extent should a market risk premium be reflected in pricing?
- ➔ A consistent definition of our return requirement on risk capital
- ➔ Is RoRC sufficient? What happens if other constraints are considered?
- ➔ How should tax effects be considered in specific cases?
- ➔ Does our analytical framework incentivise the right management behaviour?
- ➔ How must metrics adapt to reflect a management or Legal Entity view?

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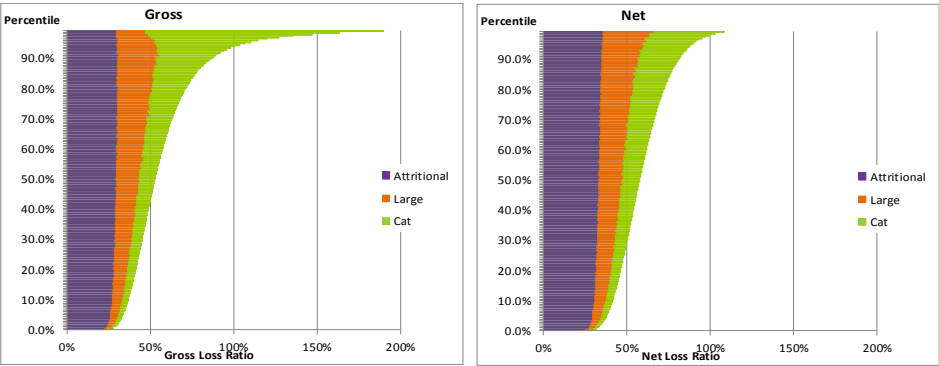
At the operating entity level, models support the ongoing monitoring of the business ...



LoBs	Plan	Actual	Difference	Percentile
Current Accident Year (CY) - Premium Risk				
Household	9,593	6,151	-3,441	14%
Retail Motor	10,280	23,176	12,896	94%
Travel	5,367	1,613	-3,754	34%
Pet	-10,456	-3,903	6,552	57%
Extended Warranty	2,645	-20,677	-23,322	4%
Legal Protection	-1,402	-7,373	-5,971	18%
Marine	-1,634	-3,508	-1,874	20%
Liability	17,567	18,637	1,070	55%
Aviation	1,948	2,253	305	68%
Engineering	4,700	6,067	1,367	73%
Commercial Motor	-1,595	-2,943	-1,348	42%
Professional Indemnity	215	-3,670	-3,885	41%
Commercial Property	4,836	-2,332	-7,168	31%
Total CY - trading business	42,064	13,492	-28,572	32%

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... and enable management to gain a comprehensive perspective on the sources of loss



- The analysis is used to make informed business decisions, such as defining the structure of the reinsurance program
- It is also useful in educating management and facilitating their acceptance of the modelling work carried out by the actuarial & risk functions

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Part II

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Developing a suite of analytical solutions makes models versatile and adaptable to business needs

The portfolio model is a universal multi-purpose tool

- Economics of individual transactions and portfolios
- Term and accounting year performance management
- Pricing
- Reserving
- Risk-Based Capital, SST, Solvency II
- Tail analysis
- Risk/reward studies
- Stress scenarios
- Limit utilization
- Value history
- Concentration and correlation analysis
- Planning



Supported by

- Standardized data bases
- Modular modelling platform
- Automated reporting tools

► Managing exposures and providing underwriting guidance

► Speaking the same language in pricing, reserving, monitoring and planning

► Combining management and regulatory views: optimal use test

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Flexible reporting allows for an inspection of the portfolio from several angles



- Management Dashboards
- Standard Reports (Quarterly Update)
- Liquidity Projections / ALM
- Concentration
- Back-Testing
- Risk-Reward
- Correlation



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There are substantial benefits to be gained by ...



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